



14TH INTERNATIONAL GAP SUMMIT SCIENTIFIC RESEARCH CONGRESS

December 1-3, 2025
GAZİANTEP, Türkiye



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EDITORS

Prof. Dr. Mine DEMİRTAŞ
Assoc. Prof. Dr. Hasan ÇİFTÇİ

**14. INTERNATIONAL SUMMIT
SCIENTIFIC RESEARCH CONGRESS**

ABSTRACT BOOK



14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

December 1-3, 2025
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Editors

Assoc. Prof. Dr. Hasan ÇİFTÇİ
Assoc. Prof. Dr. İsmail DEMİRCİOĞLU

22.12.2025

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CONGRESS ID

TITLE OF CONGRESS

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

PARTICIPATION

Keynote & Invited

DATE - PLACE

December 1-3, 2025

Gaziantep, Turkiye

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PARTICIPATING COUNTRIES (24)

Türkiye, Azerbaijan, Canada, Romania, USA, Vietnam, Morocco, India, China,
Yemen, Uzbekistan, Ukraine, Pakistan, Albania, Indonesia, Iran, Lebanon,
Nigeria, Algeria, Serbia, Bulgaria, Mexico, Philippines, UAE

TOTAL ABSTRACTS: 256

The number of papers from foreign countries: **135**

The number of papers from Türkiye: **121**

LANGUAGES

Turkish, English

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

PHOTO GALLERY



December 1-3, 2025
Gaziantep, Türkiye

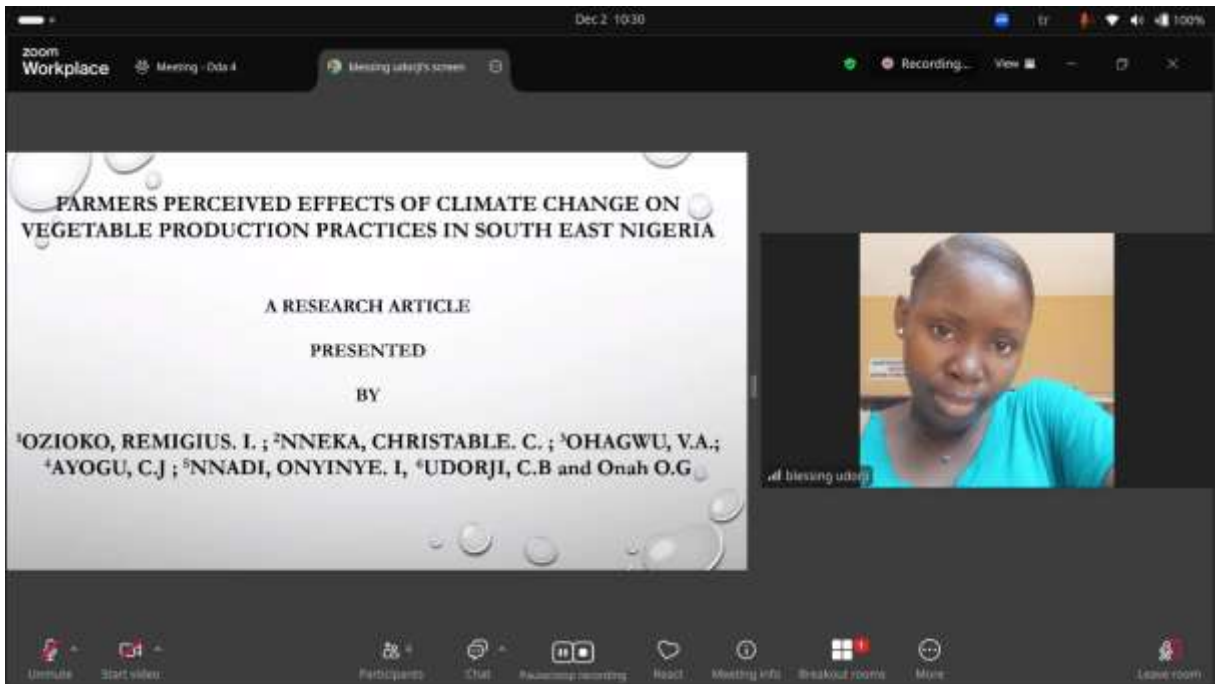
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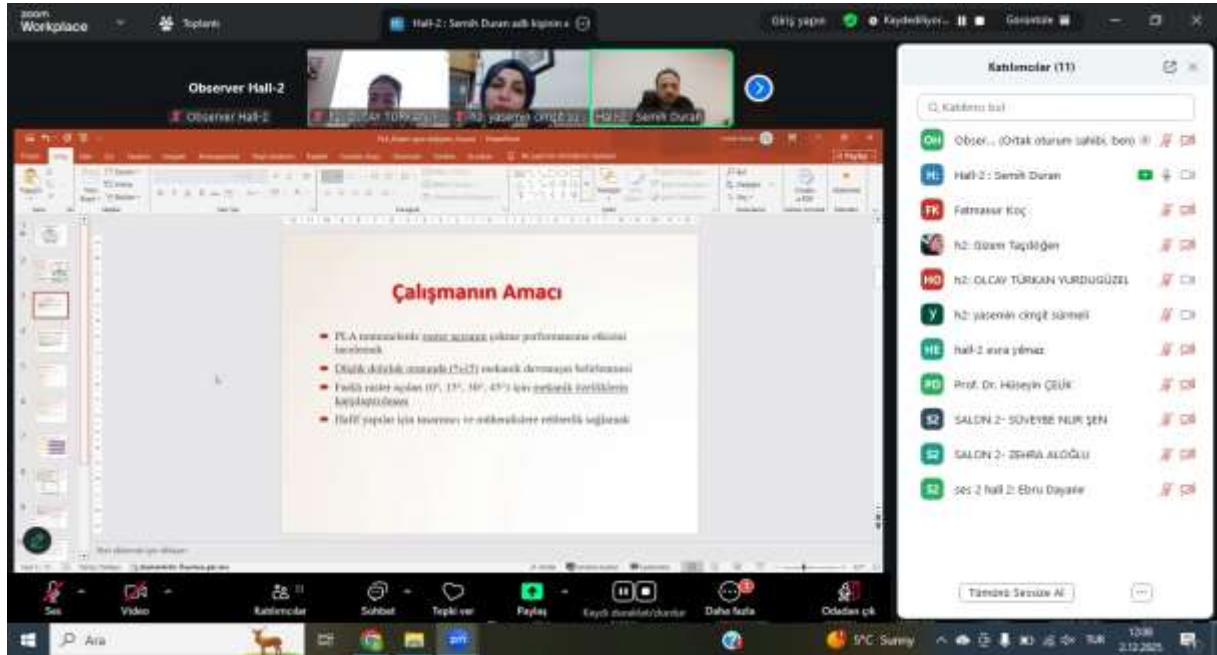
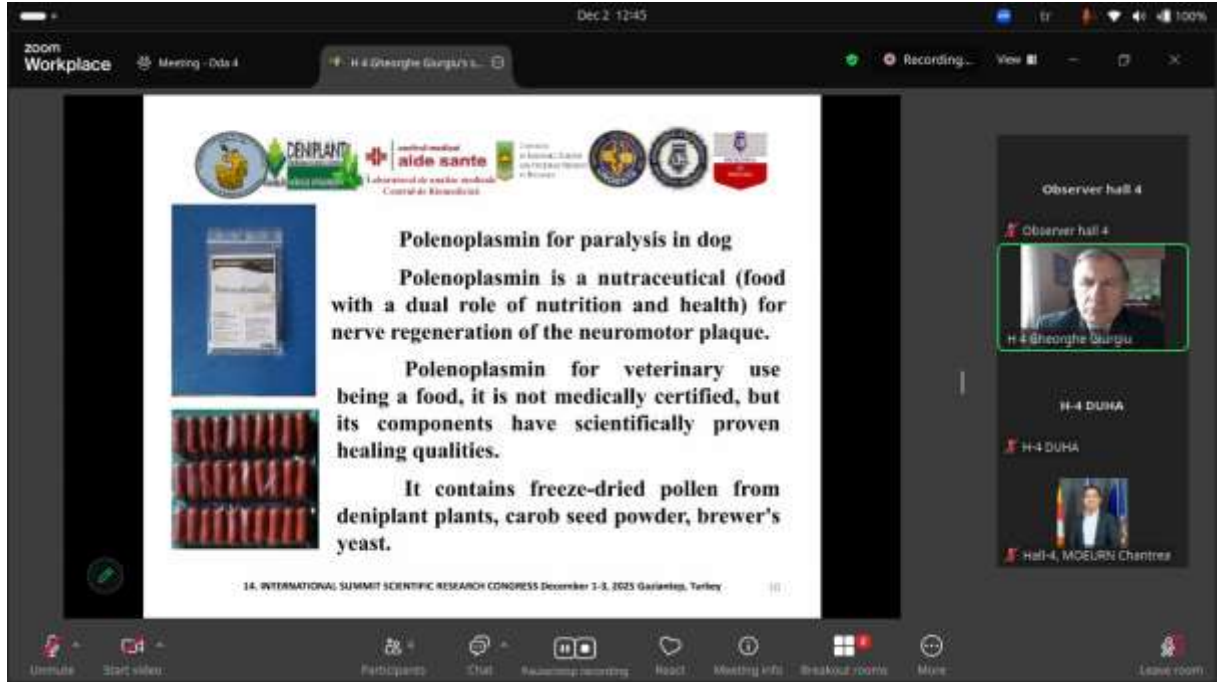


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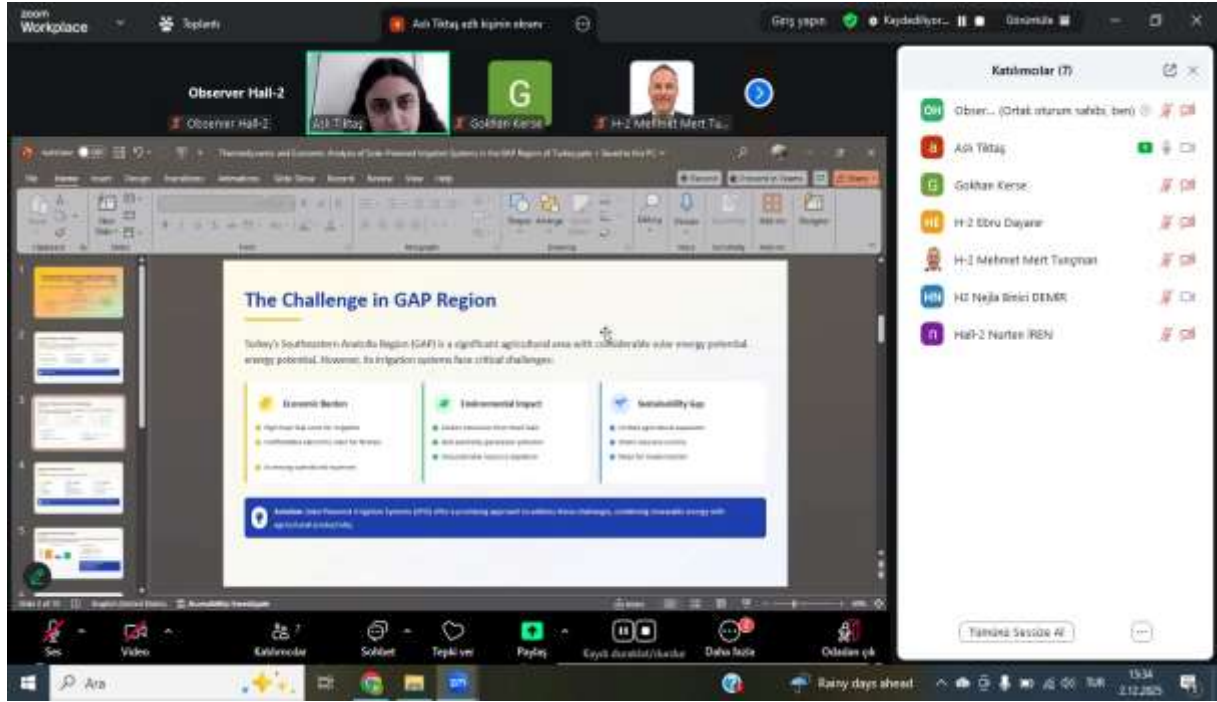
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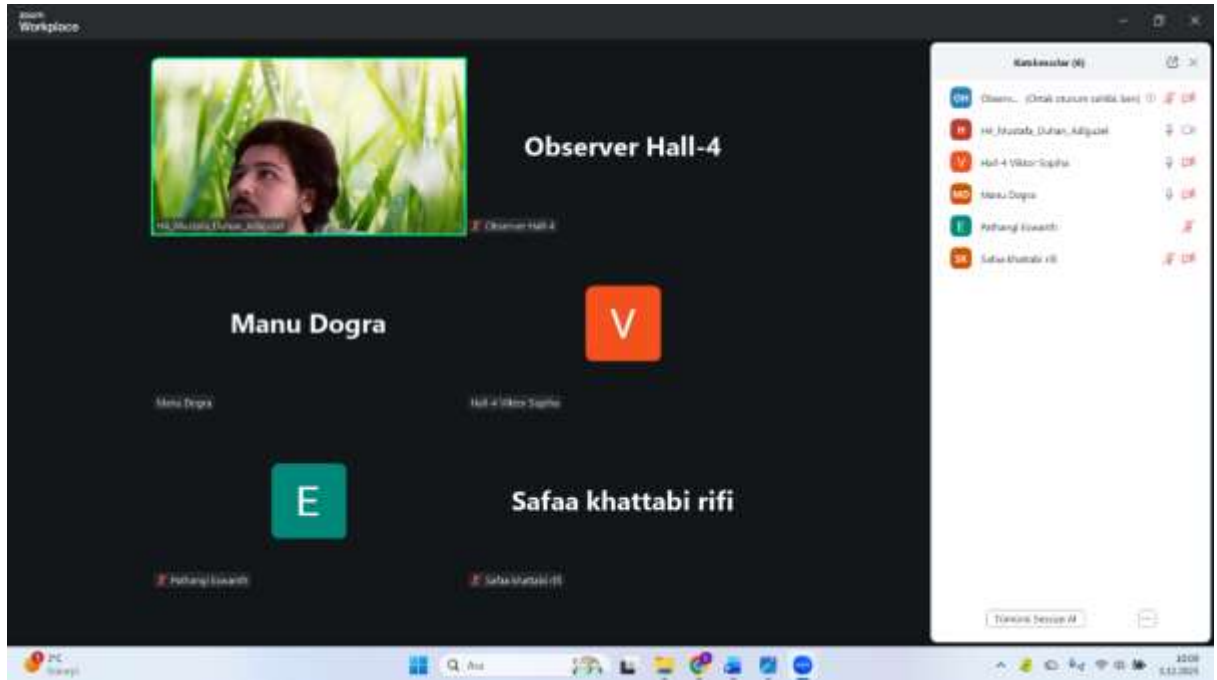
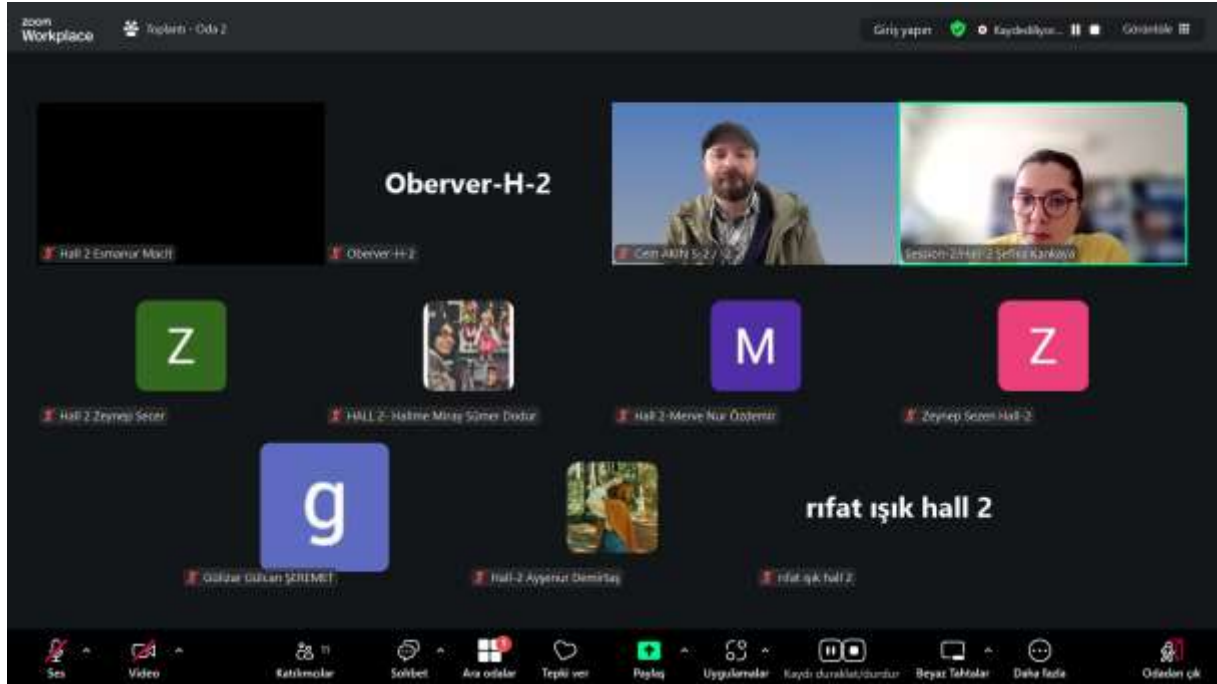
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December 1-3, 2025

Gaziantep, Türkiye

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Gaziantep Gençlik Merkezi

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FACE TO FACE PRESENTATIONS (HALL 1)

01.12.2025

Moderator: Assist. Prof. Dr. Oğuzhan ÇELEBİ

Ankara Local Time: 13:00 – 14:30

TITLE	AUTHOR(S)	AFFILIATION
AN APPROACH TO DETERMINING THE EARTHQUAKE PERFORMANCE OF MASONRY STRUCTURES IN RURAL AREAS: STRUCTURAL HEALTH MONITORING STUDIES	Oğuzhan ÇELEBİ	Atatürk University, Türkiye
ELEMENTAL CHARACTERIZATION OF ATMOSPHERIC PARTICLES USING SEM-EDS	Orhan SEVİMOĞLU Kuzu, S. LEVENT	Gebze Technical University, Türkiye Istanbul Technical University, Türkiye
STRENGTHENING OF PERFORATED THIN-WALLED STAINLESS STEEL CYLINDRICAL SHELLS WITH FRP COMPOSITES AND EFFECTS ON BUCKLING PERFORMANCE	Yasin Onuralp Özkılıç Özer Zeybek Ceyhun Aksoylu Ali İhsan Çelik Emrah Madenci	Necmettin Erbakan University, Türkiye
INVESTIGATION OF POST-FIRE BEHAVIOR OF T-STUB	Yasin Onuralp Özkılıç	Necmettin Erbakan University, Türkiye
OFF-GRID LOW ENERGY CONSUMPTION BUILDING COMMUNITY: GAZİANTEP CASE	Cansu OĞUZ Gül Nihal GÜĞÜL	Hasan Kalyoncu University, Türkiye Selçuk University, Türkiye
EFFECT OF CARBON FIBER AND H-BN PARTICLE REINFORCEMENT ON WATER ABSORPTION AND COMPRESSIVE STRENGTH IN EPOXY MATRIX HYBRID COMPOSITES	Berke Demirtaş Cemal Göztak Burak Sefa Güneş Sercan Basit	Ahi Evran University, Türkiye

FACE TO FACE PRESENTATIONS (HALL 2)

01.12.2025

Moderator: Dr. Sıddıka Yusra ÖZKILIÇ

Ankara Local Time: 13:00 – 14:30

TITLE	AUTHOR(S)	AFFILIATION
MINOR COMPOUND PROFILE AND HEALTH EFFECTS OF POMEGRANATE SEED OIL: A COMPARATIVE STUDY WITH OTHER SEED OILS	Derya ARSLAN Sıddıka Yusra ÖZKILIÇ	Necmettin Erbakan University, Türkiye
EVALUATION OF THE RELATIONSHIP BETWEEN THE MYODURAL BRIDGE COMPLEX AND CERVICAL BIOMECHANICS ON CERVICAL MRI OF MIGRAINE PATIENTS	Burcu ASLANTEKİN Ömür KARACA Nermin TEPE Adil AYTAÇ	Balıkesir University, Türkiye
ASSESSMENT OF CIGARETTE BUTT POLLUTION: A COASTLINE EXAMPLE	Seher KÜÇÜKFARSAK Filiz Nuran ACAR	Atatürk University, Türkiye
SUSTAINABLETHE GROWING IMPORTANCE OF ARTIFICIAL INTELLIGENCE AND SMART AGRICULTURAL TECHNOLOGIES IN AGRICULTURAL PRODUCTION	Reyyan Merve TÜRKOĞLU Zeynep KÖSE	Hasan Kalyoncu University, Türkiye

FACE TO FACE PRESENTATIONS (HALL 3)

01.12.2025

Moderator: Dr. Gönül ÇİFÇİ

Ankara Local Time: 13:00 – 14:30

TITLE	AUTHOR(S)	AFFILIATION
THE CONNECTEDNESS OF GLOBAL UNCERTAINTY OVER SECTORAL RETURNS	Gönül ÇİFÇİ	Adıyaman University, Türkiye
KÜLTÜREL İLETİŞİM VE ÇEVİRİ YANLIŞLARI	Orhun Burak SÖZEN Özcan SAKA	Gaziantep University, Türkiye
CHANGES IN THE PREVALENCE OF AUTISM SPECTRUM DISORDER DIAGNOSES IN PRE-SCHOOL CHILDREN (2020–2025) IN SARIÇAM GUIDANCE AND RESEARCH CENTER: DIFFERENCES BY YEAR, GENDER, AND SEVERITY	Taha Yasin AKYILDIZ M. Batuhan GÜLLÜ Muhittin GÜNEŞ	MEB, Sarıçam Rehberlik ve Araştırma Merkezi, Türkiye
JOINT ATTENTION IN AUTISM SPECTRUM DISORDER: AN EXAMINATION OF INITIATION, MAINTENANCE, AND GENERALIZATION PROCESSES	Zülfü GENÇ Taha Yasin AKYILDIZ	Fırat University, Türkiye MEB, Sarıçam Rehberlik ve Araştırma Merkezi, Türkiye
WHAT ARE TEACHERS' OPINIONS ON THE PROBLEMS ENCOUNTERED IN TEACHING CORE VALUES IN SECONDARY SCHOOL TEXTBOOKS?	Sevilay ŞAHİN Mehmet CEYLAN Merve KISAOĞLU	Gaziantep University, Türkiye MEB, Türkiye

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14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

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- Make sure your computer has a microphone and is working.
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- Attendance certificates will be sent to you as pdf at the end of the congress.
- Moderator is responsible for the presentation and scientific discussion (question-answer) section of the session.

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02.12.2025

Session-1 / Hall-1

Ankara Time: 10⁰⁰-12⁰⁰

HEAD OF SESSION: Prof. Dr. Musa GÖGEBAKAN

TOPIC TITLE	AUTHORS	AFFILIATION
HEAVY METAL TOXICITY AND PHYTOREMEDIATION	Ashihan KEVSER Bengisu ODLUYURT Sevinç YEŞİLYURT	Tekirdağ Namık Kemal University, Türkiye
INVESTIGATION OF SUBMERGED ARC WELDING PARAMETERS ON DH36 STEEL FOR DEFENSE APPLICATIONS	Mehmet Fatih IŞIK Mutlu Tarık ÇAKIR Cenker AKTEMUR	Sivas University of Science and Technology, Türkiye
200MVA 245kV SHUNT REACTOR SHORT CIRCUIT AND TANK RAPTURE WITHSTAND ABILITY ANALYSES ACCORDING TO IEEE	Alper Buğra TARAKÇI Çağrı AKSAKAL	GE Vernova, Kocaeli, Türkiye
VOLTAGE RESPONSE OF A PIEZOELECTRIC PLATE UNDER APPLIED FORCE: A SIMPLE ANALYTICAL APPROACH	Ali TOZAR	Hatay Mustafa Kemal University, Türkiye
INVESTIGATION OF THE HYDROGEN STORAGE CAPACITY OF ALLOYS	Musa GÖGEBAKAN	Kahramanmaraş Sütçü İmam University, Türkiye
CRYSTALLIZATION OF AMORPHOUS AL-Y-NI-FE ALLOY	Musa GÖGEBAKAN	Kahramanmaraş Sütçü İmam University, Türkiye
THE IMPACTS OF THE TRANSITION TO 5G ON ENERGY CONSUMPTION AND CARBON FOOTPRINT	Hatice AYDIN Büşra KÜÇÜKKUT Muciz ÖZCAN Eda GÜNAL	Necmettin Erbakan University, Türkiye Lead Analyst, Turkcell İletişim Hizmetleri A.Ş., Türkiye

02.12.2025

Session-1 / Hall-2

Ankara Time: 10⁰⁰-12⁰⁰

HEAD OF SESSION: Assist. Prof. Dr. Semih DURAN

TOPIC TITLE	AUTHORS	AFFILIATION
THE EFFECT OF RASTER ANGLE ON THE TENSILE PERFORMANCE OF PLA SAMPLES PRODUCED BY ADDITIVE MANUFACTURING AT LOW FILLING RATES	Semih DURAN Tevfik Oğuzhan ERGÜDER Arif BALCI Fatih ALİBEYOĞLU	Kafkas University, Türkiye
AN EVALUATION ON THE PRESERVATION OF CULTURAL HERITAGE: KILIÇLI BRIDGE, KIRŞEHİR	Olca Yürkan YURDUGÜZEL	Yozgat Bozok University, Türkiye
SUSTAINABILITY PERFORMANCE ANALYSIS AND IMPROVEMENT SUGGESTIONS IN MODERN OFFICE BUILDINGS: THE MARS BUSINESS AND LIFE CENTER EXAMPLE	Esra Yılmaz Rümeysa Şişman Miray Dizem Yılmaz	Düzce University, Türkiye
BETWEEN LIGHT AND SHADOW: THE USE OF DAYLIGHT AND THE TRANSFORMATION OF SPATIAL ATMOSPHERE IN DÜZCE NATION'S GARDEN CAFÉ	Süveybe Nur Şen Zehra Aloglu Miray Dizem Yılmaz	Düzce University, Türkiye
THE IMPORTANCE OF URBAN FURNITURE FOR SOCIAL LIFE AND ITS EXAMINATION WITH REGARDS TO SUSTAINABILITY	Sümeyye Yılmaz Mehmet Murat Uluğ	Hasan Kalyoncu University, Türkiye
EVALUATION OF THE BATMAN CENTRAL BUSINESS DISTRICT (CBD)	Gizem TAŞDÖĞEN Cemre Birlik Aysu UĞURLAR	Van Yüzüncü Yıl University, Türkiye
THE ECONOMIC DYNAMICS OF BATMAN PROVINCE: CURRENT STRUCTURE, POTENTIAL AND FUTURE PERSPECTIVES	Yasemin CİMSİT SÜRMELİ Aysu UĞURLAR Esra ALİM Esranur BAĞ	Van Yüzüncü Yıl University, Türkiye

02.12.2025

Session-1 / Hall-3

Ankara Time: 10⁰⁰-12⁰⁰**HEAD OF SESSION: Assist. Prof. Dr. Bülent AKAR**

TOPIC TITLE	AUTHORS	AFFILIATION
DETERMINATION OF GROWTH AND DEVELOPMENT PARAMETERS AND PHENOLOGICAL STAGES IN ARONIA VARIETIES GROWN AT DIFFERENT ALTITUDES	Hüseyin ÇELİK Arif Cem GÜLEÇ	Ondokuz Mayıs University, Türkiye
FERTILISER SOURCES USED IN SUDAN GRASS (<i>Sorghum sudanense</i> (Piper) Stapf) AND THEIR EFFECTS ON FORAGE PRODUCTION	Meliha Feryal SARIKAYA Kağan KÖKTEN Muhammad Azhar NADEEM	Sivas University of Science and Technology, Türkiye Mersin University, Türkiye
ALLELOPATHIC POTENTIAL OF SORGHUM (<i>Sorghum bicolor</i> (L.) Moench) AND ITS ROLE IN WEED CONTROL	Meliha Feryal SARIKAYA Muhammad Azhar NADEEM Kağan KÖKTEN	Sivas University of Science and Technology, Türkiye Mersin University, Türkiye
THE STIMULATING ROLE OF ENDOPHYTIC MICROORGANISMS IN PLANT DEFENSE MECHANISMS: FROM CHEMICAL DEFENSE TO MICROBIAL IMMUNITY	Selin DOĞAN Merve ATAN	Atatürk University, Türkiye
THE PROTECTIVE ROLE OF MICROBIAL EXOPOLYSACCHARIDES (EPS) ON INTESTINAL MICROBIOTA: MICROBIAL ECOLOGY, FUNCTIONAL MECHANISMS, AND BIOTECHNOLOGICAL APPLICATIONS	Selin DOĞAN Gökçe ÇULLU Medine GÜLLÜCE	Atatürk University, Türkiye
FROM THE MICRO WORLD TO MACRO EFFECTS: MICROORGANISMS AND THE GLOBAL CLIMATE BALANCE	Selin DOĞAN İrem Nur KAZAN	Atatürk University, Türkiye

02.12.2025

Session-1 / Hall-4

Ankara Time: 10⁰⁰-12⁰⁰

HEAD OF SESSION: Dr. Fahima NABI

TOPIC TITLE	AUTHORS	AFFILIATION
STRUCTURE ACTIVITY RELATIONSHIP (SAR) OF PLANT DERIVED COMPOUNDS	Ahmed Attahiru, Yusuf Haruna, Bashar Attahiru	Kebbi State University of Science and Technology Kampala International University Federal College of Education (Technical)
ENHANCING DROUGHT TOLERANCE IN LEGUMES VIA HORMONAL AND THERMAL SEED PRIMING	Dr. Fahima NABI Meriem CHEBAANI	Université Dr Yahia Farès de Médéa
THE USE OF COMMUNICATION CHANNELS FOR ACCESSING AGRICULTURAL INFORMATION AMONG POULTRY FARMERS IN OYO STATE, NIGERIA	MUSA L, OLANIYI O.A. OGUNKUNLE T.	Ladoke Akintola University of Technology Ogbomoso, Nigeria University of Eswatini, Eswatini Bioresources Development Centre, Nigeria
GROWTH AND YIELD OF COWPEA MICROGREENS (Vigna unguiculata L. Walp) UNDER DIFFERENT LED LIGHT INTENSITIES AND GROWING MEDIA	Undang, Ristina Siti Sundari, Steven De Wiliem, Darul Zumani	Universitas Siliwangi, Indonesia
BEHAVIOR OF PHENOLIC COMPOUNDS DURING IN VITRO DIGESTION OF SPRAY-DRIED MICROENCAPSULATED ARBUTUS UNEDO L. FRUITS	Dhouha Alimi, Hichem Sebai, Azhar Hajri	University of Jendouba, Tunisia
CONSTRUCTION AND PERFORMANCE EVALUATION OF SOLAR PUMP SPRAYER	Fadele N.T., Azeez A.A., Oladimeji S.T., Akinyele O.A., Onatola I.T., Adegboakan O.B.	Federal College of Agriculture, Ibadan
EXTRACT PLANT AS CORROSION INHIBITOR FOR CARBON STEEL IN HYDROCHLORIC ACID MEDIUM	SELMAOUI ABDELMOULA EL OUTMANI Bouchaib	University Mohammed V, Morocco
FARMERS PERCEIVED EFFECTS OF CLIMATE CHANGE ON VEGETABLE PRODUCTION PRACTICES IN SOUTH EAST, NIGERIA	Ozioko, Remigius I, Nneka Christable C, Ohagwu V.A, Ayogu C.J, Nnadi Onyinye I, Udorji C.B	University of Nigeria, Nsukka

02.12.2025

Session-1 / Hall-5

Ankara Time: 10⁰⁰-12⁰⁰

HEAD OF SESSION: Ananda Majumdar

TOPIC TITLE	AUTHORS	AFFILIATION
THE LEGACY OF KING ÆTHELSTAN: UNIFYING ENGLAND'S FOUNDATIONS IN THE 10TH CENTURY	Ananda Majumdar	Harvard University
STRENGTHENING RESPONSIBILITY IN THE NEXT GENERATION OF WOMEN	Noorjan Mossawi, Professor Dr. Sarah Larijani	Ahlul bayt international university of Iran
FEMINIST MOVEMENTS AND THEIR ROLE IN ACHIEVING POLITICAL INDEPENDENCE	Dr. Elham Vahidi Rukhsar Rasouli	Ahlul Bayt international university,Iran
FEMINIST RIGHT OF INHERITANCE IN NIGERIA: VISITING THE CASE OF UKEJE V UKEJE	Samuel Akpadiagha Etuk Udeme E. Ettentuk	Akwa Ibom State Polytechnic, Ikot Osurua
UNMASKING CYBER VIOLENCE: SOCIAL MEDIA ENGAGEMENT AND SPIRITUAL BYPASS IN YOUNG ADULTS	Safa Ahmed, Asma Jahangir, Beenish Mubeen and Shahnila Tariq	University of Management and Technology, Lahore Pakistan
A CHARACTERIZATION OF RINGS IN WHICH EVERY SEMI-HOPFIAN MODULE IS NOETHERIAN	Abderrahim El Moussaouy	University of Sidi Mohamed Ben Abdellah, Fez, Morocco
INNOVATIVE SOLUTIONS FOR SUPPORTING AFFECTED WOMEN	Professor Dr. Elham Vahidi, Amina bigzad	Ahlul Bayt International University Iran
CRUSTACEAN CONSUMPTION AND CONTAMINATION IN KHÁNH HÒA PROVINCE, VIETNAM	Thuan Anh Nguyen	Nha Trang University, Nha Trang, Vietnam

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Session-1 / Hall-6

Ankara Time: 10⁰⁰-12⁰⁰

HEAD OF SESSION: Dr Chukwuemeka Godson Eme

TOPIC TITLE	AUTHORS	AFFILIATION
LAND TENURE IN THE LY TRAN DYNASTIES: STRUCTURES OF OWNERSHIP AND ALLOCATION MECHANISMS	Bui Hoang Tan Le Thi Minh Thu	Can Tho University, Vietnam
IDENTIFYING THE DIFFERENCE IN FACTORS BETWEEN PLANNED BEHAVIOUR AND ACTUAL BEHAVIOUR IN THE KNOWLEDGE-SHARING PROCESS AMONG UNIVERSITY STUDENTS	S.M.F.D Syed Mustapha Edmund Evangelista Farhi Marir	College of Technological Innovation, Zayed University, United Arab Emirates
GLOBALIZATION AND ECONOMIC DEVELOPMENT AND ITS EFFECTS ON THE TELECOMMUNICATIONS INDUSTRY IN NIGERIA: AN EMPIRICAL INSIGHT OF AIRTEL NIGERIA	Dr Chukwuemeka Godson Eme	National Open University of Nigeria (NOUN), Jabi-Abuja
MANAGING WORKPLACE DIVERSITY IN THE 21ST CENTURY NIGERIAN ORGANIZATIONS	Dr Chukwuemeka Godson Eme	National Open University of Nigeria (NOUN), Jabi-Abuja
THE IMPACT OF BUSINESS ENVIRONMENT ON THE SURVIVAL OF SOME SELECTED SMALL-SCALE BUSINESSES IN ABA SOUTH LOCAL GOVERNMENT AREA, ABIA STATE, NIGERIA	Dr Eme Chukwuemeka G., Dr Michael Elikwu;	National Open University of Nigeria (NOUN), Jabi-Abuja
GOVERNANCE AND ETHICAL OVERSIGHT OF AGENTIC ARTIFICIAL INTELLIGENCE IN BUSINESS PROCESS MANAGEMENT: BALANCING HUMAN-AUTONOMY, ORGANIZATIONAL ACCOUNTABILITY AND ALGORITHMIC TRANSPARENCY	Ndubuisi-Okolo Purity Uzoamaka, PhD, Ani Anthony Amujiogu, PhD Essel Obiageli Blessing	Nnamdi Azikiwe University, Awka, Anambra State. Tansian University, Umuoya.
E-COMMERCE PLATFORM DEVELOPMENT: AMAZON CLONE WEBSITE	Arju Patwal , Vansh Singh Andotra, Jogendra Kumar.	Ghurdauri Pauri Grahwal Uttarakhand, G.B.Pant Institute, India.
THE POLITICAL ECONOMY OF DECARBONIZATION: CHALLENGES AND PATHWAYS IN RENEWABLE ENERGY TRANSITIONS	Babita Gupta	PhD Scholar, Integral University, Lucknow

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Session-2 / Hall-1

Ankara Time: 12³⁰-14³⁰

HEAD OF SESSION: Assist. Prof. Dr. Ümran ERKOYUNCU

TOPIC TITLE	AUTHORS	AFFILIATION
FACTORS AFFECTING THE ATTITUDES OF NURSES WORKING IN SURGICAL UNITS TOWARD NURSING STUDENTS: A CROSS-SECTIONAL STUDY	Aynur KOYUNCU Hatice AĞDEMİR Kübra KAYA Ayla YAVA	Hasan Kalyoncu University, Türkiye
THE IMPACT OF PATIENT SAFETY CULTURE ON THE TENDENCY TO MAKE MEDICAL ERRORS AMONG SURGICAL NURSES: A MULTICENTER CROSS-SECTIONAL STUDY	Aynur KOYUNCU Zülal GÜN Kübra KAYA Ayla YAVA	Hasan Kalyoncu University, Türkiye 25 Aralık Hastanesi Göğüs Cerrahisi Servisi, Gaziantep, Türkiye
THE SITUATION OF WOMEN'S CANCERS IN THE WORLD AND IN TURKEY	Aysel BÜLEZ Ayşe KÜRKÜ	Kahramanmaraş Sütçü İmam University, Türkiye
KETOGENIC DIET PRACTICES ON CHILDHOOD ERA	Fatmanur KOÇ	Okan University, Türkiye
SOCIAL ROBOTS IN HEALTHCARE: A BIBLIOGRAPHIC ANALYSIS	Ferit OKAY Mehmet ŞENER	Muş Alparslan University, Türkiye
AN ANALYSIS OF SOLHAN'S DEMOGRAPHIC STRUCTURE BETWEEN 1940 AND 1950 BASED ON POPULATION CENSUS DATA	Ümran ERKOYUNCU	Bingöl University, Türkiye
ELECTRONIC CIGARETTE USE: GLOBAL PREVALENCE, HEALTH EFFECTS, AND PUBLIC HEALTH PERSPECTIVE	Elif KIRATLIOĞLU Burcu ÇAKI DÖNER	Gaziantep Islamic Science and Technology University, Türkiye

02.12.2025

Session-2 / Hall-2

Ankara Time: 12³⁰-14³⁰

HEAD OF SESSION: Prof. Dr. Gökhan KERSE

TOPIC TITLE	AUTHORS	AFFILIATION
THE IMPORTANT OF VOLUNTARY PARTICIPATION IN SOCIAL ENTREPRENEURSHIP	Nurten İREN Ali KAHRAMANOĞLU	Ondokuz Mayıs University, Türkiye
SHORT- AND LONG-TERM EFFECTS OF OIL PRICE SHOCKS ON STOCK MARKET VOLATILITY IN BRICST COUNTRIES: A GARCH-MIDAS ANALYSIS	Nejla BİNİCİ DEMİR Erkan ALSU	Gaziantep University, Türkiye
THERMODYNAMIC AND ECONOMIC ANALYSIS OF SOLAR-POWERED IRRIGATION SYSTEMS IN THE GAP REGION OF TURKEY	Aslı TİKTAŞ	Kırşehir Ahi Evran University, Türkiye
TECHNO-ECONOMIC ASSESSMENT OF HYBRID SOLAR-WIND MICROGRIDS FOR OFF-GRID AGRICULTURAL FARMS IN TURKEY'S GAP REGION	Aslı TİKTAŞ	Kırşehir Ahi Evran University, Türkiye
THE EFFECT OF DIGITAL COMPETENCE ON DIGITAL ENTREPRENEURSHIP INTENTION: AN EMPIRICAL STUDY AMONG UNIVERSITY STUDENTS	Gökhan KERSE Mesut SOYALIN	Kafkas University, Türkiye Siirt University, Türkiye
DETERMINATION OF NEUROMARKETING STRATEGIES IN SPORTS MARKETING WITHIN THE FRAMEWORK OF GAME THEORY	Mehmet Mert TUNÇMAN	İstanbul Ticaret University, Türkiye
REFLECTIONS OF INSTAGRAM USE ON MARITAL RELATIONSHIPS: A QUALITATIVE STUDY ON WOMEN'S PERSPECTIVES REGARDING PERCEIVED RELATIONSHIP QUALITY AND TRUST	Gaye Nisanoğlu Ebru Dayanır	İstanbul University Cerrahpaşa. İstanbul

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Session-2 / Hall-3

Ankara Time: 12³⁰-14³⁰**HEAD OF SESSION: Assist. Prof. Dr. Havva YAVUZ**

TOPIC TITLE	AUTHORS	AFFILIATION
AGAINST ALGORITHMIC NOISE: THE POLITICS OF INVISIBILITY ON SOCIAL MEDIA	Yıldız KOL	Bilecik Şeyh Edebali University, Türkiye
UNIVERSITY PROMOTION VIDEOS: AN ECONOMY-POLITICAL ANALYSIS	Yıldız KOL	Bilecik Şeyh Edebali University, Türkiye
FROM XENOPHOBIA TO POLITICAL CAPITAL: THE RISE OF POPULIST DISCOURSE IN TURKEY	Hakan CANDAN Melike AKPINAR	Karamanoğlu Mehmetbey University, Türkiye
AUTHORITARIAN LIBERALISM OR GOVERNMENTAL RATIONALITY? AN EMPIRICAL INQUIRY INTO THE POLITICAL FORMS OF NEOLIBERALISM IN TURKEY	Hakan CANDAN Melike AKPINAR	Karamanoğlu Mehmetbey University, Türkiye
ECONOMY, TRADITION, AND PATRIARCHY: A SOCIO-ECONOMIC ANALYSIS OF TRIBAL MARRIAGE PRACTICES	Hatice Çeçen Çelik Sabiha Tüysüz	Erzurum Technical University, Türkiye Şanlıurfa Aile ve Sosyal Hizmetler İl Müdürlüğü, Atatürk Üniversitesi
SPECIAL NEEDS WOMEN'S EMPLOYMENT AND CURRENT SITUATION IN TURKEY WITHIN THE SCOPE OF SUSTAINABLE DEVELOPMENT GOALS	Sibel AKGÜN	Sakarya, SBF, Uluslararası İlişkiler, Sakarya, Türkiye
THE DIPLOMATIC SCOPE OF THE BERNADOTTE PLAN, THE REASONS FOR ITS FAILURE AND TURKEY'S ROLE	Havva YAVUZ	Batman University, Türkiye

02.12.2025**Session-2 / Hall-4****Ankara Time: 12³⁰-14³⁰****HEAD OF SESSION: Major Gheorghe GIURGIU**

TOPIC TITLE	AUTHORS	AFFILIATION
MICROBIOTA MODULATION AS THERAPEUTIC APPROACH IN THE NEUROPATHIC PAIN IN DOG WITH SPINAL CORD INJURY: IMPACT OF POLENOPLASMIN	Major Gheorghe GIURGIU, Lect Dr Cristina Fernoaga, Prof dr med Manole COJOCARU	Deniplant-Aide Sante Medical Center, Biomedicine, Bucharest, Romania University of Agronomic Sciences and Veterinary Medicine, Romania University Veterinary Emergency Hospital Prof Univ Dr Alin Bîrțoiu, Romania Academy of Romanian Scientists Titu Maiorescu University, Romania
POTATO LATE BLIGHT (PHYTOPHTHORA INFESTANS): HISTORICAL, BIOLOGICAL, CULTURAL OVERVIEW FOR AN INTEGRATED PEST MANAGEMENT PERSPECTIVE	Karima ALAOUI	Mohammed Premier University, Morocco
ROLE OF EMPATHY IN THE RELATIONSHIP BETWEEN PETS ATTACHMENT AND MENTAL HEALTH AMONG PET OWNERS	Bakhtawar Fakhar Umm Eman Syed	Rawalpindi Women University, Rawalpindi
TELEMEDICINE AND DIGITAL HEALTH	R.Devadharshini, Meenatchi.S, Gomathy E, Dr. W.Helen	Bharath institute of higher education and research, chennai, India
APPLICATION OF SMART TEXTILE IN CHILDREN'S CLOTHING PROTECTION	Neda Farzan, Dr. Farideh Talebpour	
A CLINICAL ANALYSIS OF MIGRATION IN THE CONTEXT OF ALBANIA'S EUROPEAN INTEGRATION	Jusra Marku, Suada Hawa, Juna Muça, Plarent Anamali, Edvaldo Begotaraj	Albanian University LOGOS University College
ATTITUDES OF ALBANIAN RADIOGRAPHY STUDENTS TOWARD ARTIFICIAL INTELLIGENCE	Stela Sanxhaku, Rea Laçi, Elona Dybeli, Alket Collaku, Armela Kapaj, Brikena Duka, Blerina Bani, Andja Lala	Regional Hospital of Vlora Regional Hospital of Elbasan University of Elbasan "Aleksander Xhuvani" European Hospital Tirana, GVM Care & Research Group

02.12.2025**Session-2 / Hall-5****Ankara Time: 12³⁰-14³⁰****HEAD OF SESSION: Moses Adeolu AGOI**

TOPIC TITLE	AUTHORS	AFFILIATION
THE IMPACT OF EXPERIENTIAL LEARNING PROGRAMS ON ENTREPRENEURIAL INTENTIONS AMONG UNDERGRADUATE BUSINESS STUDENTS: AN EMPIRICAL STUDY USING SURVEY DATA FROM MULTIPLE UNIVERSITIES	Anyakoha Chukwunonye N	University of Nigeria, Nsukka, Enugu State, Nigeria
“THE REPORT”: A SMALL TAP IN THE BIG REALM OF THE SERIO-COMICAL	Mas’ud Hamdan	University of Haifa
A DELIBERATE HUMOR: THE MASKS OF THE OPPRESSED TRUTH	Mas’ud Hamdan	University of Haifa
THE DISCOURSE OF POWER AND TRUTH IN POETIC WORKS (LITERATURE AND ART): AN INTRODUCTION	Mas’ud Hamdan	University of Haifa
PEDAGOGICAL SIGNIFICANCE OF CHILDREN'S LITERATURE IN MODERN EDUCATION	Ph.D Nataša Tančić	University of Novi Sad, Serbia
PERSON–ORGANIZATION FIT AMONG FACULTY MEMBERS IN IRANIAN PUBLIC UNIVERSITIES: AN EMPIRICAL STUDY	Syed Karim TABATABAEI Seyyedeh Laya MORTAZAVI Seyyedeh Fataneh MOGHIMI Qader VAZIFEH DAMIRCHI	Islamic Azad University, Astara, Iran
SECURITY AND TRUST PERCEPTIONS IN CLOUD-NATIVE AI LEARNING ENVIRONMENTS: EDUCATORS’ PERSPECTIVE	Moses Adeolu AGOI Ismail Olaniyi MURAINA Solomon Onen ABAM Bashir Oyeniran AYINDE Wasiu Olatunde OLADAPO	Lagos State University of Education, Lagos Nigeria. Federal College of Education Technical, Isu, Ebonyi State Nigeria. LASU, African Centre of Excellence for Innovation and Transformative

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Session-2 / Hall-6

Ankara Time: 12³⁰-14³⁰

HEAD OF SESSION: Dr. Manoj Kumar Singh

TOPIC TITLE	AUTHORS	AFFILIATION
SPACE-DISCRETE, TIME-CONTINUOUS P(·)-LAPLACIAN DYNAMICS: ROTHE EXISTENCE AND SIMULATION BY DEEP LEARNING	Ilyasse Joubbi, Fatima Aqel, Nour Eddine Alaa	Hassan 1 University, Settat, Morocco LAMAI Laboratory, Cadi Ayyad University, Marrakech, Morocco
STATIONARY SOLUTIONS OF THE GENERALIZED BURGERS EQUATION: ANALYTICAL INSIGHTS AND NUMERICAL INVESTIGATION	Ramesh Kumar Paswan	Magadh University, Bodh Gaya, Gaya, Bihar, India
EXACT TRAVELLING WAVE SOLUTIONS FOR A GENERALIZED FORM OF THE BURGERS EQUATION	Pintu Samanta	Magadh University, Bodh Gaya, Gaya, Bihar, India
ON DYNAMIC RESPONSE OF POLARIZED SHEAR (SH) WAVES IN SELF-REINFORCED MATERIEL	Dr. Manoj Kumar Singh	Magadh University, Bodh Gaya, Bihar, India
FUZZY MULTI-OBJECTIVE OPTIMIZATION FOR DESIGNING LOW-CARBON SUPPLY CHAINS	Subhkaran	V.V. Govt. PG College Jalore, India
A FIRST-PRINCIPLES INVESTIGATION OF THE STRUCTURAL, DYNAMICAL, AND THERMODYNAMIC PROPERTIES OF TLS MONOLAYER AND BILAYER AT HIGH TEMPERATURE AND PRESSURE	Mounaim Bencheikh Larbi El Farh	Mohammed First University
STRUCTURAL, SPECTROSCOPIC, DFT STUDIES, HIRSHFELD SURFACE ANALYSIS AND ANTIBACTERIAL ACTIVITY OF Z-3-(4-BROMOPHENYL)-3-CHLOROACRYLALDEHYDE	Aparna V M, Vidya L, C Sudarsanakumara	Mahatma Gandhi University, India

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Session-3 / Hall-1

Ankara Time: 15⁰⁰-17⁰⁰

HEAD OF SESSION:

TOPIC TITLE	AUTHORS	AFFILIATION
1990'LARDA TÜRKİYE'NİN BALKAN KRİZLERİ POLİTİKASI (BOSNA, KOSOVA)	Mehmet BİÇİCİ Seda KAYAN	Gaziantep University, Türkiye
POLITICAL AND SOCIAL REFLECTIONS OF THE 1991 GULF WAR IN TURKIYE	Mehmet BİÇİCİ Uğur DİKÇE	Gaziantep University, Türkiye
EVALUATION OF ASMR MUKBANG CONTENTS FROM A GASTRONOMICAL PERSPECTIVE IN DIGITAL ANTHROPOLOGY	Nagihan BOZAL	Bolu Abant İzzet Baysal University, Türkiye
STAMPED AMPHORAS OF HERAION TEIKHOS	İtir OKHAN	Ahi Evran University, Türkiye
REPRESENTATIONS OF DINNER SCENES IN QUENTIN TARANTINO FILMS: AN ANALYSIS IN THE CONTEXT OF MEANING, POWER AND IDENTITY	Melike KESKİN Elif Esma KARAMAN TAŞKESENLİGİL Fatma KOÇ	Gaziantep University, Türkiye Çoruh University, Türkiye Siirt University, Türkiye
DECORATIVE DOOR NAILS FROM PAPHLAGONIAN HADRIANOPOLIS	Ersin ÇELİKBAŞ H. Şeyma CANDARBEYİ	Karabük University, Türkiye
A COMPARATIVE ANALYSIS OF THE THOUGHTS OF IBN KHALDUN, ÉMILE DURKHEIM AND JOHN DEWEY ON EDUCATION	Çağla AYDIN Engin ZABUN	Sivas Cumhuriyet University, Türkiye
REFLECTIONS OF THE WATER CULT IN HADRIANOPOLIS ON RELİGİOUS STRUCTURES	Ersin ÇELİKBAŞ Buket GÜNDÜZ	Karabük University, Türkiye
TEACHING ARABIC IN FACULTIES OF DIVINITY: PROBLEMS ENCOUNTERED AND PROPOSED SOLUTIONS	Alaaddin ŞÜKÜR	Ondokuz Mayıs University, Türkiye
THE SOCIAL SIGNIFICANCE AND HISTORICAL ORIGINS OF "KELLE PAÇA" SOUP CONSUMPTION IN TURKISH CULTURE	Muhabbet ÇELİK	Yozgat Bozok University, Türkiye

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Session-3 / Hall-2

Ankara Time: 15⁰⁰-17⁰⁰

HEAD OF SESSION: Dr. Ümit ATASEVER

TOPIC TITLE	AUTHORS	AFFILIATION
ALGAL FLORA OF THE CİĞER GÖLÜ BLANKET BOG	Bülent AKAR Utku AVCI	Gümüşhane University, Türkiye Eskişehir Osmangazi University, Türkiye
INVESTIGATION OF THE STRUCTURAL AND PHYSICOCHEMICAL EFFECTS OF INULIN ON A YOGURT MODEL FOOD	Sema SARIDANIŞMET Ayşe ATILGAN Rüveyda KARKI	Kayseri Şeker Fabrikası A.Ş., Ar-Ge Merkezi, Kayseri, Türkiye
SUSTAINABLE FOOD PRODUCTION AND FOOD WASTE MANAGEMENT	Cemal KAYA Hatice KÖSE	Tokat Gaziosmanpaşa University, Türkiye
SENSORY EVALUATION OF FOUR DIFFERENT RECIPES PREPARED WITH ARTVIN SALMON WITHOUT HEAT TREATMENT	Zeynep Ece ALTUNTAŞ Elif Esma KARAMAN TAŞKESENLİĞİL Yusuf DURMUŞ	Artvin Çoruh University, Türkiye
DIAGNOSTIC AND THERAPEUTIC ROLE OF BDNF IN ALZHEIMER'S DISEASE: CURRENT EVIDENCE AND LIMITATIONS	Ümit ATASEVER	Kocaeli University, Türkiye
OLFACTORY DYSFUNCTION IN ALZHEIMER'S DISEASE: PATHOPHYSIOLOGICAL MECHANISMS AND CLINICAL IMPLICATIONS	Ümit ATASEVER	Kocaeli University, Türkiye
THE NURSE'S ROLE IN OPERATING ROOM WASTE MANAGEMENT: THE PATH TOWARD ZERO WASTE	Merve Yazıcıoğlu Hatice Erdoğan	Maltepe University, Türkiye

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Session-3 / Hall-3

Ankara Time: 15⁰⁰-17⁰⁰

HEAD OF SESSION: Assist. Prof. Dr. Burhan ÖZKURT

TOPIC TITLE	AUTHORS	AFFILIATION
TYPES OF SOCIAL SUPPORT: A STUDY ON ELITE DEAF WRESTLERS	Burhan ÖZKURT	Sivas Cumhuriyet University, Türkiye
A COMPARATIVE ASSESSMENT OF OSTEOPOROSIS KNOWLEDGE AND AWARENESS AMONG UNIVERSITY STUDENTS BY GENDER AND ACADEMIC ACHIEVEMENT	Emine ASLAN TELCİ Tansu YILMAZ Elif Nur TAŞCIOĞLU	Pamukkale University, Türkiye
EFFECTS OF TARGETED EXERCISES ON CERVICAL PAIN INTENSITY, ENDURANCE OF THE DEEP CERVICAL FLEXOR MUSCLES, NECK PROPRIOCEPTION, AND SLEEPINESS IN YOUNG INDIVIDUALS WITH TEXT-NECK SYNDROME: PRELIMINARY RESULTS	Emine ASLAN TELCİ Elif Nur TAŞCIOĞLU Borna FARHOOMAND Sevim BALLI Kübra İNCE Azra YILMAZ Bahar KELAHMETOĞLU Hatice SARIYILDIZ	Pamukkale University, Türkiye
TRADITIONAL INFANT CARE PRACTICES IN TÜRKİYE: AN EVALUATION FROM THE PERSPECTIVE OF CULTURAL VALUES AND PUBLIC HEALTH NURSING	Pınar TAŞ Burcu ÇAKI DÖNER	Gaziantep University of Islamic Science and Technology, Türkiye
NANOTECHNOLOGY-BASED COMPOSITE RESINS: ADVANTAGES AND DISADVANTAGES	Görkem KERVANCIOĞLU Derya Gürsel Sürmelioglu	Şehitkamil Oral and Dental Health Center, Türkiye Gaziantep University, Türkiye
FACTORS AFFECTING THE COLOR STABILITY OF COMPOSITE RESTORATIONS: A CURRENT LITERATURE REVIEW	Görkem KERVANCIOĞLU Derya Gürsel Sürmelioglu	Şehitkamil Oral and Dental Health Center, Türkiye Gaziantep University, Türkiye
KRONİK STRESİN BİLİŞSEL İŞLEV ÜZERİNE ETKİLERİ	İbrahim YILMAZ Can DEMİREL Sibel OĞUZKAN BALCI	Gaziantep University, Türkiye
THE EFFECTS OF DIABETES AND CHRONIC STRESS ON HIPPOCAMPAL MKRN1-SHORT AND SYNAPTIC PLASTICITY-RELATED MOLECULES	İbrahim YILMAZ Can DEMİREL Sibel OĞUZKAN BALCI Mutlu Can ASLANPAY	Gaziantep University, Türkiye

02.12.2025**Session-3 / Hall-4****Ankara Time: 15⁰⁰-17⁰⁰****HEAD OF SESSION: Dr. Violla Makhzoum**

TOPIC TITLE	AUTHORS	AFFILIATION
HOW DO MULTIMODAL RESOURCES SUPPORT SCIENCE LEARNING IN LEBANON'S MULTILINGUAL CLASSROOMS?	Salwa Ali	University of Saint Joseph
FROM PRINCIPLES TO ALGORITHMS: IMPLEMENTING AI IN PUBLIC PROCUREMENT SYSTEMS	Jonaïd Myzyri	University of Trana, Faculty of Law, Department of Public Department of Public Law, Albania
ALGORITHMIC JUSTICE: SHOULD CONSTITUTIONAL COURTS INCLUDE AI JUDGES IN RIGHTS ADJUDICATION?	Manotar Tampubolon	Universitas Bung Karno, Faculty of Law, Jakarta, Indonesia
ASSESSING THE RISKS OF USING ARTIFICIAL INTELLIGENCE IN HIGHER EDUCATION: BETWEEN FACILITATION AND ETHICAL CHALLENGES	Dr. Violla Makhzoum	Islamic University of Lebanon
SCHOOL PHOTOGRAPHY: A NEW AESTHETIC SPACE IN GENERAL EDUCATION	Lê Tuấn Anh	Bùi Hữu Nghĩa High School, Department of History, Cần Thơ City, Vietnam
THE ROLES OF INTERNAL AND EXTERNAL STAKEHOLDERS IN ENHANCING STUDENT SERVICES IN CAMBODIAN HIGHER EDUCATION: INSIGHTS FROM A QUALITATIVE STUDY	Moeurn Chantrea	Royal University of Phnom Penh, Phnom Penh, Cambodia
SENSE OF SELF WORTH PUBLIC IMAGE CONCERN AND MENTAL WELLBEING AMONG UNIVERSITY STUDENTS	Saira Noor, Maheen Tayyab, Hira Farhan	University of Management and Technology, Lahore
BREAKING STEREOTYPES: WOMEN IN LEADERSHIP POSITIONS	Dr.Samera Nasiradeh Rukhsar rasouli	Ahlul-Bayt international university department of women's studies, Faculty of social and Behavioral science Tehran,Iran

02.12.2025**Session-3 / Hall-5****Ankara Time: 15⁰⁰-17⁰⁰****HEAD OF SESSION: Dr. Iram Liaqat**

TOPIC TITLE	AUTHORS	AFFILIATION
SIGNIFICANCE SUBSOWING OF PASTURES IN ORDER TO OBTAIN QUALITY FEED FOR RUMINANTS	Ivan Pavlović	Scientific Institute of Veterinary Medicine of Serbia, Belgrade, Serbia
QS INHIBITION BY ALGAL COMPOUNDS AGAINST MARINE BIOFILMS	Dr. Iram Liaqat	Government College University, Lahore
ANTIOXIDANT POTENTIAL OF MEDICINAL PLANTS IN THE MANAGEMENT OF OXIDATIVE STRESS-RELATED FEMALE INFERTILITY: A REVIEW	Amina Teibi Nabila Belyagoubi-Benhammou Abdel Halim Harrath	University Abou-Bekr Belkaïd, Algeria King Saud University, Saudi Arabia
A MANGROVE-SOIL DERIVED NOVEL STREPTOMYCES ISOLATE WITH SYNERGISTIC ANTIMICROBIAL AND ANTICANCER METABOLITE PRODUCTION	Yalpi Karthik, Manoj-Kumar Arthikala, Kalpana Nanjareddy, Manjula Ishwara Kalyani	Mangalore University, India National Autonomous University of Mexico (UNAM), Guanajuato, Mexico
BIOACTIVE CONSTITUENTS AND EXPANDING USES OF ALLIUM SATIVUM ESSENTIAL OIL	Dr. Muhammad Imran	Government College University, Faisalabad, Pakistan
SPACE DEBRIS AND ORBITAL CONGESTION: TOWARD A FRAMEWORK FOR SUSTAINABLE SPACE OPERATIONS	Dr. Tahir Qureshi Dr. Mohammad Owais Farooqui Dr. Shaeyuq Ahmad Shah	Symbiosis International (Deemed University), Pune. India University of Sharjah, UAE
FORECASTING PILGRIM VULNERABILITY TO EXTREME HEAT: INTEGRATED CLIMATE-HEALTH MODELING FOR THE HAJJ IN MECCA AND MADINAH	Nura Yunusa, Mahmud Abubakar, Mohammed Saidu, Hüseyin Gökçekus	Federal University of Technology, P.M.B. 65, Minna, Niger State, Nigeria. Near East University, Near East Boulevard ZIP: 99138. Nicosia
MULTIDIMENSIONAL ASSESSMENT OF MINERAL RESOURCES IN VIETNAM: GEOPOLITICAL ANALYSIS, SUSTAINABLE GOVERNANCE, AND IMPLICATIONS OF THE 2024 LEGAL REFORM	Le Tran Thanh Liem Tran Thi Kim Hong Bui Thi Bich Lien	Can Tho City, Vietnam
GEOLOGICAL AND HYDROGEOPHYSICAL STUDY OF THE DAKHLA, BIR GANDOUZ, AND GUERGUERATE REGIONS (MOROCCO): AN INTEGRATED APPROACH TO CHARACTERIZING GEOLOGICAL STRUCTURES AND LITHOLOGICAL FACIES	Amroumoussa Benmoussa	University Ibn Zohr, Agadir, Morocco

02.12.2025

Session-3 / Hall-6

Ankara Time: 15⁰⁰-17⁰⁰

HEAD OF SESSION: Krupa Prajapati

TOPIC TITLE	AUTHORS	AFFILIATION
DESIGN, SYNTHESIS, IN SILICO AND IN VITRO INVESTIGATION OF PYRIDYLPiPERAZINE HYBRID DERIVATIVES AS UREASE INHIBITORS	Sumayya Akram Prof. Dr. Matloob Ahmad Dr. Sana Aslam	Government College University Faisalabad, Pakistan
COMPUTATIONAL INSIGHTS INTO REPURPOSING FDA-APPROVED DRUGS FOR INFLUENZA A: A NOVEL THERAPEUTIC STRATEGY	Nouh Mounadi, Hassan Nour, Mhammed El Kouali, Samir Chtita	Hassan II University of Casablanca, Morocco
VALORIZATION OF INDUSTRIAL WASTE IN LOW-COST MEMBRANES FOR TEXTILE WASTEWATER MICROFILTRATION	CHLAIH Soumaya, EL ATAOUI Khadija, EL HADIRI Najat	Cadi ayad university, Marrakech, Morroco
DESIGN, SYNTHESIS, PHARMACOLOGICAL PROPERTIES, COMPUTATIONAL ANALYSIS, AND COMPARATIVE EVALUATION OF NEW S-TRIAZINE CLUBBED HETEROCYCLIC DERIVATIVES TOWARDS MULTIDRUG RESISTANCE MICROBIAL STRAINS	Krupa Prajapati	Sankalchand Patel University, Visnagar, Mehsana, Gujarat, India
MELAMINIUM DIHYDROGENPYROPHOSPHATE: SYNTHESIS, CRYSTAL PACKING, HIRSHFELD SURFACE ANALYSIS, AND REACTIVITY MAPPING: A COMBINED EXPERIMENTAL AND THEORETICAL STUDY	El.Majdi, S. Zerraf, Fouad Alloun, M.E. Belghiti, Said Belaouad	Hassan II University of Casablanca, Casablanca, Morocco
BIO-ORIENTED SYNTHESIS AND MOLECULAR DOCKING STUDIES OF 1,2,4-TRIAZOLE BASED DERIVATIVES AS POTENTIAL ANTI-CANCER AGENTS AGAINST HEPG2 CELL LINE	Zainib Razzaq Samreen Gul Khan Fozia Anjum Kiran Aftab Mehr un Nisa	Government College University, Pakistan University of Lahore, Pakistan
PERFORMANCE EVALUATION OF CIGS SOLAR CELLS WITH A ZINC SULFIDE INSULATION LAYER	Abdelali Laid, Abed zoulikha	University Djillali Liabes of Sidi Bel Abbes, Algeria

03.12.2025

Session-1 / Hall-1

Ankara Time: 10⁰⁰-12⁰⁰

HEAD OF SESSION: Assoc. Prof. Dr. Abdülkadir GÜLEÇ

TOPIC TITLE	AUTHORS	AFFILIATION
A USER-CENTERED ANALYSIS OF BARRIERS TO THE DIFFUSION OF SHARED AUTONOMOUS TAXI SYSTEMS	Engin Orhan Ömer KAYA	Erzurum Technical University, Türkiye
COMPARATIVE ASSESSMENT OF PEDESTRIAN ACCESSIBILITY TO EMERGENCY ASSEMBLY POINTS BASED ON DISTANCE AND TIME ANALYSIS: THE CASE OF ŞANLIURFA	Halil Selim AÇANAL Egemen KAYA	Harran University, Türkiye
INVESTIGATION OF THE COMPRESSIVE STRENGTH OF AIR-CURED CALCIUM ALUMİNATE CEMENT CONCRETE AT ELEVATED TEMPERATURES	Abdülkadir GÜLEÇ	Kahramanmaraş Sütçü İmam University, Türkiye
DETERMINATION OF THE BIOGAS ENERGY POTENTIALS OF THE TR63 REGION	Cem Sinan BAYAZIT Serdar ÜÇÖK	Kahramanmaraş Sütçü İmam University, Türkiye
THE USE OF <i>EUPHORBIA</i> BIOMORDANT IN NATURAL DYEING AND THE EFFECT OF MICROWAVE ENERGY	Nur KILINÇ Mehmet KILINÇ	Giresun University, Türkiye
K-BALANCING NUMBERS AND BASIC PROPERTIES OF BALANCING POLYNOMIALS	Şengül İYİGÜN Nurbige TURAN ZABUN	Gaziantep University, Türkiye
SYNTHESIS AND CHARACTERIZATION OF CHITOSAN-BASED ACRYLIC ACID/ACRYLAMIDE/2-ETHYL HEXYL ACRYLATE SEMI-IPN HYDROGELS FOR SPECIFIC ISOLATION OF METHYLENE BLUE	Tuncay ERÇOBAN Hidayet MAZI	Gaziantep University, Türkiye
RHODIUM, RUTHENIUM, AND IRIIDIUM COMPLEXES OF N-HETEROCYCLE-FUNCTIONALIZED N-HETEROCYCLIC CARBENE LIGANDS IN THE HYDROSILYLATION OF ALKYNES	Akın MUMCU	İnönü University, Türkiye

03.12.2025

Session-1 / Hall-2

Ankara Time: 10⁰⁰-12⁰⁰

HEAD OF SESSION: Assist. Prof. Dr. Hikmet DİNÇ

TOPIC TITLE	AUTHORS	AFFILIATION
SYSTEMATIC AND ECOLOGICAL STUDY OF SPIDERS (ARACHNIDA: ARANEAE) FOUND AMONG THE SUGAR BEET FIELD BOUNDARIES IN KORKUT (MUŞ)	Hüseyin ALLAHVERDİ Sinan AYAZ	Muş Alparslan University, Türkiye Türk Kızılay Van Kan Bağıışı Merkezi Müdürlüğü
DETERMINATION OF NEONICOTINOID RESIDUES IN HONEY SAMPLES COLLECTED FROM THE EAST-SOUTHEAST ANATOLIA REGION OF TÜRKİYE	Hikmet DİNÇ Nurullah ÖZDEMİR F. Serkan KAPUCUK	Gaziantep University of Islamic Science and Technology, Türkiye Namık Kemal University, Türkiye GAP Tarımsal Araştırma Enstitüsü Müdürlüğü, Hayvancılık Bölümü, Şanlıurfa, Türkiye.
NATURAL ANTIOXIDANTS IMPROVING REPRODUCTIVE PERFORMANCE in FARM ANIMALS	Arda Çelik Şeniz Öziş Altınçekiç Berkay Erdoğan	Bursa Uludağ University, Türkiye
EFFECT OF DEPOSITION TEMPERATURE ON THE GROWTH BEHAVİOR AND PHOTOCATALYTIC EFFİCIENCY OF CHEMICALLY DEPOSITED THİN FİLMs	İpek BALNAN Kübra KÖŞE KAYA Sabit HOROZ	Sivas Science and Technology University, Türkiye
SOL–GEL SYNTHESIS AND CHARACTERIZATION OF DOPED METAL OXIDE STRUCTURES FOR PHOTOCATALYTIC APPLICATIONS	İpek BALNAN Kübra KÖŞE KAYA Sabit HOROZ	Sivas Science and Technology University, Türkiye
GENE EDITING RESEARCH IN POULTRY: A BIBLIOMETRIC ANALYSIS	Neşe YAMAN İremnur AYDIN Zeynep SÖNMEZ	Atatürk University, Türkiye
A BIBLIOMETRIC ANALYSIS OF GENOMIC BREEDING RESEARCH IN SHEEP	Zeynep SÖNMEZ İremnur AYDIN	Atatürk University, Türkiye

03.12.2025

Session-1 / Hall-3

Ankara Time: 10⁰⁰-12⁰⁰

HEAD OF SESSION: Assoc. Prof. Dr. İsmail YELPAZE

TOPIC TITLE	AUTHORS	AFFILIATION
ADAPTATION STUDY FOR THE POSITIVE AND NEGATIVE STRESS SCALE (DESS) TO TURKISH	İsmail YELPAZE Fatih ORÇAN	Kahramanmaraş Sütçü İmam University, Türkiye
ADAPTATION STUDY FOR INSOMNIA SCALE TO TURKISH	İsmail YELPAZE Fatih ORÇAN	Kahramanmaraş Sütçü İmam University, Türkiye
ÖĞRETMEN GÖRÜŞLERİNE GÖRE OKUL ÖNCESİNDE FİNANSAL OKURYAZARLIK EĞİTİMİ VE TÜKETİM BİLİNCİ	Zehra BEYAZYÜZ Uğur EPÇAÇAN	Siirt Milli Eğitim Müdürlüğü, Siirt, Türkiye Siirt University, Türkiye
THE RELATIONSHIP BETWEEN EARLY MALADAPTIVE SCHEMAS AND FRIENDSHIP QUALITY IN ADOLESCENTS	Kübra Akdeniz Ahmet BUĞA	Gaziantep University, Türkiye
A STUDY ON THE PSYCHOSOCIAL AND ECONOMIC PROBLEMS EXPERIENCED BY UNIVERSITY GRADUATES OF FACULTIES OF EDUCATION WHO HAVE NOT BEEN APPOINTED AS TEACHERS	Handan KARAKAYA Arzu ONAT	Fırat University, Türkiye
EXAMINING THE TRANSFORMATIVE ROLE OF METAVERSE TECHNOLOGY IN SPECIAL EDUCATION	Nihal ŞEN Ayşe DEMİR Ayşe DOĞRAMACIOĞLU Derya ŞAHİNALP	Harran University, Türkiye

03.12.2025**Session-1 / Hall-4****Ankara Time: 10⁰⁰-12⁰⁰****HEAD OF SESSION: Manu Dogra**

TOPIC TITLE	AUTHORS	AFFILIATION
NUMERICAL ASSESSMENT OF DESIGN PARAMETERS ON GROUND SOURCE HEAT PUMP PERFORMANCE	Burak Türkan Mustafa Rauf Kabakçioğlu Mustafa Duhan Adıgüzel	Bursa Uludağ University, Türkiye DİTAŞ Doğan Yedek Parça İmalat ve Teknik A.Ş., Ar-Ge Merkezi, 51000, Niğde, Türkiye
INNOVATIVE SPATIAL ELECTRIC FIELD-ASSISTED LOW-TEMPERATURE PRESERVATION TECHNOLOGY: MECHANISMS, ADVANCES AND APPLICATIONS	Meng Yuan, Ankang Kan, Meiyu Wang, Yaning He, Xiaohua Guo, Zhaoyun Ma	Shanghai Maritime University, China; Freshkeep Technology (Qingdao) Co., Ltd., China; Taicang CIMC Refrigerated Logistics Equipment Co., Ltd., China
INVESTIGATION OF SURFACE QUALITY ACHIEVED DURING SURFACE GRINDING OF Ti6Al4V UNDER DRY CONDITIONS WITH AND WITHOUT USE OF WHEEL CLEANING NOZZLE USING CBN WHEEL	Manu Dogra	Panjab University SSG Regional Centre, Hoshiarpur, India
FEATURES OF USING A CAM MECHANISM IN THE INTERMITTENT ROTATION DRIVE OF PAD PRINTING MACHINES	Dmytro Hrytsenko Maksym Kovalenko	National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Institute of Publishing and Printing, Kyiv, Ukraine.
EFFECT OF METAKAOLIN ON FLY ASH-GGBS-BASED GEOPOLYMER CONCRETE BY PARTIAL REPLACEMENT OF FINE AGGREGATE WITH QUARTZ SAND	Pathangi Eswanth, Mahendrakar Hemanth Kumar	G.Pulla Reddy Engineering College (Autonomous), Kurnool, Andhra Pradesh, India
DISTANCE TRAINING CONCERNING CIVIL DEFENSE DURING MARTIAL LAW IN UKRAINE	Viktor Sopiha Halyna Havryshchak	Ternopil Volodymyr Hnatiuk National Pedagogical University, Ternopil, Ukraine.
FLY-ASH AGGREGATE IN GEOPOLYMER CONCRETE FOR PAVEMENT USES: PERFORMANCE RANGES, MECHANICAL CHARACTERISTICS, AND EXPERIMENTAL PROGRAM	Chayaraju Bala Sai Nadagouda Kalyani K.Tharani	G.pullareddy Engineering college(Autonomous),Kurnool, AP, INDIA
ASSESSING THE BIOAVAILABILITY OF TREATING FUEL WASHING WASTEWATER WITH BIO COAGULATION AND FLOCCULATION	Safaa Khatabi Rifi, Latifa Mouhir, Abdelaziz Madinzi, Khadija Zahidi, Ilham Nassri, Salah Souabi	Hassan II University, Casablanca, Morocco

03.12.2025

Session-1 / Hall-5

Ankara Time: 10⁰⁰-12⁰⁰

HEAD OF SESSION: Dr Kalaiselvan S

TOPIC TITLE	AUTHORS	AFFILIATION
ELECTRONIC CONTRACTS: LEGAL CHALLENGES AND HARMONIZATION WITH EUROPEAN STANDARDS	Orlinda SINANAJ, Romina SINANAJ	Municipality of Vlora, Albania University of Insurance and Finance,Bulgaria
THERMODYNAMIC PROPERTIES OF NANOSTRUCTURED MATERIALS: THE EFFECT OF GEOMETRY	Marija Radmilović-Radjenović, Branko Kolarić, Branislav Radjenović, Bojana Bokić, and Darko Vasiljević	University of Belgrade, Pregrevica 118, 11080 Belgrade, Serbia
PILOT-SCALE EVALUATION OF A LOW-COST RECIRCULATED WASTEWATER FILTRATION SYSTEM USING CHARCOAL AND SAND	John Olotu, Nura Yunusa, Udofia Udeme Mfon, Lawal Garba Dan-alhaji, Umar alfa Abubakar, Badruddeen Saulawa Sani	Federal University of Technology, Minna, Niger State, Nigeria Ahmadu Bello University, Zaria, Kaduna State, Nigeria
THERMAL ANALYSIS OF SLIP-CONTROLLED MICROPOLAR TRI-HYBRID NANOFLUID FLOW WITH ACTIVATION ENERGY	Ephesus O. Fatunmbi, Olubisi L. Aako	Federal Polytechnic, Ilaro
DEVELOPMENT AND CHARACTERIZATION OF COAL–BIOMASS BRIQUETTES INCORPORATING DODONAEA VISCOSA FOR SUSTAINABLE ENERGY APPLICATIONS	Muhammad Umair Khan, Muhammad Abas, Sahar Noor, Amad Ullah Khan	University of Engineering and Technology Peshawar, Pakistan
LIQUID- LIQUID EXTRACTION OF PHOSPHORIC ACID BY ALCOHOLS, ITS APPLICATION FOR PURIFICATION OF COMMERCIAL PHOSPHORIC ACID	Abdul Rahman Y. Wahoud, Salim F. Bamsaoud, Amani O. Shemeis	Hadhramout University, P.O. Box 50511, Mukalla, Yemen
RADIO-FREQUENCY PLASMA POLYMERIZATION OF N,N-DIMETHYLANILINE: SYNTHESIS AND COMPREHENSIVE CHARACTERIZATION OF THIN FILMS	Dr. Shama Islam, Dr. S. S. Ashraf, Halima Khatoon	School of Engineering Sciences and Technology, India
NANOROBOTS FOR ADVANCED BIOMEDICAL AND ENVIRONMENTAL APPLICATIONS: DESIGN, MECHANISMS, AND FUTURE PROSPECTS	Dr Kalaiselvan S, Vignesh R.S, Kandeepan A, Naseema A	Rathinam Technical Campus, Coimbatore, Tamilnadu, India
NANOROBOTICS AT THE FRONTIER OF INNOVATION: A COMPREHENSIVE REVIEW OF PROGRESS AND CHALLENGES	Dr Kalaiselvan S, Dr Sathish P, Lavanya Meiyammai P, Shustigaa MV, Rajeev S	Rathinam Technical Campus, Coimbatore, Tamilnadu, India

03.12.2025**Session-1 / Hall-6****Ankara Time: 10⁰⁰-12⁰⁰****HEAD OF SESSION: Dr. Hamed Mohammadi**

TOPIC TITLE	AUTHORS	AFFILIATION
DETERMINANTS OF AGRICULTURAL TOURISM DEVELOPMENT IN LONG XUYEN CITY, AN GIANG PROVINCE	Nguyen Thi Huynh Phuong, Ho Thi Truc Ly	Hue University, Vietnam Can Tho University, Vietnam Tour guide in Can Tho city, Vietnam
A ROBUST CONSENSUS MODEL FOR UNBALANCED LINGUISTIC INFORMATION USING CONSTANT ORNESS LINGUISTIC OWA	Amar Kishor Bablu Kumar Paswan	Magadh University, India
THE IMPACT OF MEDIA SENTIMENT ON A FIRM'S OPERATIONAL, INVESTMENT, AND FINANCIAL ACTIVITIES IN AN EMERGING ECONOMY	Muhammad Ateeq ur Rehman	Westminster International University in Tashkent (WIUT), Uzbekistan Southwestern University of Finance and Economics, China
BLOCKCHAIN FOR SUSTAINABLE FASHION: ENSURING ETHICAL SOURCING AND PRODUCTION IN THE APPAREL INDUSTRY	Amandeep Singh Grover, Mohd Vaseem, Akhtarul I. Amjad, Khushi Mathur, Krishna Makhija, Abhimanyu Kumar	National Institute of Fashion Technology (NIFT), Panchkula, India.
THE DYNAMICS OF GLOBAL ECONOMICS: CHALLENGES AND NEW HORIZONS	Dr. Hamed Mohammadi	International Islamic University Islamabad-Pakistan
JOURNALIST SAFETY AND RISKS IN CONFLICT ZONES	Doc. Dr. Shahla Shiraliyeva	Nakhchivan State University
AESTHETICS AND VISUAL COMMUNICATION IN THE PRESENTATION OF VODOUN MEALS IN BENIN	Sènakpon Socrate Sosthène TOBADA Mahuton Géoffroy DJESSOU Adamou SIDDO	Université André Salifou de Zinder, Niger

03.12.2025**Session-1 / Hall-7****Ankara Time: 10⁰⁰-12⁰⁰****HEAD OF SESSION: Dr. Shalini R**

TOPIC TITLE	AUTHORS	AFFILIATION
MOBILE BANKING'S CONTRIBUTION IN PROMOTING SUSTAINABLE CONSUMPTION IN URBAN INDIA	Dr. Shalini R	CMS B School, Jain Deemed to be University, Bangalore, INDIA
SECESSIONIST AGITATIONS AND THE FUTURE OF THE NIGERIAN STATE: A POLITICAL ECONOMY PERSPECTIVE	Fatunmbi Joel Oluwafemi	The Federal Polytechnic Ilaro, Ogun State, Nigeria
TRANSFORMING CAMBODIA'S BANKING SECTOR: THE EVOLUTION AND IMPACT OF BANKING INFRASTRUCTURE (2008-2023)	Hak Sokly	Build Bright University (BBU)
PRIVILEGE AND POSSIBILITY. UNDERSTANDING THE LINK BETWEEN CHOICE AND WEALTH	Oana-Maria Cozma	„Alexandru Ioan Cuza” University of Iași, ROMANIA
BRANDED WATER, BRANDED MINDS: WHY DO INDONESIANS PAY MORE FOR THE SAME H ₂ O	Joseph Daniel chandra Princess Ernestine Marchani Wang Dr. Amit Joshi	Raffles Christian School, Indonesia
THE ROLE OF COMMUNITY COLLABORATION IN STRENGTHENING THE CREATIVE ECONOMY	SILVA ASTI ANANTA DWI AYU SEPTIYANI ROFIYANA	UIN K.H. Abdurrahman Wahid Pekalongan, Indonesia
A SCOPING REVIEW OF FINANCIAL RESILIENCE IN THE BANKING SECTOR AMIDST THE COVID-19 PANDEMIC	Castillo, J. M. E., Gabato, M. A., Sarad, J. J. T., Lequigan, J. M., Tuco, A., Lusares, C. L., Panganiban, J. R., Mark Anthony N. Polinar	Mabolo National High School, Cebu City, Philippines

03.12.2025

Session-2 / Hall-1

Ankara Time: 12³⁰-14³⁰

HEAD OF SESSION: Assist. Prof. Dr. Narin ASLAN

TOPIC TITLE	AUTHORS	AFFILIATION
AUTOMATIC CLASSIFICATION OF MANGO DISEASES USING DEEP LEARNING-BASED FEATURE EXTRACTION AND MACHINE LEARNING METHODS	Yağmur ÖLMEZ Gonca OZMEN KOCA Zuhtu Hakan AKPOLAT	Malatya Turgut Ozal University, Türkiye Fırat University, Türkiye Fatih Sultan Mehmet Vakıf University, Türkiye
HYPERTENSION DETECTION FROM BALLISTOCARDIOGRAPH TIME SERIES DATA: A LIQUID NEURAL MODELING APPROACH	Narin ASLAN Gonca OZMEN KOCA Zuhtu Hakan AKPOLAT	Fırat University, Türkiye Fatih Sultan Mehmet Vakıf University, Türkiye
A COMPARATIVE ANALYSIS OF K-MEANS AND AGGLOMERATIVE CLUSTERING FOR BEHAVIORAL DATA USING SILHOUETTE SCORES	Aylin Atasoy Doğan Yasin Ortakçı İlker Türker	Karabük University, Türkiye
TRANSFORMER-BASED MACHINE TRANSLATION: A COMPREHENSIVE ANALYSIS OF RESEARCH PROGRESS AND GLOBAL CONTRIBUTIONS	Nurzhan Amantay Yasin Ortakçı İlker Türker	Karabük University, Türkiye
THE COST OF MOBILE TECHNOLOGY	Ömer Can DEMİRTAŞ Serkan GÜRGÜL Can DEMİREL	Gaziantep University, Türkiye

03.12.2025

Session-2 / Hall-2

Ankara Time: 12³⁰-14³⁰

HEAD OF SESSION:

TOPIC TITLE	AUTHORS	AFFILIATION
AN ANALYSIS OF SŪRAT AL-INSHĪRĀH FROM THE PERSPECTIVE OF THE SCIENCE OF MA'ĀNĪ	Zeynep SEÇER	Selçuk University, Türkiye
THE FUNCTIONAL TRANSFORMATION OF TRADITIONAL LACE IN SUSTAINABLE TEXTILE APPLICATIONS	Şefika Kankaya Nazan Avcıoğlu Kalebek	Gaziantep University, Türkiye
REGIONAL FISCAL CONCENTRATION AND CENTER-PERIPHERY RELATIONSHIP: SPATIAL INTERACTION BETWEEN MOTOR VEHICLE INCENTIVES AND SCT REVENUES	Cem AKIN Esra DOĞAN KENDİRCİ	Kırşehir Ahi Evran University, Türkiye Eskişehir Osmangazi University, Türkiye
THE INTERPRETATION OF AL-MA'ARRĪ IN TAHA HUSSEİN'S "ZĪKRĀ ABĪ AL-'ALĀ' AL-MA'ARRĪ"	Esmanur MACİT	Selçuk University, Türkiye
GRAMMATICAL ERRORS OBSERVED IN THE ARABIC TRANSLATION OF "KAPILARI AÇMAK"	Zeynep SEZEN	Selçuk University, Türkiye
LANGUAGE AND STYLE FEATURES IN THE ADDRESSES OF NECİP FAZIL KISAKÜREK AND HASAN AL-BANNA TO THE YOUTH	Ayşenur Demirtaş	Selçuk University, Türkiye
THE NATURE METAPHOR IN IBN ZAYDŪN'S QAŞĪDA "Amā Fī Nasīmi r-Riḥi 'Urfun Ma'rūfun"	Merve Nur ÖZDEMİR	Selçuk University, Türkiye
THE ROLE OF BODY APPRECIATION AS A MEDIATOR IN THE RELATIONSHIP BETWEEN HIGH SCHOOL STUDENTS' LEVELS OF CYBER VICTIMIZATION AND SELF-ESTEEM	Halime Miray SÜMER DODUR Gülizar Gülcan ŞEREMET	Çankırı Karatekin University, Türkiye

03.12.2025**Session-2 / Hall-3****Ankara Time: 12³⁰-14³⁰****HEAD OF SESSION: Dr Nabila Sher**

TOPIC TITLE	AUTHORS	AFFILIATION
MICROBIOME-MODULATING DRUGS	D.Aravindhan, S.Shakthi Sree	Bharath Institute of Higher Education and Research, Chennai, India
THE PROBLEM OF MICROPLASTICS IN ENVIRONMENTAL MEDICINE	Mariami Managadze	Tbilisi State Medical University
DRUG REPURPOSING AS A RAPID THERAPEUTIC STRATEGY FOR SOLID CANCERS	Pooja B Rasal, Gaurav N Kasar	JES's SND College of Pharmacy, Babhulgaon, Dist. Nashik, India.1* Divine College of Pharmacy, India
IMPACT OF MOBILE PHONE USAGE	Gomathy E, Mrs. Elavarasi E	Bharath Institute Of Higher Education And Research
ANTIBIOTICS AND ANTIMICROBIAL RESISTANCE	S.Shakthi Sree , D.Aravindhan , Dr.B. Lavanya	Bharath Institute of Higher Education and Research Selaiyur Chennai-73.
CLONING TECHNOLOGY: METHODS, APPLICATIONS, AND ETHICAL CONSIDERATIONS	Nworah Florence N., Eje Ozoemena E., Igwebuike Nancy C.	University of Nigeria, Nsukka, Enugu State, Nigeria
THYROID HORMONE LEVELS AND THEIR ASSOCIATION WITH PLASMA ZINC LEVELS AMONG ADOLESCENT AFGHAN REFUGEES; A CROSS-SECTIONAL STUDY	Dr Saima Shaheen Dr Nabila Sher	Khyber Girls Medical College
UNMASKING CYBER VIOLENCE: SOCIAL MEDIA ENGAGEMENT AND SPIRITUAL BYPASS IN YOUNG ADULTS	Safa Ahmed, Asma Jahangir, Beenish Mubeen and Shahnila Tariq	University of Management and Technology, Lahore Pakistan

03.12.2025

Session-2 / Hall-4

Ankara Time: 12³⁰-14³⁰

HEAD OF SESSION: Zahra Hosseini

TOPIC TITLE	AUTHORS	AFFILIATION
ROLE OF WOMEN IN SUSTAINABLE DEVELOPMENT: CHALLENGES AND OPPORTUNITIES	Fatima Osmani	International Ahlulbait University, Iran
SUSTAINABLE RETAIL ENVIRONMENTS: A DESIGN-BASED EXPLORATION OF ZERO-WASTE GROCERY STORES	Ayesha Zulfiqar Farhana Naz Maryam Usman	Interior Designer Lahore, Pakistan Lahore College for Women University, Pakistan
INTEGRATION OF RESTORATIVE DESIGN FEATURES IN RESORT ARCHITECTURE IN ABUJA, NIGERIA	Ahmed T. Kasim, Abubakar D. Isah	Federal University of Technology Minna, Niger State, Nigeria
MOTIVATIONAL CHALLENGES OF AFGHAN ADOLESCENT GIRLS AND THEIR IMPACT ON FUTURE PLANNING	Zahra Hosseini	Ahlul Bayt International University Tehran.
THE OBJECTIFICATION OF WOMEN IN NIGERIAN AND AMERICAN MUSIC VIDEOS: A CRITICAL ANALYSIS	Adenike Adunni OMOTAYO, Temilade A. OLATUNJI	Federal Polytechnic, Nigeria.
WOMEN EMPOWERMENT IN AMMA DARKO BEYOND THE HORIZON AND MARIAM BÂ'S SO LONG A LETTER	Maman Toukour Lawali Esther Tontoh	Université André Salifou, Niger Republic
HARMONY IN ACTION: UNRAVELING THE NEXUS OF MOTIVATIONAL THEORIES AND EMOTIONAL INTELLIGENCE IN PROJECT MANAGEMENT	Riaz Ahmed, Sharmeen Hayat, Qurat-ul-Ain Mahmood, Areeba Ahmed	Bahria Business School, Bahria University, Islamabad, Pakistan, Benazir Income Support Program Islamabad, Pakistan
BUILDING THE SOCIO-POLITICAL AND CULTURAL IDENTITY OF THE MARGINALIZED PEOPLE OF POST-LIBERATION BANGLADESH, REVEALING THE PERFORMATIVE ASPECTS OF RESISTANCE	Afruza Hossain Konika	
SCIENTIFIC RESEARCH IN THE POST-ARTIFICIAL INTELLIGENCE ERA: A COMPREHENSIVE APPROACH TO ADVANCING RESEARCH PARADIGMS	Dr. Mehdi Shalchi Tousi	Ahle Beyte Internatinal University, Tehran, Iran

03.12.2025

Session-2 / Hall-5

Ankara Time: 12³⁰-14³⁰

HEAD OF SESSION: Dr Nabila Sher

TOPIC TITLE	AUTHORS	AFFILIATION
NUMERICAL SIMULATION OF A CLASSE OF NONLINEAR PERIODIC DIFFERENTIAL SYSTEMS BY FNO	Bonouali Oumaima, Hamza Alaa, Fatima Aqel	Hassan 1st University
HYBRIDIZATION TECHNIQUES FOR THE SOLUTION OF SYSTEM OF NONLINEAR EQUATIONS USING CONJUGATE GRADIENT METHOD	Saidu Bulama, Nura Abdulkarim Iggi, Mukhtar Ibrahim Adam, Sadiq Abubakar Gambo, Wakili Abubakar, Abdullahi Abbas, Mustapha Yusuf Abdullahi	Jigawa State College of Remedial and Advanced Studies, Babura, Jigawa State, Nigeria Federal Polytechnics Daura, Katsina State, Nigeria
ELUCIDATING DRUG SURFACTANT INTERACTIONS AND MECHANISTIC INSIGHTS FOR ENHANCED PARTITIONING AND DRUG DELIVERY	Madiha Anwar, Muhammad Usman, Hassan Manzoor	Government College University, Faisalabad-38000, Pakistan
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CLIMATE CHANGE-INDUCED MIGRATION: A CASE STUDY OF NAGAR VALLEY, GILGIT-BALTISTAN, PAKISTAN	Iqra Hussain, Sheema, Laiba, Salma Gul, Asif Ali	
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CFD-BASED ASSESSMENT OF HEAT TRANSFER AND FLOW BEHAVIOR IN SOLAR AIR HEATER CHANNELS FEATURING AN INNOVATIVE RIB ARRANGEMENT	Youssef Ech-chine, Mohammed Jami, Ahmed Mezrhab	Mohammed 1st University, Morocco
AN OVERVIEW OF PHYTOCHEMICAL, PHARMACOLOGICAL, AND BIOLOGICAL CHARACTERIZATION OF TEUCRIUM POLIUM SPECIES: LITERATURE REVIEW	Hania Hamrouni	University of Gabes
COMPARATIVE EVALUATION OF GC-MS VS LC-MS IN PHYTOCHEMICAL ANALYSIS: A COMPREHENSIVE REVIEW	Ahmed Attahiru, Abubakar Umar Birnin-Yauri, Bashar Attahiru	Kebbi State University of Science and Technology Federal College of Education (Technical)

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DYNAMICS OF FERROMAGNETIC HYBRID NANOFLUID WITH HEAT GENERATION, THERMAL RADIATION, AND Soret-DUFOUR EFFECTS OVER A PERMEABLE SURFACE	Seethamahalakshmi Vyakaram Venkata Ramana Reddy	Potluri Siddhartha Institute of Technology Koneru Lakshmaiah Education Foundation
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AI IN INTERACTIVE AND GAMIFIED LEARNING	Priyanka.T, Sujatha.K, Parameswari.K, N.P.G. Bhavani	M.G.R. Educational and Research Institute, Chennai, TN, India. Saveetha Institute of Medical and Technical Sciences, Chennai, TN, India
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AĞIR METAL TOKSİSİTESİ VE FİTOREMEDİASYON HEAVY METAL TOXICITY AND PHYTOREMEDIATION

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ÖZET

Günümüzde insan sağlığını ve beslenmesini etkileyen en önemli faktörlerden biri olan ağır metaller, düşük miktarlarda gerekli olabilen fakat yüksek miktarlarda toksik etki yaratabilen elementlerdir. Tarımsal faaliyetler sonucunda (ilaç, gübre vb.) trafik, madencilik, endüstriyel faaliyetler, atık sular ağır metal toksisitesinin önemli kaynaklarını meydana getirmektedir. Tarımın ana unsurunu oluşturan toprakta gün geçtikçe ağır metal kirliliğine maruz kalmaktadır. Sürdürülebilir ve sağlıklı tarımsal üretimin kaynağı olan toprakta biriken bazı ağır metallerin başında krom (Cr) kadmiyum (Cd), kurşun (Pb), cıva (Hg) ve nikel (Ni) arsenik (As), gibi metaller gelmektedir. Bu metaller bitki gelişimini olumsuz etkileyerek bitkisel üretimi etkilemenin yanında bu metallerin birikebildiği akümülatör bitkiler ile besin zinciri aracılığıyla insan sağlığını riske atmaktadır. Ağır metaller tarımsal verimliliğin azalmasına, ekosistemin bozulmasına neden olan önemli kirleticilerdir. Bu kirliliğin gideriminde kolay uygulanabilir, ekonomik ve bitki temelli olan Fitoremediasyon yöntemi ile ağır metal kirliliğini azaltmayı veya tamamen giderilmesi amaçlanmaktadır. Türkçeye yeşil ıslah olarak geçen bu yöntemde kullanılan özel bitkiler, kirlilik parametresini bünyesinde biriktirerek kolaylıkla yaşayabilmektedirler. Bu bitkilere "hiperakümülatörler ve akümülatör" denir. Farklı familyalardan farklı kirlilikleri gideren bu bitkiler kirlenmiş alanlarda yaşayabilen ve bu kirlilikleri kökleri aracılığıyla bünyelerinde depolayabilmekte veya dönüştürerek kirlilik giderimi sağlamaktadır. En önemli avantajlarından biri de farklı toprak özellikleri, farklı iklim koşullarında ve farklı kirleticilerin gideriminde çalışan yeni bir teknoloji olan Fitoremediasyon; çevre dostu, düşük maliyetli ve sürdürülebilir bir yöntem olmakla birlikte geleneksel, fiziksel ve kimyasal yöntemlere alternatif olarak öne çıkmaktadır.

Fitoremediasyon yönteminin günümüz koşullarında geniş alanlarda uygulanabilir olması ve toprakta ağır metal giderimi için kullanılacak yöntemlerin başında oluşuna dikkat çekmesi amaçlanmaktadır. Ağır metal kirliliğinin azaltılmasında kritik bir rol üstlenerek gelecek nesiller için sürdürülebilir sağlıklı toprak ve güvenli tarımsal üretimin temellerini güçlendirecektir. Bu derleme ile aynı zamanda yeni bu konuda yapılacak bilimsel araştırmalara yön vermesi ve konunun önemine dikkat çekmek amaçlanmıştır.

Anahtar Kelimeler: Ağır metal toksisitesi, fitoremediasyon, hiperakümülatör bitkiler, toprak kirliliği.

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ABSTRACT

Heavy metals are among the most significant factors affecting human health and nutrition today. While they may be required in trace amounts, at high concentrations they exert toxic effects. Major sources of heavy metal contamination include agricultural activities (such as pesticide and fertilizer use), traffic, mining, industrial operations, and wastewater. Soil the fundamental element of agriculture is increasingly exposed to heavy metal pollution. Some of the principal heavy metals that accumulate in soil, threatening sustainable and healthy agricultural production, include chromium (Cr), cadmium (Cd), lead (Pb), mercury (Hg), nickel (Ni), and arsenic (As). These metals not only impair plant growth and reduce crop yields but also pose risks to human health through the food chain, particularly via accumulator plants in which these metals can concentrate. Heavy metals are critical pollutants that reduce agricultural productivity and contribute to ecosystem degradation.

Efforts to reduce or eliminate heavy metal pollution have increasingly focused on phytoremediation, a practical, cost-effective, and plant-based cleanup method. Known as "green cleanup" or "green remediation," this approach relies on specialized plants capable of thriving in contaminated soils while accumulating pollutants within their tissues. Such plants, called hyperaccumulators or accumulators, belong to diverse families and target different contaminants. They can remediate polluted sites by storing or transforming heavy metals through their roots. One of the greatest advantages of phytoremediation is its versatility it can be applied across different soil types, climatic conditions, and contaminants. Moreover, it is environmentally friendly, low-cost, and sustainable, making it a promising alternative to conventional physical and chemical remediation techniques.

This review aims to emphasize that phytoremediation is not only applicable on a large scale under current conditions but also represents one of the leading methods for soil heavy metal removal. By playing a key role in reducing heavy metal contamination, phytoremediation strengthens the foundation for sustainable soils and safe agricultural production for future generations. Furthermore, this review seeks to guide new scientific research on the subject and highlight its importance.

Keywords: Heavy metal toxicity, phytoremediation, hyperaccumulator plants, soil pollution.

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SAVUNMA SANAYİİ İÇİN DH36 ÇELİĞİ ÜZERİNDE TOZALTI KAYNAĞI VE KAYNAK PARAMETRELERİNİN DEĞERLENDİRİLMESİ INVESTIGATION OF SUBMERGED ARC WELDING PARAMETERS ON DH36 STEEL FOR DEFENSE APPLICATIONS

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ÖZET

Bu çalışmada, DH36 kalite yapısal çeliğin düşük sıcaklıklarda tozaltı kaynak yöntemiyle birleştirilmesi sonrasında, elde edilen kaynak dikişlerinin mekanik ve yapısal bütünlüğü hem tahribatlı hem de tahribatsız muayene yöntemleriyle kapsamlı bir şekilde değerlendirilmiştir. Çalışma kapsamında farklı kaynak parametreleri kullanılarak toplam 15 adet DH36 çelik numune hazırlanmış ve bu numuneler üzerinde çekme deneyi, eğme testi, radyografik muayene, gözle muayene ve penetrant testleri gerçekleştirilmiştir. Bu çalışmada, düşük ortam sıcaklıklarının kaynak kalitesi üzerindeki etkilerini azaltmak amacıyla kaynak öncesinde 100–200 °C aralığında ön tavlama işlemi uygulanmış ve böylece hem kaynak metalinde soğuma hızının dengelenmesi hem de çatlak oluşumu riskinin önlenmesi hedeflenmiştir. Gerçekleştirilen çekme testleri sonucunda ortalama akma dayanımı 504,6 MPa, kopma dayanımı 517,0 MPa ve ortalama uzama oranı %8,88 olarak elde edilmiştir. Ölçümlerdeki düşük standart sapma değerleri, numuneler arasında homojen bir mekanik davranış sergilendiğini göstermektedir. Bununla birlikte, SBTÜ 1 numaralı parçanın çekme mukavemeti 497 MPa olarak tespit edilmiş olup, DH36 malzemesi için öngörülen minimum çekme dayanımı değerinin altında kalması nedeniyle bu numune olumsuz değerlendirilmiştir. Bu durum, kaynak parametrelerinin uygun seçilmemesinden kaynaklanan bir performans düşüklüğü olarak yorumlanmıştır. Radyografik muayene sonuçları incelendiğinde, SBTÜ 12 ve SBTÜ 14 numaralı numunelerde sıralı gözenek hataları belirlenmiştir. Bu tür kusurların kaynağında genellikle kullanılan telin kirliliği, kaynak tozunun nem içeriğinin yüksek olması veya kaynak hızının önerilen sınırların üzerinde tutulması gibi faktörler yer almaktadır. Eğme testleri ise tüm numunelerde olumlu sonuçlar vermiş, kaynak dikişi boyunca herhangi bir çatlak, soyulma ya da kopma gibi olumsuzluklar gözlenmemiştir. Gözle muayene sırasında ise SBTÜ 6 ve SBTÜ 8 numaralı numunelerde metalsel banyo delinmesi tespit edilmiş, bu tür kusurların önlenmesi için kök paso uygulaması veya bakır altlık kullanımının uygun olacağı değerlendirilmiştir. Elde edilen tüm deneysel bulgular birlikte değerlendirildiğinde, SBTÜ 15, SBTÜ 4, SBTÜ 7, SBTÜ 10, SBTÜ 5, SBTÜ 6, SBTÜ 3 ve SBTÜ 16 numaralı numunelerde kullanılan kaynak parametrelerinin başarılı sonuçlar verdiği belirlenmiştir. Bu numunelerin gerek mekanik gerekse yapısal açıdan olumlu performans sergilemesi, uygulanan kaynak yönteminin doğru parametrelerle kullanılması durumunda yüksek kalite ve güvenilirlik sunduğunu ortaya koymaktadır. Sonuç olarak, bu çalışma

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DH36 çeliğinin düşük sıcaklıklarda tozaltı kaynak yöntemiyle güvenle birleştirilebileceğini, uygun parametreler seçildiğinde ise elde edilen kaynaklı bağlantıların gemi inşası gibi ağır imalat sanayi uygulamalarında uzun ömürlü ve yüksek performanslı çözümler sağlayabileceğini göstermektedir.

Anahtar Kelimeler: DH36 çeliği, Tozaltı kaynak yöntemi, Tahribatsız muayene, Çekme testi, Kaynak parametreleri

ABSTRACT

This study comprehensively evaluated the mechanical and structural integrity of weld seams obtained by joining DH36 grade structural steel using submerged arc welding at low temperatures, employing both destructive and non-destructive testing methods. A total of 15 DH36 steel specimens were prepared using different welding parameters, and tensile, bending, radiographic, visual and penetrant tests were carried out on these specimens. To reduce the effects of low ambient temperatures on weld quality, a pre-annealing process in the range of 100–200 °C was applied prior to welding. This stabilised the cooling rate of the weld metal and prevented the risk of crack formation. The tensile tests yielded an average yield strength of 504.6 MPa, a rupture strength of 517.0 MPa, and an average elongation rate of 8.88%. The low standard deviation values in the measurements indicate homogeneous mechanical behaviour between the specimens. However, the tensile strength of SBTU 1 was 497 MPa, which is below the minimum tensile strength value for DH36 material, resulting in a negative evaluation of this specimen. This was interpreted as poor performance due to inappropriate welding parameter selection. Analysis of the radiographic examination results revealed sequential pore defects in the SBTÜ 12 and SBTÜ 14 specimens. Such defects are usually caused by factors such as contamination of the wire used, a high moisture content in the welding powder, or welding at speeds above the recommended limits. Bending tests produced positive results for all specimens, with no cracks, peeling or ruptures observed along the weld seam. During visual inspection, metallic bath perforation was detected in the SBTU 6 and SBTU 8 specimens. It was therefore recommended that root pass application or the use of a copper substrate would be appropriate to prevent such a defect. Such defects are usually caused by factors such as contamination of the wire used, a high moisture content in the welding powder, or welding at speeds above the recommended limits. Bending tests produced positive results for all specimens, with no cracks, peeling or ruptures observed along the weld seam. During visual inspection, metallic bath perforation was detected in the SBTU 6 and SBTU 8 specimens. It was therefore recommended that root pass application or the use of a copper substrate would be appropriate to prevent such defects in future. Upon evaluating all the experimental findings together, it was determined that specimens SBTÜ 15, SBTÜ 4, SBTÜ 7, SBTÜ 10, SBTÜ 5, SBTÜ 6, SBTÜ 3 and SBTÜ 16 achieved successful results with the welding parameters used. The favourable performance of these specimens in terms of mechanical and structural aspects reveals that, when used with the correct parameters, the applied welding method offers high quality and reliability. Consequently, this study demonstrates that DH36 steel can be safely joined by submerged arc welding at low temperatures. When the correct parameters are selected, the resulting welded joints can deliver long-lasting, high-performance solutions for heavy manufacturing industry applications, such as shipbuilding.

Keywords: DH36 steel, Submerged arc welding, Non-destructive testing, Tensile test, Welding parameters

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RASTER AÇISININ DÜŞÜK DOLULUK ORANINDA EKLEMELİ İMALATLA ÜRETİLMİŞ PLA NUMUNELERİN ÇEKME PERFORMANSI ÜZERİNE ETKİSİ

THE EFFECT OF RASTER ANGLE ON THE TENSILE PERFORMANCE OF PLA SAMPLES PRODUCED BY ADDITIVE MANUFACTURING AT LOW FILLING RATES

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ÖZET

Bu çalışmada, eriyik yığıma modelleme (FDM) yöntemiyle üretilmiş PLA (Polilaktik Asit) esaslı numunelerin çekme performansı üzerinde raster açısının etkisi deneysel olarak incelenmiştir. Numuneler düşük doluluk oranı (%15) ve kafes tipi iç yapı kullanılarak 0°, 15° 30° ve 45° raster açılarında üretilmiştir. Üretim parametreleri olarak 210°C nozzle sıcaklığı, 60°C tabla sıcaklığı, 0,20 mm katman kalınlığı, 4 üst-alt katman sayısı ve 2 yan duvar sayısı uygulanmıştır. Çekme testleri sonucunda elde edilen elastisite modülü, çekme dayanımı ve kopma uzaması değerleri karşılaştırılmıştır. Sonuçlar, raster açısının artmasıyla birlikte elastisite modülü ve çekme dayanımının belirgin şekilde azaldığını göstermiştir. R-0 numunesi 1.785 kN ile en yüksek yük taşıma kapasitesine ulaşırken, raster açısının 45°'ye yükselmesiyle bu değer önemli ölçüde düşmüştür. Bu durum, yük yönü ile filament hizalanması arasındaki ilişkinin mekanik performans üzerindeki kritik etkisini ortaya koymaktadır. Kopma uzaması değerlerinde ise raster açısının artmasıyla hafif bir artış gözlenmiş, bu da yüksek açılarda daha sünek bir kırılma davranışına işaret etmektedir. Bulgular, yük taşıma kapasitesinin kritik olduğu mühendislik uygulamalarında, özellikle düşük doluluklu hafif yapılarda, düşük raster açılarının tercih edilmesi gerektiğini göstermektedir.

Anahtar Kelimeler: Eklemeli imalat, FDM, PLA, raster açısı, çekme dayanımı.

ABSTRACT

In this study, the effect of raster angle on the tensile performance of PLA (Polylactic Acid) based specimens manufactured by fused deposition modeling (FDM) was experimentally investigated. Specimens were produced at raster angles of 0°, 15°, 30°, and 45° using a low infill density of 15% and a grid-type internal structure. Production parameters included a 210°C nozzle temperature, 60°C bed temperature, 0.20 mm layer thickness, 4 top-bottom layers, and 2 wall lines. Elastic modulus, tensile

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strength, and elongation at break values obtained from tensile tests were compared. Results showed that elastic modulus and tensile strength decreased significantly with increasing raster angle. The R-0 specimen achieved the highest load-bearing capacity of 1.785 kN, while this value decreased substantially when the raster angle increased to 45°. This demonstrates the critical effect of the relationship between load direction and filament alignment on mechanical performance. A slight increase in elongation at break was observed with increasing raster angle, indicating a more ductile fracture behavior at higher angles. The findings suggest that in engineering applications where load-bearing capacity is critical, especially for lightweight parts with low infill, low raster angles should be preferred.

Keywords: Additive manufacturing, FDM, PLA, raster angle, tensile strength.

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KÜLTÜREL MİRASIN KORUNMASI ÜZERİNE BİR DEĞERLENDİRME: KIRŞEHİR KILIÇLI KÖPRÜSÜ AN EVALUATION ON THE PRESERVATION OF CULTURAL HERITAGE: KILIÇLI BRIDGE, KIRŞEHİR

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ÖZET

Toplumların kültürel, sosyal ve etnik değerlerinin yansımaları olarak şekillenen kültürel miras ögesi yapılar sahip oldukları özellikler nedeniyle korunmaya değer varlıklar olarak değerlendirilmektedir. Yapıldıkları dönemin mimari özelliklerini günümüze taşıyan ve kültür ayak izinin devamlılığını sağlayan bu yapıların korunması ve yaşatılması koruma kapsamında önem taşımaktadır. Kentlerin gelişim süreci içinde bu kültürel miras öğelerinin korunarak gelişim politikası ve kararlarının verilmesi toplumların gelişmişlik düzeyinde belirleyicidir. Bu kapsamda kültürel miras öğelerinin bulunduğu alanlarla ilgili verilecek olan uygulama kararlarının koruma – kullanım- yeni yapı (çevre düzenlemesi) dengesi gözetilerek gerçekleştirilmesi gerekmektedir. Bu kapsamda, Kırşehir kent merkezinde bulunan Kılıçlı Köprüsü çalışma konusu olarak belirlenmiştir. Anadolu'nun orta ölçek bir kenti olan Kırşehir kültürel miras ögesi yapıları ile önemli veriye sahiptir. Kentin merkezinde ve ilçelerinde köklü geçmişe sahip yaşam izlerini barındıran kentte farklı işlevli pek çok yapı örneği bulunmaktadır. Kentin Anıtsal Yapıları Selçuklu Dönemine tarihlenirken Sivil Mimarlık Örnekleri 19. yy. özelliği taşıyan yapılar olarak varlık göstermektedir. Su Yapıları kapsamında pek çok nitelikli yapıya sahip kentte Kılıçlı Köprüsü olarak adlandırılan yapı kentin güneydoğu bölümünde yer alan önemli tescilli yapısıdır. Yapım tarihi tam olarak bilinmeyen köprü tek gözlü ve kesme taştan inşa edilmiştir. Kentin merkezinden sanayi bölgesine ulaşan yol üzerinde yer alan köprü yol yapım çalışmalarında gerçekleştirilen müdahaleler nedeniyle fark edirliliği oldukça zayıf durumdadır. Bu çalışma kapsamında, kentin sahip olduğu kültürel miras ögesi Kılıçlı Köprüsünün gerçekleştirilen uygulamalar kapsamında yaşadığı değişim dönüşüm belirlenerek korunması konusunda öneriler geliştirilmesi hedeflenmektedir. Kullanıcıların sıklıkla kullandığı güzergâh üzerinde yer alan yapının ilerleyen süreçte yapılacak uygulamalar kapsamında farkındalığın geliştirilerek koruma bilinciyle uygulamaların gerçekleştirilmesi için öneriler sunulacaktır.

Anahtar Kelimeler: Kırşehir, Kılıçlı Köprüsü, Su Yapıları, Kültürel Miras.

ABSTRACT

Structures that have formed as reflections of the cultural, social, and ethnic values of societies are regarded as heritage assets worthy of preservation due to their distinctive characteristics. These buildings, which carry the architectural features of the periods in which they were constructed and ensure the continuity of cultural footprints, hold significant importance within the scope of conservation efforts. In the process of urban development, making policy and planning decisions that prioritize the preservation of these cultural heritage elements is a determining factor in assessing a society's level of development. In this context, decisions regarding the use, preservation, and new construction (environmental planning) in areas containing cultural heritage elements should be made with careful

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consideration of the balance between conservation and utilization. Accordingly, the Kılıçlı Bridge, located in the city center of Kırşehir, has been selected as the focus of this study. Kırşehir, a medium-sized city in Anatolia, possesses significant data and value with its cultural heritage structures. The city and its districts contain many examples of buildings with diverse functions that reflect traces of long-standing human habitation. While the city's monumental buildings date back to the Seljuk Period, examples of civil architecture mostly represent characteristics of the 19th century. Among its numerous qualified hydraulic structures, the Kılıçlı Bridge—an important registered building located in the southeastern part of the city—stands out. Although the exact date of its construction is unknown, the bridge is single-arched and built of cut stone. Situated on the road connecting the city center to the industrial area, its visibility has been significantly diminished due to various road construction interventions. Within the scope of this study, it is aimed to identify the transformations and changes that the Kılıçlı Bridge, as a cultural heritage element of the city, has undergone due to past interventions, and to develop proposals for its preservation. Since the structure is located along a route frequently used by local residents, the study will also present recommendations to raise awareness and ensure that future interventions are implemented with a conservation-oriented approach.

Keywords: Kırşehir, Kılıçlı Bridge, Water Structures, Cultural Heritage.

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CİĞER GÖLÜ ÖRTÜ TURBALIĞININ ALG FLORASI ALGAL FLORA OF THE CİĞER GÖLÜ BLANKET BOG

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ÖZET

Dünyadaki karasal alanların yaklaşık olarak %3 lük bir kısmını kaplayan turbalık alanlar yaşam alanlarını, biyolojik çeşitliliği ve karbon yutaklarını korumanın yanı sıra sera gazı emisyonlarını azaltma açısından küresel ölçekte önemli ekosistemler olarak kabul edilmektedir. Bu alanlar başta insansal aktiviteler ve doğal afetlere bağlı olarak bozunuma uğranmaktadır. Türkiye’de örtü turbalığı olarak nitelendirilen alanlardan birisi olan Ciğer Gölü Turbalığı deniz seviyesinden 670 metre yükseklikte olup Çan ilçesine 27 km, Çanakkale iline ise 95 km uzaklıktadır. Bu çalışmada kurumaya yüz tutmuş turbalık alandan mevcut geçici nitelikteki su birikintisinde Mayıs, Temmuz, 2021 ve Mayıs 2022, Temmuz 2023’de Epipelik, epifitik alg örnekleri alınmıştır. Aynı periyotta alınan su örneklerinin Sıcaklık, çözünmüş oksijen, pH, elektriksel İletkenlik, toplam alkalinite, Toplam sertlik, NO₂-N, NO₃-N, NH₄-N, Cl⁻, PO₄-P değerleri ölçülmüştür. Ciğer Gölü Turbalığı su kaynaklarının varlığını kaybetmesi nedeni ile turbalık alan olma özelliğini neredeyse kaybetmiş durumdadır. Turbalık alanın alg florasında Cyanobacteria (1), Bacillariophyta (4), Charophyta (1), Chlorophyta (1), Euglenophyta (4) divizyolarına ait toplamda 11 takson tespit edilmiştir. Bu çalışmada belirlenen alg taksonları hem bolluk hem de türsel zenginlik açısından düşük miktarlarda bulunmuştur. Bu durum, Ciğer Gölü Turbalığı’nın su kaynaklarının azalması sonucunda bozulmaya uğradığını, bu bozulmanın saha gözlemleriyle de doğrulandığını ve alanın turbalık ekosistemine özgü karakteristik özelliklerini büyük ölçüde kaybettiğini göstermektedir.

Anahtar kelimeler: Alg, Ciğer Gölü, Su Kalitesi, Turba, Türkiye

Teşekkür: Bu çalışma, TÜBİTAK (Türkiye Bilimsel ve Teknolojik Araştırma Kurumu) tarafından 120Z575 numaralı proje kapsamında desteklenmiştir.

ABSTRACT

Peatlands, which cover approximately 3% of the Earth’s terrestrial surface, are recognized globally as important ecosystems not only for conserving habitats, biodiversity, and carbon sinks but also for their role in reducing greenhouse gas emissions. These areas are being degraded mainly due to anthropogenic activities and natural disasters. One of the areas classified as a blanket bog in Türkiye, the Ciğer Gölü Peatland, is located at an altitude of 670 meters above sea level, approximately 27 km from the Çan district and 95 km from the city of Çanakkale. In this study, epipellic and epiphytic algal samples were collected from the existing temporary water body within the peatland area, which is on the verge of

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drying up, in May and July 2021, May 2022, and July 2023. During the concurrent periods, water samples were collected, and the physicochemical parameters, including temperature, dissolved oxygen, pH, electrical conductivity, total alkalinity, total hardness, $\text{NO}_2\text{-N}$, $\text{NO}_3\text{-N}$, $\text{NH}_4\text{-N}$, Cl^- , and $\text{PO}_4\text{-P}$, were measured. The Ciğer Gölü Peatland has undergone significant hydrological degradation due to the depletion of its water resources. A total of 11 taxa belonging to the divisions Cyanobacteria (1), Bacillariophyta (4), Charophyta (1), Chlorophyta (1), and Euglenophyta (4) were identified in the algal flora of the peatland area. The algal taxa identified in this study were also found at very low abundance. The low species richness and density indicate that the Ciğer Gölü Peatland has been degraded as a result of hydrological depletion, which was also confirmed by field observations, and has largely lost its peatland ecosystem characteristics.

Keywords: Keywords: Algae, Ciğer Gölü, Water Quality, Peatland, Türkiye

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THE LEGACY OF KING ÆTHELSTAN: UNIFYING ENGLAND'S FOUNDATIONS IN THE 10TH CENTURY

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ABSTRACT

This study examines the historical importance of King Æthelstan as England's first king, highlighting his role in unifying a divided land in the 10th century. Its goals were to reassess Æthelstan's contributions with new historical evidence and argue for his rightful place in the history of England. The methodology included a thorough review of primary sources and current historical interpretations, complemented by analysis from historian David Woodman. The research looked at Æthelstan's political tactics, alliances, and military campaigns, along with his innovative approach to monarchy and governance. The findings show that Æthelstan's coronation on September 4, 925, at Kingston upon Thames was a key event, representing the unification of Wessex and Mercia. His reign marked a shift from a collection of rival kingdoms to a more united England. Æthelstan's education and upbringing in Mercia gave him a broader political view and important alliances that helped him become king. His focus on law, religion, and widespread support during his coronation set a standard for future English monarchs. In conclusion, the study argues that Æthelstan deserves recognition not just as a minor figure in history but as a foundational figure in the formation of England. His forward-thinking approach to kingship and governance played a crucial role in shaping the nation's future. The novelty of this study lies in its re-evaluation of Æthelstan's legacy, uncovering his vital role in the story of English history, which has often been overshadowed by more famous figures like Alfred the Great and William the Conqueror.

Keywords: Æthelstan, Coronation, United, England

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CERRAHİ SERVİSLERDE ÇALIŞAN HEMŞİRELERİN HEMŞİRELİK ÖĞRENCİLERİNE YÖNELİK TUTUMLARINI ETKİLEYEN FAKTÖRLER: KESİTSEL ÇALIŞMA FACTORS AFFECTING THE ATTITUDES OF NURSES WORKING IN SURGICAL UNITS TOWARD NURSING STUDENTS: A CROSS-SECTIONAL STUDY

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ÖZET

Giriş: Cerrahi servislerde hemşirelik öğrencilerine yönelik tutumları etkileyen faktörlere ilişkin çalışmalar sınırlıdır.

Amaç: Bu çalışma, cerrahi servislerde görev yapan hemşirelerin hemşirelik öğrencilerine yönelik tutumlarını etkileyen faktörleri belirlemek amacıyla yapıldı.

Gereç ve Yöntem: Araştırmaya başlamadan önce Hasan Kalyoncu Üniversitesi Etik kurulundan etik onay alındı (Onay no: 2025/065). Araştırma, Haziran-Eylül 2025'te Gaziantep Üniversitesi Araştırma ve Uygulama Hastanesi cerrahi servislerinde görev yapan ve gönüllü olan 168 hemşire ile yürütülen kesitsel bir çalışmadır. Veriler; Tanıtıcı Bilgi Formu ve Hemşirelerin Hemşirelik Öğrencilerine Yönelik Tutum Ölçeği ile yüz yüze anket yöntemiyle elde edildi. Verilerin analizinde SPSS 22.0 programı kullanılmış, İstatistiksel anlamlılık düzeyi olarak $p < 0.05$ kabul edilmiştir.

Bulgular: Hemşirelerin yaş ortalaması 34.07 ± 5.20 olup, %63.1 31-40 yaş aralığındadır. %64.9'u kadın, %69.6'sı evli, %88.7'si lisans/lisansüstü mezundur. Mesleki deneyim ortalaması 9.11 ± 5.45 yıl, cerrahi servis deneyimi 5.30 ± 3.41 yıldır. En çok görev yapılan servisler kalp ve damar cerrahisi (%15.5), genel cerrahi (%11.9) ve göğüs cerrahisidir (%9.5). Hemşirelerin Hemşirelik Öğrencilerine Yönelik Tutum Ölçeği puan ortalaması 83.55 ± 10.06 olup, orta düzeyde bir tutum bulundu. Ölçeğin toplam puan ortalaması hemşirelerin tanıtıcı özellikleri ile karşılaştırıldığında: yaş ortalaması yüksek olan, mesleki deneyim süresi fazla olan hemşirelerde anlamlı olarak daha düşüktü (sırasıyla $p = 0.001$, $p = 0.001$). Regresyon analizinde yalnızca eğitim düzeyi anlamlı bulunmuş ($\beta = 0.347$, $p = 0.001$) ve her artış puanı ortalama 11 puan yükseltmiştir.

Sonuç ve öneriler: Araştırma, cerrahi servis hemşirelerinin hemşirelik öğrencilerine yönelik tutumlarının yaş, medeni durum, eğitim düzeyi ve deneyim sürelerinden etkilendiğini göstermektedir. Eğitim düzeyi, tutum puanını anlamlı şekilde artıran tek değişkendir. Hemşirelik öğrencilerine yönelik olumlu tutumların desteklenmesi için hemşirelere yönelik hizmet içi eğitimlerin artırılması önerilmektedir.

Anahtar kelimeler: Cerrahi hemşirelik, öğrenci tutumu, eğitim düzeyi.

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ABSTRACT

Introduction: Studies examining the factors influencing nurses' attitudes toward nursing students in surgical units are limited.

Aim: This study aimed to determine the factors affecting the attitudes of nurses working in surgical units toward nursing students.

Materials and Methods: Ethical approval was obtained from the Ethics Committee of Hasan Kalyoncu University prior to the study (Approval No: 2025/065). This cross-sectional study was conducted between June and September 2025 with 168 volunteer nurses working in the surgical units of Gaziantep University Research and Training Hospital. Data were collected through face-to-face interviews using the Descriptive Information Form and the Nurses' Attitudes Toward Nursing Students Scale. Data analysis was performed using SPSS 22.0, with a statistical significance level set at $p < 0.05$.

Results: The mean age of the nurses was 34.07 ± 5.20 years, with 63.1% aged between 31–40 years. Of the participants, 64.9% were female, 69.6% were married, and 88.7% held an undergraduate or graduate degree. The mean professional experience was 9.11 ± 5.45 years, and the mean surgical unit experience was 5.30 ± 3.41 years. The most common units of employment were cardiovascular surgery (15.5%), general surgery (11.9%), and thoracic surgery (9.5%). The mean total score on the Nurses' Attitudes Toward Nursing Students Scale was 83.55 ± 10.06 , indicating a moderate level of attitude. Comparison of total scores with demographic characteristics showed that nurses with higher mean age and longer professional experience had significantly lower scores ($p = 0.001$ for both). Regression analysis indicated that only educational level was a significant predictor ($\beta = 0.347$, $p = 0.001$), with each level increase in education associated with an average 11-point rise in the score.

Conclusion and Recommendations: The study demonstrated that nurses' attitudes toward nursing students in surgical units are influenced by age, marital status, educational level, and years of experience. Educational level was the only variable that significantly increased attitude scores. It is recommended to increase in-service training programs for nurses to foster positive attitudes toward nursing students.

Keywords: Surgical nursing, student attitude, educational level

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A USER-CENTERED ANALYSIS OF BARRIERS TO THE DIFFUSION OF SHARED AUTONOMOUS TAXI SYSTEMS

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ÖZET

Otonom ulaşım sistemleri, kent içi hareketlilikte verimlilik, güvenlik ve sürdürülebilirlik açısından önemli fırsatlar sunmaktadır. Bununla birlikte, bu teknolojilerin toplumsal kabulü ve yaygınlaşması, yalnızca teknik yeterliliklerle değil, aynı zamanda kullanıcı güveni, hukuki düzenlemeler, ekonomik maliyetler ve kültürel algılarla da yakından ilişkilidir. Bu çalışma, mevcut ve potansiyel kullanıcıların bakış açısından paylaşımlı otonom taksilerin (POT) yaygınlaşmasını zorlaştıran engelleri sistematik biçimde tanımlamak ve bu engellerin göreceli önem derecelerini SWARA (Step-wise Weight Assessment Ratio Analysis) yöntemiyle belirlemeyi amaçlamaktadır. Araştırmada, literatür taraması ve uzman görüşleri doğrultusunda 15 kriter belirlenmiştir. Bu kriterler; güvenlik, hukuki belirsizlik, veri gizliliği, ekonomik maliyet, altyapı yetersizliği, kültürel direnç ve kamu farkındalığı gibi boyutları kapsamaktadır. Çalışmada SWARA yöntemi, uzman değerlendirmelerine dayalı olarak kriterlerin önem sırasını belirlemede tercih edilmiştir. Böylece her kriterin yaygınlaşma süreci üzerindeki etkisi, uzmanların ardışık karşılaştırmalarıyla ağırlıklandırılmıştır.

Elde edilen sonuçlar, kullanıcı güveni eksikliğinin, hukuki düzenleme yetersizliklerinin ve veri gizliliği endişelerinin POT sistemlerinin benimsenmesinde en kritik engeller olduğunu göstermektedir. Buna karşılık, iklim koşulları ve istihdam kaybı endişesi daha düşük öncelikli faktörler arasında yer almıştır. Çalışma, politika yapıcılar ve kent planlamacıları açısından, otonom taksilerin toplumsal kabulünü artırmaya yönelik öncelikli müdahale alanlarını belirlemede yol gösterici bir çerçeve sunmaktadır. Bu yönüyle çalışma, otonom mobilite teknolojilerinin teknik uygulanabilirlikten çok kullanıcı merkezli kabul dinamiklerini öne çıkararak literatüre katkı sağlamaktadır. Gelecek araştırmalarda, bu kriterlerin farklı demografik gruplar ve kent bağlamlarında test edilmesi, yaygınlaşma sürecine ilişkin kültürel farklılıkların daha derinlemesine incelenmesine olanak sağlayacaktır.

Anahtar Kelimeler: Paylaşımlı otonom taksiler; Kullanıcı algısı; Yaygınlaşma engelleri; Sürdürülebilir ulaşım

ABSTRACT

Autonomous transportation systems offer significant opportunities in urban mobility in terms of efficiency, safety, and sustainability. However, the social acceptance and widespread adoption of these technologies are closely linked not only to technical capabilities but also to user trust, legal regulations, economic costs, and cultural perceptions. This study aims to systematically identify the obstacles that hinder the widespread adoption of shared autonomous taxis (PATs) from the perspective of current and potential users and to determine their relative importance using the Stepwise Weight Assessment Ratio

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Analysis (SWARA) method. The study identified 15 criteria based on literature review and expert opinions. These criteria encompass dimensions such as security, legal uncertainty, data privacy, economic cost, inadequate infrastructure, cultural resistance, and public awareness. The SWARA method was used in the study to determine the importance of the criteria based on expert assessments. Thus, the impact of each criterion on the spread process was weighted through consecutive expert comparisons.

The results indicate that lack of user trust, inadequate legal regulations, and data privacy concerns are the most critical obstacles to the adoption of POT systems. In contrast, concerns about climate change and job loss were lower-priority factors. The study provides a guiding framework for policymakers and urban planners to identify priority intervention areas to increase public acceptance of autonomous taxis. In this respect, the study contributes to the literature by highlighting the user-centered acceptance dynamics of autonomous mobility technologies, rather than their technical feasibility. Future research will allow for a more in-depth examination of cultural differences related to the adoption process by testing these criteria across different demographic groups and urban contexts.

Keywords: Shared autonomous taxis; User perception; Barriers to proliferation; Sustainable transportation

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ACİL DURUM TOPLANMA NOKTALARINA YAYA ERİŞİLEBİLİRLİĞİNİN MESAFE VE SÜRE TEMELLİ ANALİZLE KARŞILAŞTIRMALI DEĞERLENDİRİLMESİ: ŞANLIURFA ÖRNEĞİ

COMPARATIVE ASSESSMENT OF PEDESTRIAN ACCESSIBILITY TO EMERGENCY ASSEMBLY POINTS BASED ON DISTANCE AND TIME ANALYSIS: THE CASE OF ŞANLIURFA

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ÖZET

Afetlere yatkın kentsel alanlarda, acil durum toplanma noktalarının mekansal erişilebilirliği hem afetlere hazırlık hem de kentsel ulaşım planlamasında çok önemli bir rol oynar. Yaşlılar, çocuklar ve engelliler gibi kırılgan grupların güvenli bölgelere ulaşma kabiliyeti, afet öncesi planlamanın etkinliği ile yakından bağlantılıdır. Özellikle Türkiye gibi depremlere yatkın ülkelerde, acil durumlarda hızlı ve verimli tahliye sağlamak için belirlenen toplanma alanlarına yeterli erişilebilirliği sağlamak hayati önem taşır. Bu çalışma, Coğrafi Bilgi Sistemleri (CBS) kullanılarak Şanlıurfa şehir merkezinde bulunan acil durum toplanma alanlarının hem mesafe hem de süre bazlı yaklaşımlarla yaya erişilebilirliğini değerlendirmek amacıyla yapılmıştır. Bu nedenle, Afet ve Acil Durum Yönetimi Başkanlığı (AFAD) tarafından belirlenen acil durum toplanma alanları, bu araştırmanın temel veri setini oluşturmaktadır. Analiz, açık kaynaklı yol ağı verileri kullanılarak gerçekleştirilmiş ve iki ana metodolojik aşamadan oluşmuştur. İlk aşamada, yol ağı kısıtlamalarını dikkate almadan nominal mesafeye dayalı erişilebilirliği incelemek için her bir toplanma alanı çevresinde sabit yarıçaplı tampon bölgeler oluşturulmuştur. Bu, mekansal kapsama hakkında genel bir fikir vermektedir. İkinci aşamada, yaya cadde ağı dahil edilerek daha gerçekçi bir yöntem uygulanmıştır. Erişilebilirlik alanları (standart yetişkin ve yaşlılar veya engelliler gibi daha yavaş gruplar), yürüme hızlarına göre hesaplanmıştır. Bu zamana dayalı analiz, çalışmanın farklı nüfus kesimlerinin acil durumlarda erişim eşitsizliklerini nasıl yaşadığını yansıtmayı sağlamıştır. Ortaya çıkan erişilebilirlik alanları daha sonra Şanlıurfa'daki mahalle sınırları ve nüfus verileriyle karşılaştırılmıştır. Bu mekansal örtüşme analizi, hizmet yetersizliği veya hizmet alamayan yerleşim bölgelerinin belirlenmesini sağlamıştır. Bulgular, mevcut acil durum planlama uygulamalarının kentsel alanda eşit erişim sağlayıp sağlamadığı noktasında önemli bilgiler sunmaktadır. Ayrıca, bu araştırma hareket kabiliyeti kısıtlı nüfus gruplarının afet planlama senaryolarına dahil edilmesinin önemini vurgulamaktadır. Tampon tabanlı ve ağ tabanlı erişilebilirlik yaklaşımlarını entegre ederek, çalışma yerel yetkililer için veri odaklı ve sosyal açıdan kapsayıcı bir karar destek modeli önermektedir. İkili erişilebilirlik çerçevesi içerisinde hem ulaşım planlamasına hem de acil durum hazırlık çalışmalarına bütünsel-disiplinler arası bir bakış açısıyla katkıda bulunulması ve hız açısından dezavantajlı grupların da dikkate alınması özgün noktalar olarak öne çıkmaktadır.

Anahtar Kelimeler: Acil Toplanma Alanları, Yaya Erişilebilirliği, Coğrafi Bilgi Sistemleri (CBS), Tampon ve Ağ Tabanlı Analiz, Afet Dirençli Kentsel Planlama.

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ABSTRACT

In disaster-prone urban areas, the spatial accessibility of emergency assembly points plays a crucial role in both disaster preparedness and urban transport planning. The ability of vulnerable groups such as the elderly, children and people with disabilities to reach safe areas is closely linked to the effectiveness of pre-disaster planning. Particularly in earthquake- exposed countries such as Turkey, ensuring adequate accessibility to designated assembly areas is vital for enabling rapid and efficient evacuation in emergencies. This study was conducted to evaluate the pedestrian accessibility of emergency assembly areas in the city centre of Şanlıurfa using both distance-based and time-based approaches, employing Geographic Information Systems (GIS). Therefore, the emergency assembly areas designated by the Disaster and Emergency Management Presidency (AFAD) form the basis of the data set for this research. The analysis was conducted using open-source road network data and consisted of two main methodological stages. In the first stage, buffer zones with a fixed radius were created around each assembly area to examine accessibility based on nominal distance without considering road network constraints. This provides a general idea of spatial coverage. In the second stage, a more realistic method was applied by including the pedestrian street network. Accessibility areas (standard adults and older adults or slower groups such as people with disabilities) were calculated based on walking speeds. This time-based analysis ensured that the study reflected how different population segments experience access inequalities in emergency situations. The resulting accessibility areas were then compared with neighbourhood boundaries and population data in Şanlıurfa. This spatial overlay analysis identified areas of service deficiency or areas unable to receive services. The findings provide important insights into whether current emergency planning practices ensure equal access in urban areas. Furthermore, this research emphasises the importance of including mobility-impaired population groups in disaster planning scenarios. By integrating buffer-based and network-based accessibility approaches, the study proposes a data-driven and socially inclusive decision support model for local authorities. Within the dual accessibility framework, the contribution to both transport planning and emergency preparedness efforts from a holistic, interdisciplinary perspective, and the consideration of groups at a disadvantage in terms of speed, stand out as unique points.

Keywords: Emergency Assembly Points, Pedestrian Accessibility, Geographic Information Systems (GIS), Buffer and Network Analysis, Disaster-Resilient Urban Planning.

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SOSYAL GİRİŞİMCİLİKTE GÖNÜLLÜ KATILIMIN ÖNEMİ

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ÖZET

Geçmişten bu yana artan sosyal sorunlara çözüm bulmak için ortaya çıkan sosyal girişimcilik kavramı, günümüzde gönüllü katılım kavramı ile ayrılmaz bir bütün haline gelmiştir. Gönüllülük motivasyonları ise sosyal girişimcilik eğilimleri ile birlikte ilerlemektedir. Sosyal girişimcilik faaliyetlerinde bulunan gönüllü katılımcıların başkalarına ulaşmak, yardım etmek; o desteği alana olduğu kadar gönüllüye de yarar sağladığını görmektedir. Bu sebeple gönüllülük kültürünün oluşturulmasını ve gönüllülüğün yayılmasını sağlamak amacıyla “Sosyal girişimcilik faaliyetlerinde gönüllü katılımın önemi ve gönüllü katılım sağlayan bireylerin gönüllü olma sebepleri ve faydaları araştırılarak duygu durumuna, karakterine, iş, aile ve sosyal hayatına nasıl yansımaktadır?” sorusuna cevap aranacaktır. Bu çalışmada sosyal girişimcilikte gönüllü katılımın öneminin bireye sağladığı katkılar açısından ele alınarak incelemek amaçlanmış ve gönüllü katılım sağlayan bireylerle yapılan görüşmelerde sosyal girişimcilik faaliyetlerinde bulunmanın kendisine sağladığı motivasyonel etkiler incelenmiştir.

Anahtar kelimeler: gönüllü katılım, sosyal girişimcilik, motivasyon etkileri

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CERRAHİ SERVİSLERDE ÇALIŞAN HEMŞİRELERİN HASTA GÜVENLİĞİ KÜLTÜRÜNÜN TIBBİ HATA EĞİLİMLERİNE ETKİSİ: ÇOK MERKEZLİ KESİTSEL ÇALIŞMA

THE IMPACT OF PATIENT SAFETY CULTURE ON THE TENDENCY TO MAKE MEDICAL ERRORS AMONG SURGICAL NURSES: A MULTICENTER CROSS- SECTIONAL STUDY

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ÖZET

Giriş: Cerrahi servislerde çalışan hemşirelerin hasta güvenliği kültürünün tıbbi hata eğilimlerine etkisine yönelik literatürde kanıtlar sınırlıdır.

Amaç: Bu çalışma cerrahi servislerde çalışan hemşirelerin hasta güvenliği kültürünün tıbbi hata yapma eğilimleri üzerindeki etkisini belirlemek amacı ile yapıldı.

Gereç ve Yöntem: Araştırmaya başlamadan önce Hasan Kalyoncu Üniversitesi Etik kurulundan etik onay alındı (Onay no:2025/010). Araştırma, Ocak–Mayıs 2025’te Gaziantep’teki üç hastanenin cerrahi servislerinde görevli 355 gönüllü hemşireyle yürütülen çok merkezli kesitsel çalışmadır. Veriler; Tanıtıcı Bilgi Formu, Hasta Güvenliği Kültürü Ölçeği ve Tıbbi Hata Eğilimi Ölçeği ile yüz yüze anket yöntemiyle elde edilmiştir. Verilerin analizinde SPSS 22.0 programı kullanılmış, İstatistiksel anlamlılık düzeyi olarak $p < 0.05$ kabul edilmiştir.

Bulgular: Araştırmaya katılan cerrahi hemşirelerin %52.4’ü 30 yaş ve altı, %74.4’ü kadın ve %69.8’i lisans ve üzeri eğitim düzeyindeydi. Hemşirelerin %44.5’i beş yıldan az mesleki deneyime sahipken, %64.8’i vardiyalı olarak çalışmaktaydı. Hasta Güvenliği Kültürü Ölçeği toplam puan ortalaması 233.52 ± 15.66 , Tıbbi Hata Eğilimi Ölçeği toplam puan ortalaması ise 3.20 ± 0.57 olarak belirlendi. Oryantasyon (%89.9) ve hasta güvenliği eğitimi (%93.5) alma oranları yüksek olmasına rağmen, tıbbi hata bildirme oranı oldukça düşüktü (%2.0). Haftada $\square 41$ saat çalışanların tıbbi hata eğilimi puanı anlamlı düzeyde

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yüksekti ($p=0.001$). Ayrıca hasta güvenliği kültürü, tıbbi hata yapma eğiliminin anlamlı bir yordayıcısı olarak saptandı ($\beta=0.415$, $p<0.001$).

Sonuç ve Öneriler: Cerrahi hemşirelerin hasta güvenliği kültürü düzeyleri, tıbbi hata yapma eğilimleri üzerinde anlamlı bir etkiye sahiptir. Güçlü hasta güvenliği algısı, hemşirelerin hata eğilimini azaltmada etkili bir belirleyicidir. Cerrahi servis hemşirelerine yönelik hasta güvenliği kültürü düzeylerini arttırmaya yönelik hizmet içi eğitimlerin uygulanmasını öneriyoruz.

Anahtar kelimeler: Hasta güvenliği kültürü, tıbbi hata eğilimi, cerrahi hemşireler

ABSTRACT

Background: Evidence in the literature on the impact of patient safety culture on medical error tendencies among surgical nurses is limited.

Aim: This study aimed to examine the effect of patient safety culture on the tendency to make medical errors among surgical nurses.

Materials and Methods: Ethical approval was obtained from the Ethics Committee of Hasan Kalyoncu University (Approval no: 2025/010). This multicenter cross-sectional study was conducted between January and May 2025 with 355 volunteer surgical nurses working in the surgical wards of three hospitals in Gaziantep, Turkey. Data were collected through face-to-face interviews using the Descriptive Information Form, the Patient Safety Culture Scale, and the Medical Error Tendency Scale. Data analysis was performed using SPSS version 22.0, with a significance level set at $p<0.05$.

Results: Of the participants, 52.4% were aged 30 years or younger, 74.4% were female, and 69.8% had a bachelor's degree or higher. While 44.5% had less than five years of professional experience, 64.8% worked in shifts. The mean total score on the Patient Safety Culture Scale was 233.52 ± 15.66 , and on the Medical Error Tendency Scale was 3.20 ± 0.57 . Despite high rates of receiving orientation (89.9%) and patient safety training (93.5%), the rate of reporting medical errors was very low (2.0%). Nurses working ≥ 41 hours per week had significantly higher medical error tendency scores ($p=0.001$). Patient safety culture was also found to be a significant predictor of medical error tendency ($\beta=0.415$, $p<0.001$).

Conclusion and Recommendations: Surgical nurses' patient safety culture significantly affects their tendency to make medical errors. A strong perception of patient safety is an important determinant in reducing error tendencies. In-service training programs to enhance patient safety culture among surgical nurses are recommended.

Keywords: Patient safety culture, medical error tendency, surgical nurses

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DÜNYADA VE TÜRKİYE'DE KADIN KANSERLERİNİN DURUMU THE SITUATION OF WOMEN'S CANCERS IN THE WORLD AND IN TURKEY

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ÖZET

Kanser, vücuttaki bazı hücrelerin kontrolsüz bir şekilde çoğalması ve vücudun diğer bölgelerine yayılmasıyla oluşan bir hastalıktır. Jinekolojik kanserler ise dünya çapında en yaygın kanser türleri olarak karşımıza çıkmakta olup halk ve toplum sağlığı açısından çeşitli sorunlara neden olmaktadır. En yaygın jinekolojik kanserlere bakıldığında sırasıyla meme, endometrium, serviks ve over kanseri yer almaktadır. Jinekolojik kanserler, gelişmiş ve gelişmekte olan ülkelerde kadın morbidite ve mortalite nedenleri arasında yer almaktadır.

Dünya Sağlık Örgütü (DSÖ) ve Uluslararası Kanser Araştırmaları Ajansı'nın 2025 yılında yayınladığı bildiride en sık teşhis edilen jinekolojik kanserin meme kanseri olduğu, dünya çapında ortalama her 20 kadından 1'inin yaşam boyunca meme kanseri teşhisi alacağı ve mevcut durumlar bu şekilde devam ederse her yıl 3,2 milyon meme kanseri vakası ve 1,1 milyon meme kanseriyle ilişkili ölüm yaşanacağı tahmin edilmektedir. Türkiye İstatistik Kurumu ve Sağlık Bakanlığı verilerine göre de kadınlarda en fazla teşhis edilen kanserin meme kanseri olduğu bildirilmiştir. Meme kanserine göre kadınlarda daha az görülen kanserler ise sırasıyla kolorektal, tiroid ve serviks kanseridir.

Kadın kanserlerinin daha fazla görülmesine neden olan risk faktörleri arasında genetik yatkınlık, hormonal faktörler, yaşam tarzı, çevresel faktörler ve enfeksiyon yer almaktadır. Bu nedenle, HPV aşısı, mamografi, Pap-smear ve pelvik muayene gibi tarama yöntemlerinin yaygınlaştırılması, jinekolojik kanserlerin erken teşhis ve tedavisi kadın morbidite ve mortalite oranlarının azaltılmasında kritik önem arz etmektedir.

Sonuç olarak jinekolojik kanserler, kadın sağlığını dünya çapında tehdit etmektedir. Gelişmiş ve gelişmekte olan ülkelerde hali hazırda devam eden tarama programları, koruyucu sağlık hizmetlerine erişim ve toplum temelli farkındalık çalışmalarıyla jinekolojik kanserler kontrol altına tutulmaya çalışılmaktadır. Ülkemizde de ulusal kanser tarama programlarının güçlendirilmesi ve HPV aşısının kullanımının yaygınlaştırılmasıyla, kadınların kanserle olan mücadelesinde önemli katkılar sağlayacağı düşünülmektedir.

Anahtar Kelimeler: Kadın, Kanser, Sağlık, Ebelik

ABSTRACT

Cancer is a disease caused by the uncontrolled proliferation of certain cells in the body and their spread to other parts of the body. Gynecological cancers are the most common types of cancer worldwide and

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cause various problems in public and community health. The most common gynecological cancers are breast, endometrial, cervical, and ovarian cancers, respectively. Gynecological cancers are among the leading causes of morbidity and mortality for women in both developed and developing countries.

The World Health Organization (WHO) and the International Agency for Research on Cancer (IARC) published a report in 2025 stating that breast cancer is the most frequently diagnosed gynecological cancer. It is estimated that approximately 1 in 20 women worldwide will be diagnosed with breast cancer during their lifetime. If current trends continue, there will be 3.2 million breast cancer cases and 1.1 million breast cancer-related deaths each year. According to data from the Turkish Statistical Institute and the Ministry of Health, breast cancer is the most commonly diagnosed cancer in women. Less common cancers are colorectal, thyroid, and cervical cancers, respectively.

Risk factors that contribute to the increased incidence of cancer in women include genetic predisposition, hormonal factors, lifestyle, environmental factors, and infection. Therefore, widespread use of screening methods such as HPV vaccination, mammography, Pap smears, and pelvic examinations, as well as early diagnosis and treatment of gynecological cancers, are critical to reducing female morbidity and mortality rates.

Sonuç olarak jinekolojik kanserler, kadın sağlığını dünya çapında tehdit etmektedir. Gelişmiş ve gelişmekte olan ülkelerde hali hazırda devam eden tarama programları, koruyucu sağlık hizmetlerine erişim ve toplum temelli farkındalık çalışmalarıyla jinekolojik kanserler kontrol altına tutulmaya çalışılmaktadır. Ülkemizde de ulusal kanser tarama programlarının güçlendirilmesi ve HPV aşısının kullanımının yaygınlaştırılmasıyla, kadınların kanserle olan mücadelesinde önemli katkılar sağlayacağı düşünülmektedir.

Keywords: Women, Cancer, Health, Midwifery

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ÇOCULUK DÖNEMİNDE KETOJENİK DİYET UYGULAMALARI KETOGENIC DIET PRACTICES ON CHILDHOOD ERA

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ÖZET

Ketojenik diyet; keton cisimlerinin üretimini teşvik etmek amacıyla, açlık durumundaki metabolizmayı taklit eden bir beslenme biçimidir. Bu diyet, yüksek yağ, çok düşük karbonhidrat ve yeterli düzeyde protein içeriğiyle karakterizedir. Ketojenik diyetin amacı vücudu ketozis moduna geçirmektir bu da düşük karbonhidrat alımı ile mümkündür. Ketojenik diyetin bir diğer amacı ise vücut depolarındaki yağların yakılmaya başlamasını sağlamaktır. Bu durumda diyetin kilo kaybına yol açtığına dair birden fazla teori ortaya atılmasına sebep olur ve çoğu, birincil enerji kaynağının ketonlar veya protein olduğu fikrine dayanır. Karbonhidratlarla karşılaştırıldığında, vücudun proteini bir enerji kaynağı olarak kullanması daha zordur ve bu da kilo kaybına neden olur. Ketojenik diyet, gelişmekte olan sağlıklı çocuklar için oldukça kısıtlayıcı bir diyet modelidir ancak çocukluk dönemindeki epilepsi hastalarının nöbetlerini azaltıcı etkiye sahip olduğu için günümüzde sıklıkla tercih edilmektedir. Ketojenik diyet çocukluk dönemi epilepsi hastalığı dışında birçok hastalıkta da kullanılmaktadır. Bunlar metabolizma hastalıkları, beyin ve sinir sistemi hastalıkları, ruhsal ve mitokondriyal hastalıklardır hatta kanser hastalığı riskini azalttığı dahi gösterilmiştir. Bazı çalışmalar, bu diyet değişikliklerinin obezite problemi yaşayan tip 2 diabetes mellitus(T2DM) hastalarında, ketotik durumlarda dolaşımdaki glikozun azalması ve insülin duyarlılığının artması sebebiyle yarar sağladığını göstermiştir. Ketojenik diyet tedavisi, çocuklar için oldukça zorlu bir süreçtir uygulama sırasında çok dikkat edilmeli ve takibinin iyi yapılması gerekir. Bu derleme çalışmasında güncel literatür değerlendirilerek çocukluk çağında ketojenik diyet uygulamaları hakkında bilgi verilmesi amaçlanmıştır.

Anahtar Kelimeler: Ketojenik diyet, Epilepsi, Çocukluk dönemi.

ABSTRACT

The ketogenic diet is a type of nutritional regimen that aims to stimulate the production of ketone bodies by mimicking the metabolic state of fasting. This diet is characterized by high fat, very low carbohydrate, and adequate protein content. The purpose of ketogenic diet is getting the body in to ketosis mode which is possible with getting low rate carbohydrate. The other purpose of ketogenic diet is helping the body to start burning fat. This situation leads to the emergence of multiple theories about how the diet causes weight loss, most of which are based on the idea that the primary energy source is ketones or protein. Compared to carbohydrates, it is more difficult for the body to use protein as an energy source, and this leads to weight loss. Ketogenic diet is a very restrictive nutrition model for healthy children in puberty but nowadays it is preferred more often because it has decreasing effect to attacks of epilepsy patients in their childhood. These have even been shown to reduce the risk of metabolic diseases, brain and nervous system diseases, mental and mitochondrial diseases, and even cancer. Some studies have shown that these dietary changes benefit patients with type 2 diabetes mellitus (T2DM) who are obese, due to the decrease in circulating glucose and increase in insulin sensitivity during ketosis. Ketogenic diet treatment is a very challenging process for children. This is why during

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the treatment the nutritionists must be quite cautious and watch the process properly. It is purposed in the text to inform people about ketogenic diet practices during childhood era with estimating the current literature

Keywords: Ketogenic diet, epilepsy, childhood era

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1990'LARDA TÜRKİYE'NİN BALKAN KRİZLERİ POLİTİKASI (BOSNA, KOSOVA)

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ÖZET

Soğuk Savaş'ın sona ermesiyle birlikte uluslararası sistem, iki kutuplu dengeden çok kutuplu bir yapıya evrilmiştir. Bu dönüşüm, yalnızca küresel güç dağılımını değil, kimlik, etnisite ve ulus kavramlarının siyasal söylemdeki konumunu da yeniden tanımlamıştır. 1990'lı yıllar, bu yeni uluslararası konjonktürde etnik temelli çatışmaların, kimlik siyasetinin ve insani krizlerin belirginleştiği bir dönem olarak öne çıkmıştır. Bu dönemin en dramatik sahnelerinden biri ise tarihsel olarak çok katmanlı bir sosyo-kültürel yapıya sahip olan Balkanlar'da yaşanmıştır. Yugoslavya'nın dağılmasıyla birlikte ortaya çıkan Bosna-Hersek ve Kosova krizleri, yalnızca bölgesel bir çatışma değil; küresel normlar, insan hakları söylemi ve uluslararası toplumun müdahale kapasitesi açısından da bir dönüm noktası teşkil etmiştir.

Türkiye açısından bu krizler, tarihsel hafızanın, kültürel aidiyetin ve insani sorumlulukların yeniden hatırlandığı bir dönemi temsil etmektedir. Osmanlı mirası ve Balkan halklarıyla tarihsel bağlar, Türkiye'nin dış politikasında yalnızca diplomatik bir referans değil, aynı zamanda sosyolojik bir gerçeklik olarak yeniden görünürlük kazanmıştır. Bu bağlamda Türkiye'nin 1990'larda yürüttüğü dış politika, geleneksel “denge” anlayışını aşarak “insani diplomasi” paradigmasıyla bütünleşmiş; NATO müttefikliği ile bölgesel sorumlulukları arasında özgün bir denge kurmuştur.

Bu bildiri, Türkiye'nin Bosna-Hersek (1992–1995) ve Kosova (1998–1999) krizleri süresince izlediği politikaları tarihsel, diplomatik ve toplumsal boyutlarıyla incelemektedir. TBMM tutanakları, dönemin basın arşivleri ve uluslararası belgeler ışığında yapılan analiz, Türkiye'nin dış politikasının karar alma süreçleri ile kamuoyu dinamikleri arasındaki etkileşimi göstermektedir. Türkiye'nin uluslararası örgütler Birleşmiş Milletler, NATO, İslam İşbirliği Teşkilatı nezdindeki girişimleri hem normatif değerler hem de jeopolitik kaygılar arasında kurulan karmaşık bir dengeyi yansıtmaktadır. Aynı zamanda, toplum temelli dayanışma ağları ve yardım kampanyaları, devlet politikası ile toplumsal duyarlılık arasındaki etkileşimin dış politika üretimindeki rolünü ortaya koymaktadır.

Bosna ve Kosova krizleri, Türkiye'nin 1990'larda dış politikasında yeni bir yönelim kazandığı; uluslararası ilişkilerde normatif bir aktör olarak kimlik kazandığı bir dönemi temsil etmektedir. Bu süreçte Türkiye, yalnızca bölgesel bir aktör olarak değil, küresel ölçekte insani değerleri merkeze alan bir diplomasi anlayışını kurumsallaştıran bir ülke olarak öne çıkmıştır. Böylece Balkan krizleri, Türkiye'nin tarihsel hafızasını siyasal stratejiyle, sosyolojik duyarlılığını diplomatik eylemle buluşturduğu bir dönüm noktası olmuştur.

Anahtar Kelimeler: Türkiye, Balkanlar, Bosna-Hersek, Kosova, İnsani Diplomasi, Dış Politika, Kimlik Politikaları

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ABSTRACT

The end of the Cold War marked the collapse of the bipolar international system and the emergence of a multipolar order that redefined global power relations. This transformation not only reshaped the geopolitical balance but also reintroduced questions of identity, ethnicity, and nationhood into the core of international political discourse. The 1990s witnessed the resurgence of ethnic conflicts and identity-based violence, with the Balkans—long characterized by cultural plurality and historical complexity—becoming one of the most striking theaters of this turbulence. The disintegration of Yugoslavia and the ensuing crises in Bosnia-Herzegovina and Kosovo represented not merely regional conflicts but critical turning points for the global discourse on human rights, humanitarian intervention, and international order.

For Turkey, these crises evoked a renewed awareness of historical memory, cultural affinity, and humanitarian responsibility. The Ottoman legacy and Turkey's deep-rooted social and cultural ties with the Balkan peoples resurfaced as both diplomatic references and sociological realities. Consequently, Turkey's foreign policy in the 1990s moved beyond the traditional paradigm of balance and increasingly reflected the contours of humanitarian diplomacy, navigating between its NATO commitments and regional-historical responsibilities.

This paper analyzes Turkey's policies during the Bosnian (1992–1995) and Kosovar (1998–1999) crises from historical, diplomatic, and sociological perspectives. Drawing upon parliamentary records, press archives, and international diplomatic documents, it explores the multidimensional interaction between decision-making processes and public sentiment in shaping Turkey's foreign policy. Turkey's initiatives within international organizations such as the United Nations, NATO, and the Organization of Islamic Cooperation demonstrate a delicate balance between normative commitments and geopolitical pragmatism. Furthermore, the widespread public mobilization and civil aid campaigns reveal how societal consciousness and foreign policy intersected in constructing a humanitarian-oriented external engagement.

In conclusion, the Bosnian and Kosovar crises signified a transformation in Turkey's foreign policy orientation during the 1990s. Turkey emerged not only as a regional actor contributing to peace and stability but also as a normative power institutionalizing a diplomacy grounded in humanitarian values. Thus, the Balkan crises embodied a critical juncture at which Turkey reconciled historical memory with political strategy and translated sociological sensitivity into diplomatic practice.

Keywords: Turkey, Balkans, Bosnia-Herzegovina, Kosovo, Humanitarian Diplomacy, Foreign Policy, Normative Power, Identity Politic

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HAVADA KÜRLenen KALSİYUM ALÜMINAT ÇİMENTOLU BETONLARIN YÜKSEK SICAKLIKLARDAKİ BASINÇ DAYANIMLARININ ARAŞTIRILMASI INVESTIGATION OF THE COMPRESSIVE STRENGTH OF AIR-CURED CALCIUM ALUMINATE CEMENT CONCRETE AT ELEVATED TEMPERATURES

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ÖZET

Yüksek dayanımlı beton üretimi beton teknolojisinin popüler konularından biridir. Yüksek dayanımlı betonun dayanım ve dayanıklılık özelliklerine birçok faktör etki eder. Bağlayıcı tipi bu faktörlerin başında gelmektedir. Son yıllarda yüksek dayanımlı beton üretiminde bağlayıcı olarak kalsiyum alüminat çimentosunun kullanılabilirliğine ilişkin çalışmalar hız kazanmıştır. Kalsiyum alüminat çimentosu agresif çevre koşullarına (yüksek sıcaklık, asit, sülfat vb. etkiler) karşı yüksek dayanıklılık gösteren ve çok hızlı dayanım kazanabilen özel bir çimento türüdür. Bu nedenle tamir harçlarında ve zorlu çevre koşullarına karşı yüksek dayanım göstermesi beklenen betonların üretiminde kullanılabilir. Özellikle yüksek sıcaklık altındaki performansı, standart portland çimentosuna göre oldukça üstündür. Bu nedenle yüksek sıcaklığa maruz kalabilecek yapısal veya yapısal olmayan elemanlarda kullanılabilmesi olasıdır. Ancak kararsız yapısı bu kullanımı sınırlandırmaktadır. Genellikle zaman, sıcaklık, nem ve kür koşulları gibi etkenler kalsiyum alüminat çimentolu betonun dayanımını düşürebilmektedir. Bu sebeple literatürde kalsiyum alüminat çimentolu betonun kararsız yapısına etki eden faktörler ve bu faktörlerin minimize edilmesine ilişkin araştırmalar hız kazanmıştır. Mevcut çalışmada, farklı kür koşullarının kalsiyum alüminat çimentolu betonun yüksek sıcaklıklardaki basınç dayanımına olan etkisi araştırılmıştır. Bu kapsamda, iki grup numune test edilmiştir. Kontrol grubu olarak standart kür koşulları (23 °C suda 28 gün suda kürlenme) uygulanan kalsiyum alüminat çimentolu beton numuneler seçilmiştir. Deney grubu olarak ise normal oda sıcaklığında bir branda içerisinde herhangi bir su teması olmadan kürlenmiş kalsiyum alüminat çimentolu betonlar seçilmiştir. Gruplarda yer alan numunelerin bir kısmı normal sıcaklıkta bir kısmı ise yüksek sıcaklıkta basınç dayanım testine tabi tutulmuşlardır. Yüksek sıcaklığa maruz bırakılacak numuneler kür sonrası bünyelerinde bulunan suyun uzaklaşması için 105°C sıcaklıkta bir gün boyunca bekletilmişlerdir. Ön ısıtma sonrası bu numuneler 900°C sıcaklıkta iki saat bekletilmişlerdir. Isıtma öncesi ve sonrası kütle ölçümleri yapılmıştır. Yapılan basınç dayanımı testleri sonucunda hem oda sıcaklığında hem yüksek sıcaklıklarda, herhangi bir su teması olmadan branda içerisinde kürlenmiş kalsiyum alüminat çimentolu betonların basınç dayanımlarının standart şekilde kürlenmiş numunelere kıyasla daha yüksek olduğu tespit edilmiştir.

Anahtar Kelimeler: Hava kürlenme, kalsiyum alüminat çimentolu beton, yüksek sıcaklık.

ABSTRACT

The production of high-strength concrete is a popular topic in concrete technology. Many factors influence the strength and durability properties of high-strength concrete. The binder type is a primary factor. In recent years, research on the use of calcium aluminate cement as a binder in high-strength

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concrete production has gained momentum. Calcium aluminate cement is a special type of cement that exhibits high resistance to aggressive environmental conditions (e.g., high temperature, acid, sulfate, etc.) and can gain strength very quickly. Therefore, it can be used in repair mortars and the production of concretes expected to exhibit high resistance to harsh environmental conditions. Its performance, particularly at high temperatures, is significantly superior to standard Portland cement. Therefore, it can be used in structural and non-structural elements that may be exposed to high temperatures. However, its unstable structure limits its use. Factors such as time, temperature, humidity, and curing conditions can generally reduce the strength of calcium aluminate cement concrete. Therefore, research in the literature on the factors affecting the instability of calcium aluminate cement concrete and how to minimize these factors has gained momentum. The present study investigated the effects of different curing conditions on the compressive strength of calcium aluminate cement concrete at elevated temperatures. Two groups of samples were tested. Calcium aluminate cement concrete samples subjected to standard curing conditions (23°C water curing for 28 days) were selected as the control group. The experimental group consisted of calcium aluminate cement concrete samples cured under normal room conditions within a tarpaulin without any contact with water. Some of the samples in each group were subjected to compressive strength tests at normal temperatures, while others were subjected to elevated temperatures. After curing, the samples were held at 105°C for one day to remove any water. After preheating, these samples were held at 900°C for two hours. Mass measurements were taken before and after heating. As a result of the compressive strength tests, it was determined that the compressive strengths of calcium aluminate cement concrete cured in tarpaulin without any contact with water, both at room temperature and at high temperatures, were higher than the standard cured samples.

Keywords: Air curing, calcium aluminate cement concrete, high temperature

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SAĞLIKTA SOSYAL ROBOTLAR: BİBLİYOMETRİK BİR ANALİZ SOCIAL ROBOTS IN HEALTHCARE: A BIBLIOGRAPHIC ANALYSIS

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ÖZET

Bu çalışma, sağlık alanında sosyal robotlara yönelik bilimsel üretimin yapısını, eğilimlerini ve gelişim yönelimlerini incelemek amacıyla gerçekleştirilmiş bibliyometrik bir analizdir. Yapay zekâ ile robotik teknolojilerinin kesişimi, insanla doğal yollarla etkileşim kurabilen sosyal robotların ortaya çıkmasına yol açmıştır. Bu robotlar konuşma, jest ve mimik gibi sosyal ipuçlarını algılayabilmekte, empati kurarak kişiye özel yanıtlar üretebilmektedir. Sağlık alanında özellikle yaşlı bireylerin yalnızlığını azaltma, rehabilitasyon süreçlerinde destek olma, otizmli çocuklarla terapi uygulamaları ve hastanelerde hasta-ziyaretçi rehberliği gibi çok çeşitli işlevler üstlenmektedir. Bu bağlamda sosyal robotlar, teknolojik birer araç olmanın ötesinde, sağlık hizmetlerinde psikososyal destek sağlayan etkileşimsel varlıklar haline gelmiştir.

Yöntem: Çalışmada Web of Science (WoS) Core Collection veri tabanı kullanılmıştır. 1996–2025 yılları arasında yayımlanan toplam 1.231 akademik çalışma (makale, derleme ve bildiri) incelenmiştir. Tarama, konu alanı (Topic Search – TS) kapsamında şu anahtar kelimelerle yapılmıştır: TS = (“social robot” OR “social robotics” OR “healthcare robot” OR “assistive robot” OR “companion robot” OR “robotic assistant” OR “robotic caregiving” OR “robot-assisted therapy” OR “nursing robot” OR “therapeutic robot” OR “elderly care robot” OR “patient care robot”) AND (TS = health OR TS = healthcare OR TS = hospital). Veri analizi sürecinde RStudio tabanlı Biblioshiny ve VOSviewer yazılımları kullanılmış; tablo ve grafikler Microsoft Excel aracılığıyla düzenlenmiştir.

Bulgular: Analiz sonucunda, 2017 yılından itibaren sağlıkta sosyal robotlara yönelik bilimsel üretimde belirgin bir artış saptanmıştır. Yıllık büyüme oranı %15,6 olup, özellikle COVID-19 pandemisiyle birlikte insan temassız hizmetlere olan yönelim, yayın sayısını 2024’te en yüksek düzeye çıkarmıştır. En üretken ülkeler sırasıyla ABD (184 yayın), Birleşik Krallık (99) ve Çin (96) olmuştur. Uluslararası iş birliği oranı en yüksek ülke %43,4 ile Birleşik Krallık’tır. En fazla yayın yapılan dergi International Journal of Social Robotics (76 yayın) olup, Frontiers in Robotics and AI, Journal of Medical Internet Research ve Sensors onu takip etmektedir.

En üretken yazarlar arasında Broadbent E. (28 yayın), Ahn H.S. (23) ve Nejat G. (19) öne çıkmıştır. En çok atıf alan çalışmalar arasında Science Robotics’te yayımlanan “The Grand Challenges of Science Robotics” ve Journal of Marketing Research’teki “Service Robots Rising” adlı makaleler bulunmaktadır.

Anahtar kelime eş-oluşum analizinde, araştırmaların “human-robot interaction”, “dementia”, “assistive technology”, “rehabilitation”, “mental health” ve “older adults” kavramları etrafında kümелendiği

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görülmüştür. Son yıllarda ise “AI”, “trust”, “affective computing”, “communication” ve “quality of life” gibi daha insani, etik ve duygusal temalar öne çıkmıştır. Bu durum, sağlıkta sosyal robot araştırmalarının teknik uygulamalardan kullanıcı deneyimi, güven ve yaşam kalitesi gibi sosyal boyutlara evrildiğini göstermektedir.

Sonuç: Bulgular, sosyal robotların sağlık hizmetlerinde yalnızca mekanik destek sağlayıcılar değil, aynı zamanda duygusal bağ kurabilen, güven ilişkisi geliştirebilen ve hastaların psikososyal refahını güçlendiren sosyal aktörler olarak değerlendirildiğini göstermektedir. Çalışma, mevcut literatürü bütüncül biçimde haritalayarak gelecekteki araştırmalara metodolojik ve tematik bir yol haritası sunmaktadır. Özellikle etik uygunluk, kültürel bağlam, kullanıcı memnuniyeti ve insan-robot etkileşiminin sürdürülebilirliği gibi konuların ilerleyen dönemde önem kazanması beklenmektedir.

Anahtar Kelimeler: Sosyal robot, sağlık hizmetleri, yapay zekâ, insan-robot etkileşimi, bibliyometrik analiz.

ABSTRACT

This study is a bibliometric analysis conducted to examine the structure, trends, and developmental trends of scientific production on social robots in the healthcare field. The intersection of artificial intelligence and robotic technologies has led to the emergence of social robots that can interact with humans in natural ways. These robots can perceive social cues such as speech, gestures, and facial expressions, and can empathize and generate personalized responses. They serve a wide range of functions in the healthcare field, including reducing loneliness in the elderly, supporting rehabilitation processes, providing therapy for children with autism, and providing patient and visitor guidance in hospitals. In this context, social robots have become interactive entities that provide psychosocial support in healthcare beyond being mere technological tools.

Method: The Web of Science (WoS) Core Collection database was used in the study. A total of 1,231 academic studies (articles, reviews, and reports) published between 1996 and 2025 were examined. The search was conducted using the following keywords within the subject area (Topic Search – TS): TS = (“social robot” OR “social robotics” OR “healthcare robot” OR “assistive robot” OR “companion robot” OR “robotic assistant” OR “robotic caregiving” OR “robot-assisted therapy” OR “nursing robot” OR “therapeutic robot” OR “elderly care robot” OR “patient care robot”) AND (TS = health OR TS = healthcare OR TS = hospital). RStudio-based Biblioshiny and VOSviewer software were used in the data analysis process, and tables and graphs were edited using Microsoft Excel.

Findings: The analysis revealed a significant increase in scientific production on social robots in healthcare since 2017. The annual growth rate was 15.6%, and the shift towards non-human contact services, particularly with the COVID-19 pandemic, increased the number of publications to its highest level in 2024. The most productive countries were the USA (184 publications), the UK (99), and China (96). The country with the highest international collaboration rate is the United Kingdom, at 43.4%. The most published journal is the International Journal of Social Robotics (76 publications), followed by Frontiers in Robotics and AI, Journal of Medical Internet Research, and Sensors.

Among the most prolific authors are Broadbent E. (28 publications), Ahn H.S. (23), and Nejat G. (19). Among the most cited studies are "The Grand Challenges of Science Robotics," published in Science Robotics, and "Service Robots Rising," published in the Journal of Marketing Research.

Keyword co-occurrence analysis revealed that research clusters around the concepts of "human-robot interaction," "dementia," "assistive technology," "rehabilitation," "mental health," and "older adults." In recent years, more human, ethical, and emotional themes such as "AI," "trust," "affective computing,"

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"communication," and "quality of life" have become prominent. This demonstrates that social robotics research in healthcare is evolving from technical applications to social dimensions such as user experience, trust, and quality of life.

Conclusion: The findings indicate that social robots are considered not only mechanical support providers in healthcare, but also social actors capable of establishing emotional bonds, fostering trust, and enhancing patients' psychosocial well-being. By comprehensively mapping the existing literature, the study provides a methodological and thematic roadmap for future research. Issues such as ethical compliance, cultural context, user satisfaction, and the sustainability of human-robot interactions are expected to gain particular importance in the future.

Keywords: Social robot, healthcare, artificial intelligence, human-robot interaction, bibliometric analysis.

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Anahtar Kelimeler: Sosyal robot, sağlık hizmetleri, yapay zekâ, insan-robot etkileşimi, bibliyometrik analiz.

ABSTRACT

This study is a bibliometric analysis conducted to examine the structure, trends, and developmental trends of scientific production on social robots in the healthcare field. The intersection of artificial intelligence and robotic technologies has led to the emergence of social robots that can interact with humans in natural ways. These robots can perceive social cues such as speech, gestures, and facial expressions, and can empathize and generate personalized responses. They serve a wide range of functions in the healthcare field, including reducing loneliness in the elderly, supporting rehabilitation processes, providing therapy for children with autism, and providing patient and visitor guidance in hospitals. In this context, social robots have become interactive entities that provide psychosocial support in healthcare beyond being mere technological tools.

Method: The Web of Science (WoS) Core Collection database was used in the study. A total of 1,231 academic studies (articles, reviews, and reports) published between 1996 and 2025 were examined. The search was conducted using the following keywords within the subject area (Topic Search – TS): TS = (“social robot” OR “social robotics” OR “healthcare robot” OR “assistive robot” OR “companion robot” OR “robotic assistant” OR “robotic caregiving” OR “robot-assisted therapy” OR “nursing robot” OR “therapeutic robot” OR “elderly care robot” OR “patient care robot”) AND (TS = health OR TS = healthcare OR TS = hospital). RStudio-based Biblioshiny and VOSviewer software were used in the data analysis process, and tables and graphs were edited using Microsoft Excel.

Findings: The analysis revealed a significant increase in scientific production on social robots in healthcare since 2017. The annual growth rate was 15.6%, and the shift towards non-human contact services, particularly with the COVID-19 pandemic, increased the number of publications to its highest level in 2024. The most productive countries were the USA (184 publications), the UK (99), and China (96). The country with the highest international collaboration rate is the United Kingdom, at 43.4%. The most published journal is the International Journal of Social Robotics (76 publications), followed by Frontiers in Robotics and AI, Journal of Medical Internet Research, and Sensors.

Among the most prolific authors are Broadbent E. (28 publications), Ahn H.S. (23), and Nejat G. (19). Among the most cited studies are "The Grand Challenges of Science Robotics," published in Science Robotics, and "Service Robots Rising," published in the Journal of Marketing Research.

Keyword co-occurrence analysis revealed that research clusters around the concepts of "human-robot interaction," "dementia," "assistive technology," "rehabilitation," "mental health," and "older adults." In recent years, more human, ethical, and emotional themes such as "AI," "trust," "affective computing,"

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"communication," and "quality of life" have become prominent. This demonstrates that social robotics research in healthcare is evolving from technical applications to social dimensions such as user experience, trust, and quality of life.

Conclusion: The findings indicate that social robots are considered not only mechanical support providers in healthcare, but also social actors capable of establishing emotional bonds, fostering trust, and enhancing patients' psychosocial well-being. By comprehensively mapping the existing literature, the study provides a methodological and thematic roadmap for future research. Issues such as ethical compliance, cultural context, user satisfaction, and the sustainability of human-robot interactions are expected to gain particular importance in the future.

Keywords: Social robot, healthcare, artificial intelligence, human-robot interaction, bibliometric analysis.

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PETROL FİYAT ŞOKLARININ BRICST ÜLKELERİ BORSA VOLATİLİTESİ ÜZERİNDEKİ KISA VE UZUN DÖNEM ETKİLERİ: GARCH-MIDAS ANALİZİ SHORT- AND LONG-TERM EFFECTS OF OIL PRICE SHOCKS ON STOCK MARKET VOLATILITY IN BRICST COUNTRIES: A GARCH-MIDAS ANALYSIS

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ÖZET

Borsa getirileri pek çok makroekonomik değişkenden etkilenmektedir. Yatırımcıların rasyonel ve etkin yatırım kararları alabilmeleri ve uygulayabilmeleri bu değişkenleri doğru biçimde öngörebilmelerine bağlıdır. Üretim sürecinin temel girdilerinden biri olan petrol, aynı zamanda küresel ölçekte ekonomik ve finansal koşulların belirleyicisi niteliğindedir. Bu çalışma, Baumeister ve Hamilton'ın lirtatüre kazandırdığı petrol fiyat şokları serisinin BRICST ülkeleri (Brezilya, Rusya, Hindistan, Çin, Güney Afrika ve Türkiye) hisse senedi getirileri üzerindeki kısa ve uzun dönemli oynaklık etkilerini GARCH-MIDAS (Genelleştirilmiş Otoregresif Koşullu Değişen Varyans – Karma Veri Örneklemesi) yaklaşımıyla incelemektedir. Petrol fiyatlarındaki oynaklıkların BRICS ülkelerindeki petrol ihracatçı (Rusya ve Brezilya) ve ithalatçı (Çin, Hindistan ve Güney Afrika) konumundaki ülke borsalarında oluşturduğu farklı etkileri araştırmak, çalışmanın temel odağını oluşturmaktadır. Enerji koridoru üzerinde stratejik bir konuma sahip olan ve bölgesel bir finans merkezi niteliği taşıyan Türkiye'nin analiz kapsamına dâhil edilmesi, bulguların bütüncüllüğünü güçlendirmektedir. Araştırmada, BRICST ülkelerine ait günlük frekanstaki borsa getirileri ile aylık frekansta elde edilen petrol şokları serisi (ekonomik aktivite şoku, arz şoku, petrol tüketim talep şoku ve petrol stok şokları) GARCH-MIDAS yöntemi kullanılarak frekans uyumsuzluğundan kaynaklı bilgi kaybı ortaya çıkmadan, volatilitenin kısa ve uzun dönem bileşenlerini daha doğru biçimde ayrıştırılmasına olanak tanımıştır.

Çalışmada BRICST ülkelerinin hepsinde ve petrol şoklarında günlük volatilitenin kısa dönem şoklara duyarlı olduğu ve volatilitenin uzun süre kalıcı olduğu söylenebilir. Ancak bu etkinin petrol ihracat eden ülkelerde daha sınırlı olduğu bulunmuştur. Brezilya' da ekonomik faaliyet şoku uzun dönem volatilitiyi anlamlı biçimde artırırken diğer petrol şoklarının Brezilya'da uzun dönem etkisi zayıf veya belirsizdir. Petrol arz şokları Rusya için anlamlı bulunmamıştır. Arz yönlü petrol şoku değişimlerine Rusya borsalarının tepkisizliğinin Rusya'nın bu tür değişimleri içselleştirmesinden dolayı olduğu düşünülmektedir. Rusya borsalarını etkileyen en belirgin uzun dönem volatilitite unsuru ekonomik faaliyet şoku ve petrol tüketim talebi olmuştur.

Petrol ithalatçısı olan Çin, Hindistan ve Türkiye'de ekonomik faaliyet şoklarının borsa oynaklığı üzerinde güçlü oranda kalıcı etkisi tespit edilmiştir. Bu etki Güney Afrika'da sınırlıdır. Çin borsalarının diğer petrol şoklarına da duyarlı olduğu belirlenmiştir. Çin'de petrol arz şoku, petrol tüketim talep şoku ve petrol stok şokları uzun dönem volatilitiyi anlamlı biçimde artırmaktadır. Hindistan ve Türkiye

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borsaları petrol stok değişimlerinden daha az etkilenirken; petrol arz ve talep şokları bu ülkedeki borsaların volatilitelerini arttırmaktadır. Uzun dönemde Güney Afrika borsalarının sadece petrol stoku talep şokuna duyarlı olduğu tespit edilmiştir. Elde edilen bulguların BRICST ülkeleri borsalarının bu ülkelerin enerji yapıları, petrol ithalat ve ihracat profilleri, ekonomik ve finansal yapılarına bağlı olarak petrol şoklarına karşı heterojen tepkiler verdiği ifade edilebilir.

Anahtar Kelimeler: Petrol Şokları, GARCH MİDAS, BRICST Ülkeleri, Borsa Getirileri.

ABSTRACT

Stock market returns are influenced by numerous macroeconomic variables. Investors' ability to make and implement rational and efficient investment decisions depends on their ability to accurately predict these variables. Oil, a fundamental input in the production process, also serves as a determinant of global economic and financial conditions. This study examines the short- and long-term volatility effects of the oil price shock series introduced by Baumeister and Hamilton on the stock market returns of the BRICST countries (Brazil, Russia, India, China, South Africa, and Turkey) using the GARCH-MIDAS (Generalized Autoregressive Conditional Heteroskedasticity – Mixed Data Sampling) approach. The primary focus of this study is to investigate the differential impact of oil price volatility on the stock markets of oil-exporting (Russia and Brazil) and oil-importing (China, India, and South Africa) BRICS countries. The inclusion of Türkiye, which occupies a strategic position along the energy corridor and serves as a regional financial center, strengthens the comprehensiveness of the findings. In this study, the daily stock returns and monthly oil shock series (economic activity shock, supply shock, oil consumption demand shock, and oil stock shock) of the BRICST countries were analyzed using the GARCH-MIDAS method. This allows for a more accurate separation of short-term and long-term volatility components without losing information due to frequency mismatch.

The study notes that daily volatility in all BRICST countries and oil shocks is sensitive to short-term shocks, and volatility persists for extended periods. However, this effect is found to be more limited in oil-exporting countries. While the economic activity shock in Brazil significantly increases long-term volatility, the long-term impact of other oil shocks in Brazil is weak or uncertain. Oil supply shocks are found to be insignificant for Russia. The lack of response in Russian stock markets to changes in the supply-side oil shock is believed to be due to Russia's internalization of these changes. The most significant long-term volatility factors affecting Russian stock markets are economic activity shocks and oil consumption demand.

Economic activity shocks have been found to have a strong and persistent impact on stock market volatility in oil-importing countries like China, India, and Türkiye. This impact is limited in South Africa. Chinese stock markets are also found to be sensitive to other oil shocks. In China, oil supply shocks, oil consumption demand shocks, and oil inventory shocks significantly increase long-term volatility. While Indian and Turkish stock markets are less affected by changes in oil inventories, oil supply and demand shocks increase the volatility of these countries' stock markets. In the long run, South African stock markets are found to be sensitive only to oil inventory demand shocks. The findings indicate that the stock markets of the BRICST countries respond heterogeneously to oil shocks depending on their energy structures, oil import and export profiles, and economic and financial structures.

Keywords: Oil shocks, GARCH MİDAS, BRICST Countries, Stock Market Returns.

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TÜRK KÜLTÜRÜNDE KELLE PAÇA ÇORBASI TÜKETİMİNİN SOSYAL ANLAMI VE TARİHSEL KÖKENLERİ

THE SOCIAL SIGNIFICANCE AND HISTORICAL ORIGINS OF “KELLE PAÇA” SOUP CONSUMPTION IN TURKISH CULTURE

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ÖZET

Bu araştırma, Türk mutfağının en eski ve geleneksel çorbalarından olan kelle paça çorbası üretim sürecini ve bu çorbanın tüketiminin sosyal anlamı ve tarihsel kökenlerini belirlemek amacıyla yürütülmüştür. Kelle paça çorbası besleyici bir çorba olmasının yanında, şifa kaynağı, toplumsal dayanışma ve kültürel miras kaynağıdır. Araştırma kapsamında ilgili literatür taranmış; ayrıca kelle paça çorbasının sıklıkla yapıldığı Gaziantep ve Kahramanmaraş bölgesinde ikamet eden kişilerle yapılan görüşmelerle çorbanın günümüzdeki algısı ortaya konmuştur. Elde edilen bulgular kelle paça çorbasının özellikle kış aylarında sabah kahvaltılarında yaygın olarak tüketildiğini, birlikte yeme içme ve sosyal ilişkileri güçlendiren geleneksel bir lezzet olduğunu göstermektedir.

Anahtar Kelimeler: Türk Mutfak kültürü, Çorba Geleneği, Kelle Paça Çorbası, Sosyal Anlam

ABSTRACT

This study was conducted to examine the production process of kelle paça soup, one of the oldest and most traditional soups in Turkish cuisine, and to identify the social meaning and historical roots of its consumption. In addition to being a nutritious dish, kelle paça soup is regarded as a source of healing, social solidarity, and cultural heritage. As part of the research, relevant literature was reviewed, and interviews were conducted with individuals residing in Gaziantep, and Kahramanmaraş regions where kelle paça soup is frequently prepared. The findings reveal that kelle paça is widely consumed during winter months, particularly at breakfast, and is seen as a traditional dish that strengthens communal dining practices and social relationships.

Keywords: Turkish Culinary Culture, Soup Tradition, Kelle Paça Soup, Social Meaning

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YABANCI DÜŞMANLIĞINDAN SİYASİ SERMAYEYE: TÜRKİYE’DE POPÜLİST SÖYLEMİN YÜKSELİŞİ

FROM XENOPHOBIA TO POLITICAL CAPITAL: THE RISE OF POPULIST DISCOURSE IN TURKEY

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ÖZET

Bu çalışma, Türkiye’de göçmen karşıtlığının giderek artan biçimde popülist siyasal söylemlere nasıl eklenildiğini ve bu süreçte yabancı düşmanlığının bir siyasi sermaye biçimine nasıl dönüştüğünü incelemektedir. Özellikle 2011 sonrası Suriyeli mülteci akını ile hız kazanan toplumsal ve siyasal dönüşüm, çalışmanın temel inceleme alanını oluşturmaktadır. Göç, yalnızca bir insani kriz olarak değil; kimlik, güvenlik ve aidiyet ekseninde işlenen bir siyasi araç haline gelmiştir.

Araştırma, 2015–2025 dönemine odaklanarak, Türkiye’de siyasi parti liderlerinin göç ve mültecilere yönelik söylemlerini eleştirel söylem çözümlemesi (Fairclough, 2013) yöntemiyle analiz etmektedir. Veri seti; TBMM konuşmaları, medya röportajları, parti bildirgeleri ve sosyal medya içeriklerinden oluşmaktadır. Söylemlerdeki ideolojik yapı, dilsel stratejiler ve duygusal çerçeveler tematik kodlama ile değerlendirilmiştir.

Çalışmanın bulguları, göçmen karşıtı retoriğin hem iktidar hem muhalefet partileri tarafından stratejik biçimde kullanıldığını; “biz” ve “öteki” ayrımının özellikle ekonomik kriz ve toplumsal belirsizlik dönemlerinde keskinleştiğini ortaya koymaktadır. Popülist aktörlerin, halkın korkularını, ulusal kimlik tehditleriyle birleştirerek seçmen mobilizasyonunu artırdığı görülmüştür. Özellikle Zafer Partisi örneğinde, göçmen karşıtlığı sadece siyasal değil, kültürel ve moral bir “savunma hattı” olarak kurgulanmıştır. Çalışma, Türkiye’de popülizmin yalnızca kriz dönemlerine özgü bir söylem değil, kurumsallaşmış ve kalıcı bir yönetim tarzı haline geldiğini göstermektedir.

Anahtar Kelimeler: Yabancı Düşmanlığı, Siyasal Sermaye, Popülizm, Türkiye

ABSTRACT

This study examines how rising anti-immigrant sentiment in Turkey has been increasingly integrated into populist political discourse and transformed into a form of political capital. The mass influx of Syrian refugees after 2011 initiated not only a demographic shift but also a profound political and discursive transformation. Migration is no longer framed as a purely humanitarian crisis, but as a political issue intertwined with identity, security, and belonging.

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Focusing on the period between 2015 and 2025, the research applies Norman Fairclough's (2013) critical discourse analysis method to investigate the refugee-related rhetoric of Turkish political party leaders. The data set includes parliamentary speeches, media interviews, party manifestos, and social media posts. The study analyzes the ideological structures, linguistic strategies, and emotional frameworks embedded within these discourses using thematic coding.

Findings reveal that anti-immigrant rhetoric has been strategically utilized by both government and opposition actors, especially during periods of economic crisis and social uncertainty. The dichotomy between "us" and "the other" has been amplified, with populist figures mobilizing public fears by framing migrants as threats to national identity. The Victory Party (Zafer Partisi) exemplifies how such rhetoric has been institutionalized, portraying refugee opposition not only as a political stance but also as a cultural and moral defense mechanism. The study concludes that populism in Turkey has evolved beyond a reactive style into a permanent mode of governance, shaping public discourse and political strategy in lasting ways.

Keywords: Xenophobia, Political Capital, Populism, Türkiye

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OTORİTER LİBERALİZM Mİ, YÖNETİMSEL RASYONALİTE Mİ? TÜRKİYE'DE NEOLİBERALİZMİN SİYASAL BİÇİMLERİ ÜZERİNE AMPİRİK BİR İNCELEME AUTHORITARIAN LIBERALISM OR GOVERNMENTAL RATIONALITY? AN EMPIRICAL INQUIRY INTO THE POLITICAL FORMS OF NEOLIBERALISM IN TURKEY

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ÖZET

Bu çalışma, Türkiye'nin 1980'lerden itibaren yaşadığı siyasal dönüşümü *otoriter liberalizm* ile *yönetimsel rasyonalite* arasındaki kuramsal gerilim ekseninde yeniden değerlendirmektedir. Neoliberalizmin zorunlu olarak otoriter sonuçlar doğurduğu varsayımını sorgulayan çalışma, Türkiye'nin gelişen yönetim modelinin kalıcı bir otoriter dönüşümü mü, yoksa kriz koşullarında liberal rasyonalitenin pragmatik bir yeniden örgütlenmesini mi temsil ettiğini incelemektedir.

Analiz, Carl Schmitt, Karl Polanyi ve Michel Foucault çizgisindeki kuramsal birikimden hareketle, neoliberalizmin siyasal biçimlerinin çoğu zaman ideolojik otoriterlikten değil, ekonomik, güvenlik ve toplumsal krizleri yönetmek için geliştirilen *yönetimsel rasyonalitelerden* türediğini savunmaktadır. Yöntemsel olarak çalışma, neoliberal politika göstergeleri (özelleştirme, deregülasyon, mali disiplin) ile kurumsal göstergeleri (yargı bağımsızlığı, basın özgürlüğü, seçim rekabeti) karşılaştıran karma bir analiz modeli kullanmaktadır. Ampirik veriler; World Bank, V-Dem, World Justice Project ve Reporters Without Borders gibi uluslararası endekslerden derlenmiştir.

Bulgular, Türkiye'de yürütme gücünün merkezileşmesinin esasen kriz yönetimi rasyonalitesi çerçevesinde geliştiğini göstermektedir. Ekonomik durgunluklar, bölgesel güvenlik sorunları ve büyük ölçekli doğal afetler, devletin yönetim kapasitesini yeniden tanımlamıştır. Demokratik ve kurumsal göstergelerdeki dalgalanmalara karşın, piyasa liberalizminin temel ilkeleri büyük ölçüde korunmuştur. Bu durum, ekonomik liberalizasyon ile idari merkezileşmenin birlikte var olabildiği bir *yönetimsel rasyonalite biçimi*ni işaret etmektedir.

Bu çalışma, neoliberalizmin siyasal biçimleri üzerine yürütülen küresel tartışmalara, otoriter liberalizmi bağlamdan bağımsız bir rejim tipi olarak değil, toplumsal ve ekonomik kriz koşullarında ortaya çıkan koşullu bir yönetim stratejisi olarak ele alarak katkı sunmaktadır. Bu yaklaşım, liberalizmin yalnızca özgürlükçü bir ideoloji değil, aynı zamanda kendi krizlerini yönetme kapasitesine sahip bir yönetimsellik biçimi olduğunu ortaya koyar. Türkiye örneği, bu açıdan, liberalizmin sürekliliğini sağlamak için zaman zaman otoriter araçlara başvuran bir kriz yönetimi rasyonalitesi geliştirdiğini gösteren özgün bir laboratuvar işlevi görmektedir.

Anahtar Kelimeler: Otoriter Liberalizm, Yönetimsel Rasyonalite, Liberalizm, Türkiye

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ABSTRACT

This study reconsiders Turkey's political transformation since the 1980s through the conceptual tension between *authoritarian liberalism* and *governmental rationality*. Rather than assuming that neoliberalism inevitably generates authoritarian outcomes, the article investigates whether Turkey's evolving governance model represents a systemic authoritarian shift or a pragmatic reconfiguration of liberal rationality under conditions of crisis.

The analysis draws on the theoretical lineage of Carl Schmitt, Karl Polanyi, and Michel Foucault to argue that neoliberalism's political forms often emerge not from ideological authoritarianism but from the administrative rationalities developed to manage economic, security, and social disruptions. Methodologically, the study employs a mixed analytical model comparing neoliberal policy indicators—privatization, deregulation, and fiscal discipline—with institutional measures such as judicial independence, media freedom, and electoral competitiveness. Empirical data are derived from international indices, including the World Bank, V-Dem, World Justice Project, and Reporters Without Borders.

Findings reveal that Turkey's centralization of executive power has evolved primarily as a **crisis-management rationality**, shaped by successive economic recessions, regional security crises, and large-scale natural disasters. Despite fluctuations in democratic and institutional indicators, the core principles of market liberalism have remained intact. This coexistence of economic liberalization with administrative centralization suggests that Turkey's trajectory is better understood as a *mode of governmental rationality* rather than as a stable authoritarian order.

The study contributes to the global debate on neoliberalism's political forms by framing *authoritarian liberalism* as a contingent and context-dependent governance strategy. In doing so, it positions Turkey as an illustrative case for examining how liberalism reproduces itself through adaptive, and at times authoritarian, forms of governmentality.

Keywords: Authoritarian Liberalism; Governmental rationality; Neoliberalism; Turkey

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KIRSAL BÖLGELERDE BULUNAN YIĞMA YAPILARIN DEPREM PERFORMANSININ BELİRLENMESİNDE BİR YAKLAŞIM: YAPI SAĞLIĞI İZLEME ÇALIŞMALARI AN APPROACH TO DETERMINING THE EARTHQUAKE PERFORMANCE OF MASONRY STRUCTURES IN RURAL AREAS: STRUCTURAL HEALTH MONITORING STUDIES

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ÖZET

Son yıllarda meydana gelen depremler, kırsal bölgelerde yer alan ve mühendislik hizmeti almadan inşa edilen çok sayıda yığma yapıda ciddi hasarlara ve göçmelere neden olmuştur. Bu durum, kırsal bölgelerdeki yığma yapıların deprem davranışlarının izlenmesi ve performanslarının pratik yöntemlerle değerlendirilmesi gerekliliğini ortaya koymaktadır. Bu çalışmada, sonlu elemanlar analizine dayanmayan, tamamen yerinde ölçüm ve gözleme dayalı bir yapı sağlığı izleme yaklaşımı sunulmuştur. Kırsal bölgede seçilen örnek bir yığma yapıya yerleştirilen dijital ivmeölçerler aracılığıyla deprem ve çevresel titreşimler sırasında dinamik davranış parametreleri kaydedilmiştir. Ölçülen veriler, yapı sağlığı izleme ara yüzü üzerinden değerlendirilmiş; frekans değişimleri, titreşim genlikleri ve mod şekli benzerlikleri esas alınarak yapının davranış eğilimleri belirlenmiştir. Elde edilen sonuçlar, yapı sağlığı izleme bulgularının literatürdeki benzer çalışmalar ve ilgili standartlarda tanımlanan titreşim ölçüm ilkeleri ile karşılaştırılması sonucunda yorumlanmıştır. Bu kapsamda, yapının dinamik karakteristiklerinde gözlenen değişimlerin olası rijitlik azalmalarıyla ilişkili olabileceği belirlenmiştir. Çalışma, kırsal bölgelerdeki yığma yapıların deprem öncesi ve sonrasında performanslarının hızlı, düşük maliyetli ve güvenilir biçimde değerlendirilmesi için yapı sağlığı izlemenin uygulanabilir bir yöntem olduğunu göstermektedir.

Anahtar Kelimeler: Yığma yapılar, Kırsal bölgeler, Deprem performansı, Yapı sağlığı izleme, Dinamik davranış.

ABSTRACT

Recent earthquakes have caused severe damage and collapses in numerous masonry structures located in rural areas that were constructed without any engineering service. This situation highlights the necessity of monitoring the seismic behavior of masonry buildings in rural regions and evaluating their performance through practical and rapid methods. In this study, a structural health monitoring (SHM) approach based entirely on in-situ measurements and visual observations—without relying on finite element analysis—is presented. Digital accelerometers were installed on a representative masonry building located in a rural area to record its dynamic behavior parameters during seismic and environmental excitations. The collected data were evaluated through a structural health monitoring interface, and variations in natural frequencies, vibration amplitudes, and mode shape similarities were examined to identify the behavioral tendencies of the structure. The obtained results were interpreted by comparing the SHM findings with similar studies in the literature and with the vibration measurement principles defined in relevant standards. Within this scope, changes observed in the dynamic

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characteristics of the structure were found to be potentially associated with reductions in stiffness. The study demonstrates that structural health monitoring is a practical, low-cost, and reliable method for evaluating the seismic performance of masonry buildings in rural areas before and after earthquakes.

Keywords: Masonry structures, Rural areas, Seismic performance, Structural health monitoring, Dynamic behavior.

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HİZMET ÖNCESİ İNGİLİZCE ÖĞRETMENLERİNİN TRANSLANGUAGING (DİLLER ARASI GEÇİŞLİLİK) HAKKINDAKİ İNANÇLARI VE ALGILARI BELIEFS AND PERCEPTIONS OF PRE-SERVICE ENGLISH TEACHERS REGARDING TRANSLANGUAGING

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ÖZET

Günümüzün dilsel açıdan çeşitlilik gösteren eğitim ortamlarında, gelecekteki İngilizce öğretmenlerinin çok dilli sınıf uygulamalarını nasıl algıladıklarını anlamak, özellikle İngilizce öğretiminin hem ulusal politikalar hem de çok dilli öğrenci gerçeklikleri tarafından şekillendirildiği Türkiye gibi bağlamlarda giderek daha fazla önem kazanmaktadır. Öğrencileri anlam oluşturma, kimlik ifadesi ve daha derin katılımı desteklemek için tüm dilsel repertuarlarından yararlanmaya teşvik eden translanguaging pedagojisi, çok dilli uygulamalar hakkında bilgili ve yansıtıcı inançlara sahip öğretmenler gerektirir. Bu çalışma, Türkiye'deki öğretmen adaylarının translanguaging pedagojisi hakkındaki inanç ve algılarını incelemek ve bu inançların demografik değişkenlere ve kişisel deneyimlere göre nasıl farklılık gösterdiğini araştırmayı amaçlamaktadır. Karma araştırma tasarımı kullanılarak, 116 öğretmen adayından anket için veri toplanmış ve üniversitenin son sınıfında okuyan 6 öğretmen adayıyla odak grup görüşmesi yapılmıştır. Çalışma, bu öğretmen adaylarının translanguaging'in pedagojik değerini, duygusal filtreyi azaltma, gramer öğretimi ve kültüre özgü içerik açıklaması için algılanan faydaları da dahil olmak üzere nasıl kavramsallaştırdıklarını ve bununla ilişkilendirdikleri zorlukları, örneğin İngilizceye maruz kalmanın azalması, öğretmen-öğrenci ilişkileri ve kurumsal beklentiler gibi endişeleri araştırmaktadır. İkinci araştırma sorusu ile uyumlu olarak, çalışma ayrıca inanç ve algıların cinsiyet, sınıf seviyesi, üniversite bağlantısı ve bireysel dil öğrenme veya öğretme deneyimlerine göre farklılık gösterip göstermediğini de incelemektedir. Ön bulgular, birçok öğretmen adayının translanguaging'i öğrenmenin akademik yönleri açısından olumlu gördüğünü, ancak sınıf yönetimi açısından kullanmaya daha az eğilimli olduklarını göstermektedir. Ayrıca, translanguaging uygulamalarını kabul etme ve bunlara güvenme derecesinin, katılımcıların akademik yılı, sınıfta dil kullanımına daha önce maruz kalma durumları ve kişisel dil ideolojilerine göre farklılık gösterebileceğini belirtmektedirler. Genel olarak, bu çalışma, Türkiye'deki İngilizce öğretmenliği eğitim programlarına translanguaging odaklı içerik, pratik uygulamalar ve yansıtıcı fırsatların entegre edilmesinin, gelecekteki öğretmenlerin dilsel olarak çeşitli öğrenme ortamlarına uygun, bilgili, esnek ve eşitlikçi pedagojik yönelimler geliştirmelerine yardımcı olmasının önemini vurgulamaktadır.

Anahtar Kelimeler: diller arası geçişlilik pedagojisi, hizmet öncesi öğretmenler, inançlar, algılar, yabancı dil öğretimi

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ABSTRACT

In today's linguistically diverse educational settings, understanding how future English teachers perceive multilingual classroom practices has gained growing importance, particularly in contexts such as Türkiye where English language teaching is shaped by both national policies and multilingual student realities. Translanguaging pedagogy, which encourages learners to draw on their entire linguistic repertoires to support meaning-making, identity expression, and deeper engagement, requires teachers who hold informed and reflective beliefs about multilingual practices. The present study aims to examine the beliefs and perceptions of pre-service English teachers in Türkiye regarding translanguaging pedagogy and to explore how these beliefs differ according to demographic variables and personal experiences. Using mixed-research design, data were collected from **116 pre-service English teachers** for the interview, and a focus group interview was conducted with **6 pre-service teachers** enrolled in their last year of university. The study investigates how these teacher candidates conceptualize the pedagogical value of translanguaging, including its perceived benefits for lowering affective filter, grammar instruction, and culturally specific content explanation, as well as challenges they associate with it such as concerns about reduced English exposure, teacher-student relationships, and institutional expectations. In line with the second research question, the study also examines whether beliefs and perceptions vary according to gender, grade level, university affiliation, and individual language learning or teaching experiences. Preliminary patterns indicate that many pre-service teachers view translanguaging positively for academic aspects of learning, but they are less inclined to use it for classroom management aspects. Also, they state that the degree of acceptance and confidence in applying translanguaging practices may differ depending on participants' academic year, prior exposure to language use in the classroom, and personal language ideologies. Overall, the study underscores the importance of integrating translanguaging-focused content, practical applications, and reflective opportunities into English language teacher education programs in Türkiye to help future teachers develop informed, flexible, and equitable pedagogical orientations suitable for linguistically diverse learning environments.

Keywords: translanguaging pedagogy, pre-service teachers, beliefs, perceptions, EFL teaching

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TASARIM PARAMETRELERİNİN TOPRAK KAYNAKLI ISI POMPASI PERFORMANSI ÜZERİNDEKİ NÜMERİK DEĞERLENDİRMESİ NUMERICAL ASSESSMENT OF DESIGN PARAMETERS ON GROUND SOURCE HEAT PUMP PERFORMANCE

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ÖZET

Bu çalışma, farklı yeraltı kollektör konfigürasyonlarına sahip toprak kaynaklı ısı pompası sistemlerinin performansını; boru çapı, yerleştirme derinliği ve debi parametreleri açısından incelemektedir. Çalışmada, Comsol Multiphysics yazılımında zamana bağlı üç boyutlu bir simülasyon modeli geliştirilmiştir. Model, toprak ısı özelliklerini, mevsimsel sıcaklık değişimlerini ve gerçekçi çalışma koşullarını içermektedir. Ağ (mesh) bağımsızlık analizi sonucunda, çözüm sonuçlarında %1'in altında sapma elde edilerek modelin doğruluğu teyit edilmiştir. Simülasyon sonuçları, boru çapının çıkış akışkan sıcaklığı üzerinde sınırlı bir etkiye sahip olduğunu, buna karşın yerleştirme derinliğinin ısı kararlılığı ve verimliliği önemli ölçüde artırdığını göstermiştir. 4, 5 ve 6 metre derinliklerde çıkış suyu sıcaklıkları sırasıyla 12,8 °C, 14,8 °C ve 16,7 °C olarak bulunmuş; daha derin kurulumlarda sistem performansının arttığı gözlemlenmiştir. Benzer şekilde, debinin 0,5 ile 1,5 L/s arasında değiştirilmesi, çıkış sıcaklığında ihmal edilebilir düzeyde değişim yaratmıştır. Bu durum, ısı transfer performansının esas olarak toprağın ısı iletkenliği tarafından belirlendiğini göstermektedir. Referans durumda (30 cm boru çapı, 4 m yerleştirme derinliği ve 1 L/s debi) günlük ısı üretimi yaklaşık 30 MWh olarak hesaplanmış; sistemin yarı periyodik bir açma-kapama çalışma döngüsü sergilediği gözlemlenmiştir. Bu bulgular, uygun toprak koşulları ve sınır şartları dikkate alındığında, toprak kaynaklı ısı pompası sistemlerinin kararlı ve sürdürülebilir bir ısıtma performansı sağlayabileceğini ortaya koymaktadır.

Anahtar Kelimeler: Isı pompası, boru çapı, yerleştirme derinliği, debi, Comsol.

ABSTRACT

This study investigates the performance of ground source heat pump systems with different subsurface collector configurations, focusing on pipe diameter, installation depth, and flow rate. A transient three-dimensional simulation model was developed in Comsol Multiphysics, incorporating soil thermal properties, seasonal ground temperature variations, and realistic operating conditions. A mesh independence analysis confirmed accuracy with less than 1% variation in solution results. The simulations showed that pipe diameter had a limited effect on outlet fluid temperature, whereas

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installation depth significantly improved thermal stability and efficiency. At depths of 4, 5, and 6 meters, outlet water temperatures were 12.8 °C, 14.8 °C, and 16.7 °C, respectively, demonstrating enhanced performance at greater installation depths. Similarly, varying flow rates between 0.5 and 1.5 L/s resulted in minimal changes in outlet temperature, confirming that soil thermal conductivity predominantly governs heat transfer performance. For the reference case of 30 cm pipe diameter, 4 m installation depth, and 1 L/s flow rate, daily heat production reached approximately 30 MWh, with the system exhibiting a quasi-periodic on–off operational cycle. These findings demonstrate that ground source heat pump systems can deliver stable and sustainable heating performance when properly designed for soil and boundary conditions.

Keywords: Heat pump, pipe diameter, installation depth, flow rate, comsol

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ENDOFİTİK MİKROORGANİZMALARIN BİTKİSEL SAVUNMA MEKANİZMALARINI UYARICI ROLÜ: KİMYASAL SAVUNMADAN MİKROBİYAL İMMÜNİTEYE THE STIMULATING ROLE OF ENDOPHYTIC MICROORGANISMS IN PLANT DEFENSE MECHANISMS: FROM CHEMICAL DEFENSE TO MICROBIAL IMMUNITY

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ÖZET

Bitkiler sürekli olarak doğada biyotik ve abiyotik streslere maruz kalmaktadır. Bu maruziyetde bitkilerin çevresel koşullara karşı çeşitli savunma sistemleri geliştirme konusunda evrimselleştirmiştir. Son yıllarda yapılan çalışmalar, evrimleşen bu savunma sistemlerinin bitkinin yalnızca kendi biyokimyasal tepkimeleri için değil; aynı zamanda bitkiyle simbiyotik ilişki içerisinde yaşayan endofitik mikroorganizmalarında metabolik faaliyetlerine bağlı olduğunu göstermiştir. Endofitik mikroorganizmalar, bitkinin kök, gözvede, yaprak, meyve gibi çeşitli dokularında hastalık yapmadan yaşayan bakteri ve funguslardır. Günümüzde bu mikroorganizmaların araştırılması özellikle tıp, farmakoloji ve biyoteknoloji gibi alanlarda giderek önem kazanmaktadır.

Endofitik mikroorganizmalar bitkinin sistematik kazanılmış direncini (SAR) ve sistematik direncini (ISR) aktive ederek etilen, salisilik asit ve jasmonat gibi savunma hormonlarının biyosentezini tetiklemek suretiyle konakçı bitkiyi patojenlere karşı korurlar. Ayrıca alkaloidler, lipopeptidler, sideroforlar, fenolik bileşikler ve bakteriyosinler gibi biyoteknolojik öneme sahip çeşitli sekonder metabolitler üretebilmektedirler. Bu sekonder metabolitler bitki dokularında hem doğrudan antimikrobiyal etki göstererek hem de savunma genlerini eksprese ederek tuzluluk, kuraklık, sıcaklık değişimi, ağır metal stresi gibi çevresel stres koşullarına karşı dayanıklılık kazandırır. Endofitik mikroorganizmaların sahip olduğu bu etkiler tarımda sıklıkla kullanılan, zararlı, kimyasal pestisitlerin yerini alabilecek alternatif, doğal bitki koruma stratejileri geliştirilmesi açısından da oldukça önemlidir. Yapılan çalışmalar *Bacillus*, *Streptomyces*, *Aspergillus*, *Enterococcus*, *Pseudomonas* ve *Trichoderma* türlerine ait endofitlerin bitkisel bağışıklığı aktive edici çeşitli biyomoleküller üretebildiğini göstermiştir. Bu biyomoleküller patohenezle ilişkili PR-proteinlerinin sentezini, bitki hücre duvarlarında lignin birikmesini ve antioksidan savunma sistemlerinin aktivasyonunu uyarmakla görevlidirler.

Bu çalışmada kimyasal savunmadan mikrobiyal immüniteye kadar endofitik mikroorganizmalar ayrıntılı bir şekilde ele alınacaktır. Gelecekte yapılacak endofit çalışmalarına ve geliştirilecek endofit temelli biyoteknolojik formülasyonlara ışık tutacak nicelikte olan bu bildiri gerek tarımsal verimliliği arttırmak, gerekse pestisit kullanımını en aza indirmek açısından umut vadeden araştırmalar arasında yer almaktadır.

Anahtar Kelimeler: Bitkisel savunma mekanizmaları, endofit mikroorganizmalar, mikrobiyal immünite.

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ABSTRACT

Plants are constantly exposed to biotic and abiotic stresses in nature. This exposure has led plants to evolve various defense systems against environmental conditions. Recent studies have shown that these evolved defense systems depend not only on the plant's own biochemical reactions but also on the metabolic activities of endophytic microorganisms that live in symbiotic relationships with the plant. Endophytic microorganisms are bacteria and fungi that live in various plant tissues, such as roots, buds, leaves, and fruits, without causing disease. Today, the study of these microorganisms is gaining increasing importance, especially in fields such as medicine, pharmacology, and biotechnology.

Endophytic microorganisms protect host plants against pathogens by activating the plant's systemic acquired resistance (SAR) and systemic acquired resistance (ISR) and triggering the biosynthesis of defense hormones such as ethylene, salicylic acid, and jasmonate. They can also produce a variety of biotechnologically important secondary metabolites, such as alkaloids, lipopeptides, siderophores, phenolic compounds, and bacteriocins. These secondary metabolites confer resistance to environmental stresses such as salinity, drought, temperature changes, and heavy metal stress by both directly acting as antimicrobials in plant tissues and by expressing defense genes. These effects of endophytic microorganisms are also crucial for developing alternative, natural plant protection strategies that can replace harmful, chemical pesticides frequently used in agriculture. Studies have shown that endophytes belonging to the species *Bacillus*, *Streptomyces*, *Aspergillus*, *Enterococcus*, *Pseudomonas*, and *Trichoderma* can produce various biomolecules that activate plant immunity. These biomolecules are responsible for stimulating the synthesis of pathogenesis-related PR proteins, the accumulation of lignin in plant cell walls, and the activation of antioxidant defense systems.

This study will provide a detailed overview of endophytic microorganisms, from chemical defense to microbial immunity. This report will shed light on future endophyte studies and the development of endophyte-based biotechnological formulations. It is among the most promising studies for both increasing agricultural productivity and minimizing pesticide use.

Keywords: Endophyte microorganisms, microbial immunity, plant defense mechanisms.

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MİKROBİYAL EKZOPOLİSAKKARİTLERİN (EPS) BAĞIRSAK MİKROBİYOTASI ÜZERİNDEKİ KORUYUCU ROLÜ: MİKROBİYAL EKOLOJİ, FONKSİYONEL MEKANİZMALAR VE BİYOTEKNOLOJİK UYGULAMALAR

THE PROTECTIVE ROLE OF MICROBIAL EXOPOLYSACCHARIDES (EPS) ON INTESTINAL MICROBIOTA: MICROBIAL ECOLOGY, FUNCTIONAL MECHANISMS, AND BIOTECHNOLOGICAL APPLICATIONS

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ÖZET

İnsan sağlığının korunması ve metabolik süreçlerin devamlılığı açısından bağırsak mikrobiyotası merkezi bir rol oynadığından vücudumuzun ikinci beyni olarak nitelendirilmektedirler. Bu işleyişin devamlılığı çeşitli faktörlere bağlıdır. Bunların başında beslenme, yeterli su tüketimi, çevresel faktörler ve sağlıklı olmak gelmektedir. Bağırsak mikrobiyotasının sağlığını olumsuz etkileyen en önemli iki faktörde antibiyotik kullanımı ve patojenik mikroorganizmalardır. Son yıllarda yapılan bilimsel çalışmalar genellikle probiyotik mikroorganizmalar tarafından üretilen ekzopolisakkaritlerin (EPS) bağırsak mikrobiyotamızın sağlığının ve dengesinin korumasında önemli biyopolimerler olduğunu açıkça göstermiştir. Bakteriler tarafından hücre dışında sentezlenerek önemli görevler üstlenen, yüksek molekül ağırlığına sahip yasal ve fonksiyonel karbonhidrat zincirleri olan bu EPS'ler bakteriyel biyofilimlerinde ana bileşenlerinden biridir. Bakterilerde çevresel stres durumlarında hücreyi koruyarak doğal bir bariyer görevi görmektedirler.

Probiyotik bakterilerden özellikle *Lactobacillus*, *Streptococcus thermophilus*, *Leuconostoc* ve *Bifidobacterium* türleri tarafından üretilen EPS'ler bağırsak mukozasında ince, koruyucu bir film tabakası oluşturarak bölgeye patojen mikroorganizmaların tutunmasını engellerler. Böylece oluşabilecek inflamatuvar yanıtları azaltmış ve bağırsak bariyerinin bütünlüğünü koruma altına almış olmaktadır. Ayrıca EPS'lerin probiyotik yapıda olması, bağırsak mikrobiyotasında mevcut olan faydalı bakterilerin çoğalmasını teşvik ederek mikrobiyal çeşitliliğin artmasına katkı sağlamaktadırlar.

Mikrobiyal EPS'lerin özellikle monosakkarit konpozisyonu, dallanma tipi ve asetilasyon derecesi gibi kimyasal yapıları biyolojik aktivitelerini belirleyen kritik faktörler arasında sayılmaktadır. Anyonik yapıda ve yüksek viskoziteli EPS'ler, gerek bağırsak yüzeyindeki mukozal yapışkanlığı artırarak gerekse patojenlerin tutunmasını engelleyerek koruma sağlarlar. Ayrıca bazı EPS'lerin özellikle bütiret ve propiyonat gibi kısa zincirli yağ asitleri üretimini uyararak kolon Ph'sını dengelediği ve epitel hücrelerin yenilenmesini desteklediği de çeşitli çalışmalarla rapor edilmiştir.

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Sonuç olarak bu çalışmada mikrobiyal ekzopolisakkaritlerin sadece probiyotik özellikteki mikroorganizmaların hayatta kalmasını destekleyen yapısal bir bileşen değilde aynı zamanda patojenleri baskılayan, bağışıklık sistemini dengeleyen ve bağırsak mikrobiyotasını koruyan aktif bir biyofonksiyon ajan olduğu gösterilmektedir. Mevcut çalışma EPS üretimini optimize etmek, EPS tabanlı fonksiyonel gıda formülasyonları geliştirmek, bağırsak mikrobiyotasını koruma amaçlı yeni nesil biyoteknolojik çalışmalarda bulunmak gibi yapılacak gelecek çalışmalar için önemli bir araştırma alanı oluşturmaktadır.

Anahtar Kelimeler: Bağırsak mikrobiyotası, EPS, mikrobiyal ekzopolisakkaritler, probiyotik

ABSTRACT

Because the gut microbiota plays a central role in maintaining human health and the continuity of metabolic processes, it is also considered our body's second brain. The continuity of this functioning depends on various factors, including nutrition, adequate water consumption, environmental factors, and good health. The two most significant factors that negatively impact the health of the gut microbiota are antibiotic use and pathogenic microorganisms. Recent scientific studies have clearly demonstrated that exopolysaccharides (EPS), generally produced by probiotic microorganisms, are important biopolymers in maintaining the health and balance of our gut microbiota. These EPS, which are high-molecular-weight, functional carbohydrate chains synthesized by bacteria outside the cell and performing important functions, are one of the main components of bacterial biofilms. In bacteria, they act as a natural barrier, protecting the cell during environmental stress.

EPS, produced by probiotic bacteria, particularly *Lactobacillus*, *Streptococcus thermophilus*, *Leuconostoc*, and *Bifidobacterium*, form a thin, protective film on the intestinal mucosa, preventing pathogenic microorganisms from adhering to the area. This reduces potential inflammatory responses and maintains the integrity of the intestinal barrier. Furthermore, the probiotic nature of EPS encourages the proliferation of beneficial bacteria present in the intestinal microbiota, contributing to increased microbial diversity.

The chemical structures of microbial EPS, particularly their monosaccharide composition, branching type, and degree of acetylation, are considered critical factors determining their biological activity. Anionic and highly viscous EPSs provide protection by both increasing mucosal adhesion to the intestinal surface and preventing pathogen attachment. Furthermore, several studies have reported that some EPSs balance colonic pH and support epithelial cell regeneration by stimulating the production of short-chain fatty acids, particularly butyrate and propionate.

In conclusion, this study demonstrates that microbial exopolysaccharides are not only structural components that support the survival of probiotic microorganisms but also active biofunctional agents that suppress pathogens, balance the immune system, and protect the gut microbiota. This study constitutes an important area of research for future studies, such as optimizing EPS production, developing EPS-based functional food formulations, and conducting next-generation biotechnological studies aimed at protecting the gut microbiota.

Keywords: EPS, intestinal microbiota, microbial exopolysaccharides, probiotic

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MİKRO DÜNYADAN MAKRO ETKİLERE: MİKROORGANİZMALAR VE KÜRESEL İKLİM DENGESİ

FROM THE MICRO WORLD TO MACRO EFFECTS: MICROORGANISMS AND THE GLOBAL CLIMATE BALANCE

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ÖZET

Günümüzde iklim değişikliği, yalnızca atmosferik ve fiziksel bir sonun olmaktan çıkıp biyosferin en küçük ve en güçlü bileşeni olan mikroorganizmalarıda etkileyen küresel bir sorun halini almıştır. Mikroorganizmalar atmosferimizdeki sera gazı seviyesinin düzenlenmesinde kritik rol oynayan azot, karbon, metan ve sülfür döngülerinde kritik role sahip canlılardır. Fakat sıcaklık artışı, buzulların erimesi, toprak, nem kaybı, okyanusların asitlenmesi ve iklim değişiklikleri gibi doğal dengeyi değiştiren olayla mikrobiyal ekosistemi de kökten etkilemektedir.

Yaşamın devamlılığı için kritik bir faktör olan karbonun toprak, deniz, okyanus ve atmosfer ekosistemindeki döngüsünün yaklaşık %70'i mikrobiyal faaliyetler sonucu karşılanmaktadır. Özellikle Archaea bakterilerin metanojenik türleri atmosferdeki metan birikimine büyük katkılar sağlamakta; metanotrofik bakteriler ise bu gazın oksitlenmesini sağlayarak doğal bir denge mekanizması kurmaktadır. Benzer olarak Nitrosomonas, pseudomonas ve Nitrobacter gibi nitrifikasyon-denitrifikasyon süreçlerinden sorumlu bakteriler de azot döngüsünün düzenlenmesini sağlayarak gerek toprak verimliliğine gerekse N₂O emisyonlarını etkilemektedirler. Fakat ne yazık ki iklim değişiklikleri kaynaklı olumsuzluklar mikroorganizmaların metabolik aktivitelerini olumsuz etkileyerek sera gazı salınımlarını ters yönde tetiklemektedirler.

Sucul ekosistemlerde ise siyanobakteriler ve fitoplanktonlar atmosferik karbondioksiti fotosentetik yollarla bağlayarak biyolojik karbon pompası işlevi görürler. İklim değişikliği kaynaklı sucul ekosistemlerdeki sıcaklık artışları ve pH değişimleri mikroorganizmaların karbon tutma kapasitelerini düşürdüğünden atmosferde karbondioksit birikimine neden olmaktadır. Buna karşılık ekstremofilik mikroorganizmalar, tuzluluk, düşük-yüksek sıcaklık gibi olumsuz ortam koşullarına adaptasyon sağlayabildiklerinden gelecekte yapılacak karbon tutma ve biyoremediasyon gibi biyoteknolojik çalışmalarda kullanılabilecek biyokatalizörler olarak umut vadetmektedirler.

Sonuç olarak mikroorganizmalar hem iklimsel değişikliklerden etkilenmeleri hem de iklim değişikliği sürecinin gidişatını belirleyen önemli canlılar olmaları nedeniyle mikro dünyadan makro dünya üzerinde büyük etkilere sahiptirler. Mikrobiyal ekosistem yaşanacak herhangi bir değişim küresel karbon döngüsünün sürdürülebilirliğini tehdit ederken, bu mikro dünyayı iyi bilmekte gelecekte yapılacak iklim modellerinin doğruluğu ve sürdürülebilirliği açısından stratejik öneme sahiptir. Bu çalışmada, mikro

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dünyanın makro dünya üzerinde, özellikle küresel iklim değişikliğindeki etkilerini, karbon döngüsü, karbon tutulumu ve sera gazı üretimi perspektifinden ele alınacaktır.

Anahtar Kelimeler: İklim değişikliği, mikroorganizmalar, karbon döngüsü, mikrobiyal dünya, sera gazı.

ABSTRACT

Today, climate change is no longer just an atmospheric and physical problem; it has become a global problem, affecting microorganisms, the smallest and most powerful components of the biosphere. Microorganisms play a crucial role in the nitrogen, carbon, methane, and sulfur cycles, which play a crucial role in regulating greenhouse gas levels in our atmosphere. However, they are also radically impacting the microbial ecosystem through events that alter the natural balance, such as temperature increases, melting glaciers, soil moisture loss, ocean acidification, and climate change.

Approximately 70% of the carbon cycle in soil, sea, ocean, and atmospheric ecosystems—a critical factor for the continuity of life—is provided by microbial activities. Methanogenic species of Archaea, in particular, contribute significantly to the accumulation of methane in the atmosphere, while methanotrophic bacteria oxidize this gas, establishing a natural balance. Similarly, bacteria responsible for nitrification-denitrification processes, such as *Nitrosomonas*, *Pseudomonas*, and *Nitrobacter*, regulate the nitrogen cycle, affecting both soil fertility and N₂O emissions. Unfortunately, however, adverse climate change-related challenges negatively impact the metabolic activities of microorganisms, adversely triggering greenhouse gas emissions.

In aquatic ecosystems, cyanobacteria and phytoplankton act as biological carbon pumps by photosynthetically binding atmospheric carbon dioxide. Increased temperatures and pH changes in aquatic ecosystems due to climate change reduce the carbon-sequestering capacity of microorganisms, leading to carbon dioxide accumulation in the atmosphere. Conversely, extremophilic microorganisms, because they can adapt to adverse environmental conditions such as salinity and low and high temperatures, hold promise as biocatalysts for use in future biotechnological studies such as carbon sequestration and bioremediation.

In conclusion, microorganisms have significant impacts on the macrocosm, both because they are affected by climate change and because they are crucial organisms in shaping the course of climate change. Any change in the microbial ecosystem threatens the sustainability of the global carbon cycle, and a thorough understanding of this microcosm is strategically important for the accuracy and sustainability of future climate models. This study will examine the impacts of the microcosm on the macrocosm, particularly global climate change, from the perspective of the carbon cycle, carbon sequestration, and greenhouse gas production.

Keywords: Carbon cycle, climate change, greenhouse gases, microorganisms, microbial world.

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MODERN OFİS BİNALARINDA SÜRDÜRÜLEBİLİRLİK PERFORMANS ANALİZİ VE İYİLEŞTİRME ÖNERİLERİ: MARS İŞ VE YAŞAM MERKEZİ ÖRNEĞİ

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ÖZET

Sürdürülebilirlik, günümüzde sadece çevreyle ilgili bir gereklilik değil, aynı zamanda bir binanın kimliğini, kullanıcı deneyimini ve şehirle olan ilişkisini şekillendiren bir tasarım anlayışıdır. Bu bağlamda enerji verimliliği, su yönetimi, malzeme seçimi ve mekân konforu gibi unsurlar, çağdaş ofis binalarının performansını etkileyen temel faktörler arasında yer alır. Bu çalışma, Kocaeli’de bulunan Mars İş ve Yaşam Merkezi’nin, modern ofis binaları bağlamında sürdürülebilirlik performansını değerlendirmeyi amaçlamaktadır. Bina, bulunduğu kentin iklimsel koşulları, çevresel veriler ve kullanıcı gereksinimlerine göre tasarlanmış olup, enerji verimliliği, su yönetimi, malzeme seçimi ve mekânsal konfor gibi unsurlar çerçevesinde sürdürülebilir bir tasarım anlayışını yansıtmaktadır. Proje, geleneksel mimari öğeleri çağdaş yapı teknolojileriyle entegre eden, özgün bir yaklaşım içermektedir. Sosyal yaşam alanlarını ofis birimleri ile aynı mekânsal düzende birleştiren bir kurguyla planlanmıştır. Bu sayede çalışma ortamında sosyal etkileşim ve verimlilik artırmayı hedeflemektedir. Mars İş ve Yaşam Merkezi, modüler ofis birimleri, doğal ışık kullanımını destekleyen cephe tasarımı, güneş enerjisi sistemleri, yağmur suyu geri kazanımı ve merkezi ısıtma-soğutma çözümleri gibi çevresel sürdürülebilirliği destekleyen uygulamaları barındırmaktadır. Aynı zamanda, iç mekân hava kalitesi, akustik konfor ve ısıl denge gibi kullanıcı deneyimini doğrudan etkileyen parametrelerde dengeli performans göstermektedir. Bu nedenle, Mars İş ve Yaşam Merkezi, ofis binalarında sürdürülebilirlik ilkelerinin nasıl uygulanabileceğine dair örnek teşkil etmektedir. Çalışma kapsamında yapılan analizler, bu yapının enerji, su, malzeme ve çevresel performans açısından etkinliğini göstermektedir. Aynı zamanda, benzer ölçekteki ofis binaları için iyileştirme ve tasarım stratejileri geliştirmeye katkı sunmaktadır. Modüler bir şekilde tasarlanmış ofis birimleri, güneş enerjisi sistemleri, yağmur suyu geri kazanım teknolojileri ve merkezi ısıtma-soğutma sistemleri gibi çevreci uygulamalar bu binada bir araya gelmiştir. Çalışmanın temel amacı, Mars İş ve Yaşam Merkezi’nin enerji, su, iç mekân konforu ve çevresel etkiler açısından sürdürülebilirlik performansı analiz edilmiştir. Çalışmanın yöntemi, bina bilgi modelleme (BIM) tabanlı bir yaklaşıma dayanmaktadır. Bu kapsamda, yapı modeli **Archicad** ve **Revit** programları aracılığıyla oluşturulmuş; bu yazılımlardan elde edilen enerji performansı, malzeme özellikleri ve çevresel parametrelere ilişkin sürdürülebilirlik verileri analiz sürecine entegre edilmiştir, elde edilen veriler Türkiye’ye özgü enerji performansı değerlendirme aracı olan **BEP-TR** yazılımı ile entegre edilmiştir. Ayrıca, **DesignBuilder** programı aracılığıyla enerji tüketimi, ısıtma-soğutma yükleri, karbon salımı ve iç mekân konforu parametreleri için simülasyonlar

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gerçekleştirilmiştir. Simülasyonlardan elde edilen nicel veriler, yapının mevcut sürdürülebilirlik düzeyini ortaya koymak ve benzer ölçekteki ofis binalarına yönelik iyileştirme stratejileri geliştirmek amacıyla analiz edilmiştir. Alan çalışması ve kullanıcı anketlerinden elde edilen veriler, Mars İş ve Yaşam Merkezi'nin kullanıcılar tarafından nasıl deneyimlendiğini. Fiziksel (aydınlatma, havalandırma, sıcaklık, mekân boyutu), duysal (konfor, gürültü seviyesi, malzeme hissi) ve çevresel (doğal kaynak kullanımı, enerji verimliliği, yeşil alan erişimi) boyutlarda ortaya koymaktadır. Elde edilen ölçüm ve anket sonuçları, yapının sürdürülebilirlik performansını hem kullanıcı memnuniyeti hem de teknik verimlilik açısından çok yönlü biçimde ortaya koymaktadır. Sonuç olarak, çalışma modern ofis binalarında sürdürülebilirlik performansının ölçülmesine yönelik yöntemsel bir çerçeve sunarak, benzer nitelikteki projelerde çevresel verimlilik ve kullanıcı memnuniyetinin artırılmasına katkı sağlayacak stratejiler geliştirilmesi açısından önem taşımaktadır.

Anahtar Kelimeler: Sürdürülebilirlik, Modern Ofis Binaları, Performans Analizi, BIM tabanlı analiz, Mars İş ve Yaşam Merkezi, Modüler Ofis Tasarımı.

ABSTRACT

Sustainability today is not merely an environmental requirement but also a design philosophy that shapes a building's identity, user experience, and its relationship with the city. In this context, elements such as energy efficiency, water management, material selection, and spatial comfort are among the fundamental factors influencing the performance of contemporary office buildings. This study aims to evaluate the sustainability performance of the Mars Business and Life Center, located in Kocaeli, within the framework of modern office architecture. The building has been designed according to the climatic conditions, environmental data, and user requirements of its urban context, reflecting a sustainable design approach in terms of energy efficiency, water management, material selection, and spatial comfort. The project incorporates an original approach that integrates traditional architectural elements with contemporary building technologies. It combines social spaces and office units within the same spatial configuration, aiming to enhance social interaction and productivity in the working environment. The Mars Business and Life Center integrates various environmentally sustainable design strategies, including modular office units, façade systems that enhance natural daylight utilization, solar energy systems, rainwater harvesting technologies, and centralized heating and cooling solutions. At the same time, it demonstrates balanced performance in parameters that directly affect user experience, such as indoor air quality, acoustic comfort, and thermal balance. Therefore, the building serves as a significant example of how sustainability principles can be implemented in office architecture. The analyses conducted within the scope of this research reveal the building's effectiveness in terms of energy, water, material, and environmental performance, while also contributing to the development of improvement and design strategies for office buildings of similar scale. Environmentally friendly applications such as modular design, solar energy systems, rainwater recovery, and centralized HVAC systems are integrated into the overall design approach. The primary objective of this study is to analyze the sustainability performance of the Mars Business and Life Center with respect to energy, water, indoor environmental quality, and ecological impact. The research methodology is based on a Building Information Modeling (BIM)-oriented approach. Within this framework, the building model was developed using Archicad and Revit, and sustainability data related to energy performance, material properties, and environmental parameters obtained from these programs were integrated into the analysis process. The resulting data were further evaluated using BEP-TR, the national energy performance assessment tool of Turkey. In addition, DesignBuilder software was employed to conduct simulations concerning energy consumption, heating-cooling loads, carbon emissions, and indoor comfort parameters. The quantitative results derived from these simulations were analyzed to determine the building's current level of

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sustainability and to develop improvement strategies for office buildings of similar scale. Field studies and user surveys were also conducted to examine how the Mars Business and Life Center is perceived and experienced by its users. The findings reveal user perceptions across physical (lighting, ventilation, temperature, spatial dimensions), sensory (comfort, noise level, material texture), and environmental (natural resource use, energy efficiency, access to green spaces) dimensions. The measurement data and survey results collectively present a comprehensive assessment of the building's sustainability performance from both user satisfaction and technical efficiency perspectives. In conclusion, this study proposes a methodological framework for evaluating sustainability performance in modern office buildings. It contributes to the development of strategies that aim to enhance environmental efficiency and user satisfaction in projects of similar nature, highlighting the significance of integrating BIM-based analysis and performance simulations into sustainable architectural design.

Keywords: Sustainability, Modern Office Buildings, Performance Analysis, BIM-based analysis, Mars Business and Life Center, Modular Office Design.

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KORKUT (MUŞ) ŞEKER PANCARI TARLA SINIRLARI ARASINDA BULUNAN ÖRÜMCEKLERİN (ARACHNIDA: ARANEAE) SİSTEMATİK VE EKOLOJİK YÖNDEN İNCELENMESİ

SYSTEMATIC AND ECOLOGICAL STUDY OF SPIDERS (ARACHNIDA: ARANEAE) FOUND AMONG THE SUGAR BEET FIELD BOUNDARIES IN KORKUT (MUŞ)

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ÖZET

Arazi çalışmaları Mayıs-Eylül 2011 tarihleri arasında gündüz saatlerinde gerçekleştirilmiştir. Örümcek örnekleri aspiratör, atrap ve çukur tuzak kullanılarak toplanmıştır. Aspiratörle bitki, taş altı ve toprak yüzeylerinden, atrapla bitki örtüsü üzerinden, çukur tuzaklarla ise toprak seviyesinden örnek alınmıştır. Örnekler %70 etil alkol içinde etiketli tüplere konularak laboratuvara taşınmıştır. Laboratuvarda Olympus SZ61 stereo mikroskop kullanılarak morfolojik özelliklerine göre familya, cins ve tür düzeyinde teşhis yapılmıştır. Tür tayininde sadece ergin bireyler kullanılmış, türlerin dağılımları World Spider Catalog (2019) verilerine göre belirlenmiştir.

Toplam 246 örümcek bireyi toplanmıştır. Pholcidae dışındaki 11 familya belirlenmiş olup, en fazla Thomisidae, Lycosidae ve Dictynidae familyaları temsil edilmiştir. Toplanan bireylerin 36'sı (%14,63) ergin erkek, 82'si (%33,33) ergin dişi, 128'i (%52,03) erginaltıdır. Böylece örneklerin %47,96'sı ergin, %52,03'ü erginaltı olarak kaydedilmiştir. Thomisidae dışındaki tüm familyalardan ergin bireyler elde edilmiştir. Araneidae ve Oxyopidae familyalarında ergin erkeğe, Theridiidae'de ergin dişiye rastlanmamıştır. Ayrıca Salticidae, Linyphiidae ve Theridiidae familyalarından erginaltı birey yakalanmamıştır.

Yapılan çalışmalarda 11 familyaya ait 26 cins ve 26 tür belirlenmiştir. Gnaphosidae altı cins-altı türle, Lycosidae iki cins-beş türle, Philodromidae dört cins-dört türle en fazla temsil edilen familyalardır. Ayrıca Salticidae, Thomisidae, Araneidae, Titanoecidae, Linyphiidae, Oxyopidae, Dictynidae ve Theridiidae familyalarına ait türler de tespit edilmiştir. *Pardosa*, *Dictyna*, *Thanatus*, *Nurscia*, *Heliophanus* ve *Entelecara* gibi cinsler bu lokalitede yaygındır. Çeşitlilik, habitatın örümcek faunası açısından oldukça zengin olduğunu göstermektedir.

Lokalitede örümcekler üç farklı yöntemle toplanmıştır: tuzak, aspiratör ve atrap. Tuzak yöntemiyle 72, aspiratörle 73, atrapla 101 birey elde edilmiştir. Genel olarak örümcek sayıları sıcaklıkla paralellik göstermiştir. Ancak haziran sonunda pestisit uygulamaları, ağustos ortasında ise sulama faaliyetleri nedeniyle birey sayılarında azalma olmuştur. Atrap ve aspiratör yöntemlerinde Eylül ayında birey sayısında yeniden artış gözlenmiştir. Bulgular, çevresel faktörlerin örümcek popülasyonlarını doğrudan etkilediğini göstermektedir.

Lokaliteden 246 örümcek örneği elde edilmiştir. Bu örnekler 11 familya, 26 cins ve 26 türden oluşmaktadır. Araneidae, Oxyopidae ve Pholcidae'den ergin erkek; Theridiidae'den ergin dişi birey

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yakalanmamıştır. Çalışmada sıcaklık artışıyla örümcek sayısı arasında genel bir paralellik beklenmesine rağmen, sulama ve pestisit uygulamaları örümcek sayısını olumsuz etkilemiştir. Bu nedenle sıcaklıkla birebir orantı gözlenmemiştir. Ayrıca örümceklerin biyolojik çeşitliliği, ekoton özellikteki tarla sınırlarının etkisiyle artmıştır. Araştırmada yöntemlerin çeşitliliği de tür tespitini güçlendirmiştir.

Anahtar Kelimeler: Araneae, Ekoloji, Sistematik, Şeker pancarı tarlası, Korkut (Muş).

ABSTRACT

Field studies were conducted during the daytime between May and September 2011. Spider specimens were collected using an aspirator, sweep net, and pitfall traps. Samples were taken from vegetation, under stones, and soil surfaces with the aspirator; from vegetation cover with the sweep net; and from ground level with pitfall traps. The collected specimens were placed in labeled tubes containing 70% ethyl alcohol and transported to the laboratory. In the laboratory, specimens were examined under an Olympus SZ61 stereomicroscope, and identifications were made based on morphological characteristics at the family, genus, and species levels. Only adult individuals were used for species identification, and species distributions were determined according to the World Spider Catalog (2019) data.

A total of 246 spider specimens were collected. Eleven families, excluding Pholcidae, were identified, with Thomisidae, Lycosidae, and Dictynidae being the most represented. Among the collected individuals, 36 (14.63%) were adult males, 82 (33.33%) adult females, and 128 (52.03%) juveniles. Thus, 47.96% of the specimens were adults and 52.03% were juveniles. Adult individuals were obtained from all families except Thomisidae. Adult males were not found in the Araneidae and Oxyopidae families, and adult females were not recorded from Theridiidae. Additionally, no juvenile specimens were captured from Salticidae, Linyphiidae, and Theridiidae.

In total, 26 genera and 26 species belonging to 11 families were identified. The families Gnaphosidae (six genera–six species), Lycosidae (two genera–five species), and Philodromidae (four genera–four species) were the most represented. In addition, species belonging to Salticidae, Thomisidae, Araneidae, Titanoecidae, Linyphiidae, Oxyopidae, Dictynidae, and Theridiidae families were also recorded. Genera such as *Pardosa*, *Dictyna*, *Thanatus*, *Nurscia*, *Heliophanus*, and *Entelecara* were common in the locality. The diversity observed indicates that the habitat possesses a rich spider fauna.

Spiders were collected by three different methods: pitfall traps, aspirator, and sweep net. A total of 72 specimens were captured by pitfall traps, 73 by aspirator, and 101 by sweep net. In general, spider abundance showed a parallel trend with temperature. However, a decrease in the number of individuals was observed at the end of June due to pesticide applications, and in mid-August due to irrigation activities. In September, an increase in specimen numbers was recorded again in the aspirator and sweep net methods. The findings indicate that environmental factors directly affect spider populations.

A total of 246 spider specimens were obtained from the locality, representing 11 families, 26 genera, and 26 species. No adult males were found in Araneidae, Oxyopidae, and Pholcidae, and no adult females were found in Theridiidae. Although a general correlation between rising temperature and spider abundance was expected, irrigation and pesticide applications negatively affected spider numbers, so a direct proportionality with temperature was not observed. Moreover, the biological diversity of spiders increased due to the ecotone characteristics of the field boundaries. The diversity of the sampling methods also enhanced the accuracy of species identification.

Keywords: Araneae, Ecology, Systematics, Sugar beet field, Korkut (Muş).

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DİYABET VE KRONİK STRESİN HİPOKAMPAL MKRN1-KISA VE SİNAPTİK PLASTİSİTE İLİŞKİLİ MOLEKÜLLER ÜZERİNE ETKİLERİ

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ÖZET

Bu çalışmada, diyabetin ve kronik stresin bilişsel işlevler üzerindeki etkilerini incelemek amacıyla gerçekleştirilmiştir. Otuz iki adet erkek Wistar albino sıçan eşit sayıda sıçan içeren Kontrol, Kronik Stres, Diyabetli ve Diyabetli Kronik Stres olarak dört gruba ayrıldı. Diyabetli ve Diyabetli Kronik Stres gruplarında tek doz STZ ile tip 1 diyabet oluşturuldu ve Kronik Stres ve Diyabetli Kronik Stres grubu on üç hafta boyunca kronik öngörülemez hafif strese (CUMS) modeline maruz bırakıldı. Sonuçlar, diyabet ve kronik stresin tek başına ya da birlikte bilişsel işlev ve davranışı olumsuz etkilediği ve iki faktörün birlikteliğinin en belirgin etkiyi oluşturduğunu göstermiştir. Diyabetli Kronik Stres grubunda dehidroepiandrosteron düzeyi en düşük, kortikosteron düzeyi en yüksek bulundu (dehidroepiandrosteron, kortikosteron, tümü $p=0.001$). Davranış testlerinde Diyabetli Kronik Stres grubu belirgin anksiyete benzeri davranış sergiledi (Açık alan testi Alınan yol: Kontrol- Diyabetli Kronik Stres, $p=0.001$, Merkez süresi, $p=0.001$; Yükseltilmiş artı testi Açık kol süresi, $p=0.001$; Kontrol grubuna göre). Moleküler analizler sinaptik plastisiteyi düzenleyen gen ve proteinlerin düzeyinin Diyabetli Kronik Stres grubunda güçlü biçimde azaldığını ortaya koymuştur (Kontrol- Diyabetli Kronik Stres gen-protein: MKRN1-kısa; CaMKII, PSD-95; PKM zeta, $p=0.001$, Kontrol grubuna göre). Bulgular, diyabet ve kronik stresin sinerjistik etkisinin hipokampal sinaptik protein sentezini ve aktiviteye bağlı yerel transkripsiyonunu etkileyerek davranışı bozduğunu ve MKRN1-kısa ve sinaptik plastisite ilişkili moleküllerin gen ifade ve protein düzeyini etkileyerek patolojik mekanizmaya katkı sunduğunu göstermektedir.

Anahtar Kelimeler: Diyabet, MKRN1-kısa, Öğrenme, Bellek, Sinaptik Plastisite.

ABSTRACT

This study was conducted to investigate the effects of diabetes and chronic stress on cognitive functions. Thirty-two male Wistar albino rats were divided into four groups: Control, Chronic Stress, Diabetic, and

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Diabetic Chronic Stress, each containing an equal number of rats. Type 1 diabetes was induced in the Diabetic and Diabetic Chronic Stress groups with a single dose of STZ, and the Chronic Stress and Diabetic Chronic Stress groups were exposed to a chronic unpredictable mild stress (CUMS) model for thirteen weeks. The results showed that diabetes and chronic stress, either alone or together, negatively affected cognitive function and behaviour, and that the combination of the two factors had the most pronounced effect. The Chronic Stress with Diabetes group had the lowest levels of dehydroepiandrosterone and the highest levels of corticosterone (dehydroepiandrosterone, corticosterone, all $p=0.001$). In behavioural tests, the Diabetic Chronic Stress group exhibited pronounced anxiety-like behaviour (Open field test: Path taken: Control vs. Diabetic Chronic Stress, $p=0.001$; Centre time, $p=0.001$; Elevated plus maze test: Open arm time, $p=0.001$; compared to the control group). Molecular analyses revealed a marked decrease in the levels of genes and proteins regulating synaptic plasticity in the Diabetic Chronic Stress group (Control vs. Diabetic Chronic Stress gene-protein: MKRN1-short; CaMKII, PSD-95; PKM zeta, $p=0.001$, compared to the Control group). The findings indicate that the synergistic effect of diabetes and chronic stress disrupts behaviour by affecting hippocampal synaptic protein synthesis and activity-dependent local translation, and contributes to the pathological mechanism by affecting the gene expression and protein levels of MKRN1-short and synaptic plasticity-related molecules.

Keywords: Diabetes, MKRN1-short, Learning, Memory, Synaptic Plasticity.

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KRONİK STRESİN BİLİŞSEL İŞLEV ÜZERİNE ETKİLERİ

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ÖZET

Bu araştırmada kronik stresin nöroinflamasyon, oksidatif stres ve kan-beyin bariyeri (KBB) bütünlüğü üzerindeki etkileri incelenmiştir. Stresin tetiklediği periferik inflamasyon, TNF- α , IL-1 β ve IL-6 gibi proinflamatuvar sitokinlerin artışıyla KBB bütünlüğünü bozmakta ve immün hücrelerin merkezi sinir sistemine infiltrasyonunu kolaylaştırmaktadır. Bu süreçte mikroglia ve astrositlerin aktivasyonu, reaktif oksijen türlerinin (ROS) aşırı üretimine, mitokondriyal disfonksiyona ve endoplazmik retikulum stresine yol açarak nöronal homeostazı bozmaktadır. NF- κ B, MAPK, TLR4 ve JAK/STAT gibi sinyal yollarının aktive olması, sinaptik plastisiteyle ilişkili proteinlerin (örneğin PSD-95) ekspresyonunu azaltarak nörojenezi zayıflatır ve nöronal apoptozu hızlandırır. Oksidatif stres, inflamasyon ve hücre stresin oluşturduğu bu sinerjistik ağ, özellikle diyabet gibi metabolik hastalıkların eşlik ettiği durumlarda, bilişsel gerilemeyi hızlandırarak nörodejeneratif süreçlerin ilerlemesine katkı sağlar. Bulgular, stresin metabolik bozukluklarla birlikte değerlendirilmesinin nöropsikiyatrik hastalıkların patofizyolojisini anlamada kritik öneme sahip olabileceğini göstermektedir.

Anahtar Kelimeler: Kronik stres, bilişsel işlev, inflamasyon, nöroinflamasyon, oksidatif stres

ABSTRACT

This study investigated the effects of chronic stress on neuroinflammation, oxidative stress, and blood-brain barrier (BBB) integrity. Stress-induced peripheral inflammation disrupts BBB integrity by increasing proinflammatory cytokines such as TNF- α , IL-1 β , and IL-6, thereby facilitating the infiltration of immune cells into the central nervous system. In this process, the activation of microglia and astrocytes leads to excessive production of reactive oxygen species (ROS), mitochondrial dysfunction, and endoplasmic reticulum stress, thereby disrupting neuronal homeostasis. Activation of signalling pathways such as NF- κ B, MAPK, TLR4, and JAK/STAT reduces the expression of proteins associated with synaptic plasticity (e.g., PSD-95), thereby weakening neurogenesis and accelerating neuronal apoptosis. This synergistic network of oxidative stress, inflammation, and cellular stress contributes to the progression of neurodegenerative processes by accelerating cognitive decline, particularly in conditions accompanied by metabolic diseases such as diabetes. The findings suggest that evaluating stress alongside metabolic disorders may be critical to understanding the pathophysiology of neuropsychiatric diseases.

Keywords: Chronic stress, cognitive function, inflammation, neuroinflammation, oxidative stress

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ALAŞIMLARIN HİDROJEN DEPOLAMA KAPASİTESİNİN İNCELENMESİ INVESTIGATION of the HYDROGEN STORAGE CAPACITY OF ALLOYS

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ÖZET

Enerji, ilk çağlardan beri insanların en temel ihtiyaçlarından biri olmuştur. Teknolojik gelişmelere paralel olarak enerji tüketimi hızla artmış ve enerjinin üretilmesi, taşınması ve depolanması önem bir sorun haline gelmiştir. Son yüz yılda enerji çeşitliliği artmış; temel enerji kaynağı olarak yoğun şekilde kullanılan kömürden petrole, petrolden doğal gaza kademeli bir geçiş yaşanmıştır. Bu sürecin, yenilenebilir enerji kaynaklarından bir olan hidrojenle devam etmesi beklenmektedir. Öte yandan petrol, doğal gaz ve kömür gibi fosil yakıtların dünyadaki rezervlerinin sınırlı olması ve çevreye verdikleri zararlar, yenilenebilir ve temiz enerji kaynaklarına olan ilgiyi artırmıştır. Hidrojenin, geleceğin potansiyel enerji kaynaklarından biri olabileceği düşünülmekte ve bu doğrultuda birçok araştırma yürütülmektedir. Fosil yakıtların aksine, hidrojen yenilenebilir bir enerji kaynağı olarak kolaylıkla üretilmektedir. Ayrıca çevreyi kirletmemekte ve kullanımı sırasında ortaya çıkan atık madde, zararsız su buharı şeklinde açığa çıkmaktadır. Ancak hidrojenin pratik uygulamalarda kullanılabilmesi için, güvenli, verimli ve ekonomik depolama yöntemlerinin geliştirilmesi gerekmektedir. Hidrojenin güvenli ve etkili bir şekilde depolanması, günümüz enerji teknolojilerinin en kritik zorluklarından biridir. Yapılan araştırmalar, bazı alaşımların hidrojeni katı halde depolayabildiğini göstermiştir. Bu çalışmada, alaşımların hidrojen depolama kapasiteleri, depolama mekanizmaları ve bu kapasiteyi etkileyen faktörler incelenmiştir.

Anahtar Kelimeler: Enerji, Hidrojen Alaşım

ABSTRACT

Energy has been one of the most fundamental needs of humans since ancient times. With technological developments, energy consumption has increased rapidly, and the production, transportation, and storage of energy have become significant challenges. Over the past century, energy diversity has expanded, and a gradual transition has been observed from coal, which was widely used as the primary energy source, to oil and then to natural gas. It is expected that this transition will continue with hydrogen, which is one of the renewable energy sources. On the other hand, the limited reserves of fossil fuels such as petroleum, natural gas, and coal, and their environmental impacts, have increased interest in renewable and clean energy sources. Hydrogen is considered one of the potential energy sources of the future, and numerous studies have been conducted in this regard. Unlike fossil fuels, hydrogen can be easily produced as a renewable energy source. Furthermore, it does not pollute the environment, and the waste generated during its use is released as harmless water vapor. However, for hydrogen to be used in practical applications, safe, efficient, and economical storage methods must be developed. The safe and effective storage of hydrogen remains one of the most critical challenges in modern energy technologies. Research has shown that certain alloys are capable of storing hydrogen in solid form. In

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this study, the hydrogen storage capacities of alloys, their storage mechanisms, and the factors affecting these capacities were investigated.

Keywords: Energy, Hydrogen Alloy

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AMORF Al-Y-Ni-Fe ALAŞIMININ KRİSTALLEŞMESİ CRYSTALLIZATION of AMORPHOUS Al-Y-Ni-Fe ALLOY

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ÖZET

Alaşımlar, bazı üstün özellikleri nedeniyle tercih edilen malzemelerdendir. Termodinamik olarak yarı kararlı bir yapıya sahip olan amorf alaşımlar, kristal yapıli alaşımlara kıyasla daha iyi özellikler gösterir. Al-esaslı amorf ve nanaokristal alaşımlar; düşük yoğunlukları, yüksek korozyon dirençleri, iyi elektriksel ve ısıli iletkenlikleri gibi özellikleri sayesinde endüstrinin birçok alanında uygulama potansiyeline sahiptir. Üstün özellikler sergileyen Al-esaslı amorf alaşımların üretilmesi ve farklı elementlerin katkılanmasıyla özelliklerinin iyileştirilmesi günümüzde önemli bir araştırma konusu haline gelmiştir. Diğer taraftan, amorf alaşımlar termodinamik olarak yarı kararlı bir yapıya sahip olduklarından, ısıli işlem sonucu faz dönüşümüne uğrayarak kararlı yapı olan kristal hale dönüşürler. Kristal hale dönüşedükten sonra ise amorf yapıya özgü bazı üstün özelliklerini kaybederler. Bu nedenle, amorf alaşımların kristalleşmesinin incelenmesi büyük önem taşımaktadır. Mevcut çalışmada, Al-Y-Ni-Fe amorf alaşımlının kristalleşme davranışı incelenmiştir.

Anahtar Kelimeler: Alaşım, Amorf yapı, Kristalleşme.

ABSTRACT

Alloys are preferred materials due to their several superior properties. Amorphous alloys, which have a thermodynamically metastable structure, exhibit better properties compared to crystalline alloys. Al-based amorphous and nanocrystalline alloys have potential for application in many areas of industry due to their low density, high corrosion resistance, and good electrical and thermal conductivity. The production of Al-based amorphous alloys with superior properties and the improvement of their properties by adding different elements have become important research topics today. On the other hand, since amorphous alloys have a thermodynamically metastable structure, they undergo phase transformations during heat treatment and transform into the stable crystalline structure. After transforming into the crystalline state, they lose some of the superior properties characteristic of the amorphous structure. Therefore, the study of the crystallization behavior of amorphous alloys is of great importance. In the present study, the crystallization behavior of the Al-Y-Ni-Fe amorphous alloy was investigated.

Keywords: Alloy, Amorphous structure, Crystallization

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UYGULANAN KUVVET ALTINDA PİEZOELEKTRİK PLAKANIN GERİLİM TEPKİSİ: BASİT BİR ANALİTİK YAKLAŞIM VOLTAGE RESPONSE OF A PIEZOELECTRIC PLATE UNDER APPLIED FORCE: A SIMPLE ANALYTICAL APPROACH

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ÖZET

Bu çalışma, harici bir kuvvet uygulanan piezoelektrik plakanın ürettiği gerilimin basitleştirilmiş teorik analizini sunmaktadır. Statik yükleme koşullarında gerilim çıktısını tahmin etmek için $V = d \cdot F / C$ ilişkisi kullanılmıştır; burada d piezoelektrik yük sabiti, C ise sensörün kapasitansdır. Çalışmanın temel amacı, uygulanan kuvvet, malzeme özellikleri ve elektriksel tasarım parametrelerindeki değişimlerin sensör performansını nasıl etkilediğini göstermektir. Hesaplamalar, temel bir yapılandırma için ($d = 300$ pC/N, $C = 100$ nF) yapılmış ve farklı d ve C değerlerini içeren parametre çalışmalarıyla genişletilmiştir. Sonuçlar dört şekilde sunulmuştur: (i) uygulanan kuvvet altındaki piezoelektrik plakanın şematik gösterimi, (ii) temel parametreler için gerilim-kuvvet karakteristiği, (iii) piezoelektrik sabitinin değişiminin etkisi ve (iv) kapasitans değişiminin etkisi. Analiz, kuvvet ile gerilim arasında doğrusal bir ilişkiyi doğrulamakta ve sensör hassasiyetinin, daha yüksek piezoelektrik sabitine sahip malzemelerin seçilmesi ve kapasitansın azaltılmasıyla önemli ölçüde artırılabilirliğini göstermektedir. Model ideal varsayımlara dayanmakta olup dinamik etkiler, histerezis ve sıcaklık bağımlılığını dikkate almamaktadır; ancak sensör geliştirme için yararlı bir başlangıç noktası sunmaktadır. Gelecek çalışmalar, deneysel doğrulama ve gelişmiş modelleme ile bu sınırlamaları ele alarak gerçek dünya uygulamalarını güçlendirmelidir.

Anahtar Kelimeler: Piezoelektrik sensörleri; Gerilim-kuvvet ilişkisi; Kapasitans etkisi; Parametrik analiz

ABSTRACT

This paper presents a simplified theoretical analysis of the voltage generated by a piezoelectric plate subjected to an external force. The study employs the linear relation $V = d \cdot F / C$ where d is the piezoelectric charge constant and C is the capacitance of the sensor, to estimate voltage output under static loading conditions. The primary objective is to illustrate how variations in applied force, material properties, and electrical design parameters influence sensor performance. Calculations were performed for a baseline configuration ($d = 300$ pC/N, $C = 100$ nF) and extended to parametric studies involving different values of d and C . Results are presented through four figures: (i) a schematic of the piezoelectric plate under applied force, (ii) voltage–force characteristics for baseline parameters, (iii) the effect of varying piezoelectric constant d , and (iv) the effect of varying capacitance C . The analysis confirms a linear relationship between force and voltage and demonstrates that sensor sensitivity can be significantly improved by selecting materials with higher piezoelectric constants and by reducing capacitance. These findings provide a clear and intuitive understanding of the fundamental behavior of piezoelectric sensors, serving as a practical guide for preliminary design and optimization. Although the model is based on idealized assumptions and does not account for dynamic effects, hysteresis, or

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temperature dependence, it offers a useful starting point for sensor development. Future work should incorporate experimental validation and advanced modeling to address these limitations and enhance real-world applicability.

Keywords: Piezoelectric sensors; Voltage-force relation; Capacitance effect; Parametric analysis.

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THERMODYNAMIC AND ECONOMIC ANALYSIS OF SOLAR-POWERED IRRIGATION SYSTEMS IN THE GAP REGION OF TURKEY

TÜRKİYE'NİN GAP BÖLGESİNDE GÜNEŞ ENERJİLİ SULAMA SİSTEMLERİNİN TERMODİNAMİK VE EKONOMİK ANALİZİ

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ABSTRACT

The Southeastern Anatolia Region (GAP) of Turkey holds significant potential for agricultural productivity, yet its irrigation systems heavily depend on fossil fuels and grid electricity, creating economic and environmental challenges. This study investigates the feasibility of using photovoltaic (PV)-powered irrigation systems in the GAP region by modeling a solar system sized for a typical agricultural pump. The analysis considers regional solar radiation, energy consumption, capital costs, and environmental impact. Results show that a 3.6 kW PV system can generate over 5,400 kWh per year, surpassing the energy demand of a 1.5 kW pump operating 3 hours daily. The system's Levelized Cost of Electricity (LCOE) is calculated as \$0.0259/kWh—well below market prices—and over 29 tons of CO₂ emissions can be avoided in 20 years. These findings support the integration of solar-powered irrigation as a sustainable and cost-effective solution for GAP and similar semi-arid regions.

Keywords: Solar irrigation systems; Photovoltaic energy; GAP region; Techno-economic analysis; Renewable energy in agriculture.

ÖZET

Türkiye'nin Güneydoğu Anadolu Bölgesi (GAP) önemli bir tarımsal verimlilik potansiyeline sahip olmasına rağmen sulama sistemleri büyük oranda fosil yakıtlara ve şebeke elektriğine bağımlıdır ve bu durum ekonomik ve çevresel zorluklar yaratmaktadır. Bu çalışmada, tipik bir tarımsal pompa için boyutlandırılmış bir güneş enerjisi sistemi modellenerek GAP bölgesinde fotovoltaik (PV) ile çalışan sulama sistemlerinin uygulanabilirliği araştırılmıştır. Analizde bölgesel güneş radyasyonu, enerji tüketimi, sermaye maliyetleri ve çevresel etki dikkate alınmıştır. Sonuçlar, 3,6 kW'lık bir PV sisteminin yılda 5.400 kWh'den fazla enerji üretebileceğini ve bunun günde 3 saat çalışan 1,5 kW'lık bir pompanın enerji talebini aştığını göstermiştir. Sistemin Dengelenmiş Elektrik Maliyeti (LCOE) 0,0259 ABD Doları/kWh olarak hesaplanmıştır; bu piyasa fiyatlarının oldukça altındadır ve 20 yılda 29 tondan fazla CO₂ emisyonu önlenir. Bu bulgular, güneş enerjisiyle çalışan sulamanın GAP ve benzeri yarı kurak bölgeler için sürdürülebilir ve uygun maliyetli bir çözüm olarak entegrasyonunu desteklemektedir.

Anahtar kelimeler: Güneş sulama sistemleri; Fotovoltaik enerji; GAP bölgesi; Tekno-ekonomik analiz; Tarımda yenilenebilir enerji.

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TECHNO-ECONOMIC ASSESSMENT OF HYBRID SOLAR-WIND MICROGRIDS FOR OFF-GRID AGRICULTURAL FARMS IN TURKEY'S GAP REGION

TÜRKİYE'NİN GAP BÖLGESİNDEKİ ŞEBEKE DIŞI TARIM ÇİFTLİKLERİ İÇİN HİBRİT GÜNEŞ-RÜZGAR MİKROŞEBEKELERİNİN TEKNO-EKONOMİK DEĞERLENDİRMESİ

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ABSTRACT

Off-grid rural areas in Turkey's GAP region face challenges in accessing reliable electricity for agricultural operations, particularly irrigation. This study proposes and evaluates a hybrid microgrid system combining photovoltaic (PV) solar and wind energy sources, tailored for energy self-sufficiency in remote farms. Using real solar-wind resource data and system simulation tools, the model examines energy yield, economic feasibility, Levelized Cost of Electricity (LCOE), and carbon emissions avoided. Results show that a hybrid PV-wind system with battery storage meets daily agricultural loads with high reliability, achieving an LCOE of \$0.041/kWh—significantly lower than diesel-powered alternatives. Over 20 years, the system avoids approximately 56 tons of CO₂ emissions. The study concludes that hybrid renewable microgrids offer a technically and economically viable solution for decarbonizing agriculture in off-grid regions of southeastern Turkey.

Keywords: Hybrid microgrids; Solar-wind energy systems; GAP region; Off-grid agriculture; Techno-economic optimization

ÖZET

Türkiye'nin GAP bölgesindeki şebeke dışı kırsal alanlar, özellikle sulama olmak üzere tarımsal faaliyetler için güvenilir elektriğe erişimde zorluklarla karşı karşıyadır. Bu çalışma, uzak çiftliklerde enerji öz yeterliliği için özel olarak tasarlanmış, fotovoltaik (PV) güneş ve rüzgar enerjisi kaynaklarını birleştiren hibrit bir mikro şebeke sistemi önermekte ve değerlendirmektedir. Gerçek güneş-rüzgar kaynak verileri ve sistem simülasyon araçları kullanılarak model, enerji verimini, ekonomik fizibiliteyi, Dengelenmiş Elektrik Maliyetini (LCOE) ve önlenen karbon emisyonlarını incelemektedir. Sonuçlar, pil depolamalı bir hibrit PV-rüzgar sisteminin günlük tarımsal yükleri yüksek güvenilirlikle karşıladığını ve dizel yakıtla çalışan alternatiflere göre önemli ölçüde daha düşük bir LCOE elde ederek 0,041 ABD doları/kWh'ye ulaştığını göstermektedir. Sistem, 20 yılda yaklaşık 56 ton CO₂ emisyonunu önlemiştir. Çalışma, hibrit yenilenebilir mikro şebekelerin, Türkiye'nin güneydoğusundaki şebeke dışı bölgelerde tarımın karbonsuzlaştırılması için teknik ve ekonomik olarak uygulanabilir bir çözüm sunduğu sonucuna varmıştır.

Anahtar kelimeler: Hibrit mikro şebekeler; Güneş-rüzgar enerji sistemleri; GAP bölgesi; Şebeke dışı tarım; Tekno-ekonomik optimizasyon.

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ELEMENTAL CHARACTERIZATION OF ATMOSPHERIC PARTICLES USING SEM-EDS

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ÖZET

Hava kirliliğine neden olan partiküller, hem anlaşılması hem de kontrol edilmesi en zor konulardan biridir. Bunun nedeni, emisyonların çok çeşitli kaynaklardan gelmesi ve atmosferdeki partikül ve kirlleticilerin seyrelmesi ve dönüşümünün karmaşık olmasıdır. Bu kirleticiler aynı zamanda insan sağlığını ve ekosistemleri de büyük ölçüde etkiler. Taramalı Elektron Mikroskopunun Enerji Dağıtıcı X-Işını Spektroskopisi (SEM-EDS) ile birlikte kullanımı, atmosferik partiküllerin elementel bileşimini analiz etmek ve morfolojik yapılarını ortaya çıkarmak için etkili bir tekniktir. Sunulan sonuçlar, doğal ve antropojenik kökenli çok çeşitli partiküllerin varlığını göstermektedir. Bu çalışmada, SEM-EDS kullanılarak boyut olarak ayrılmış PM₁₀ numunelerinden toplanan partiküllerin elementel bileşiminin sınıflandırılması ve nicelendirilmesi amaçlanmıştır. Tarihi Davutpaşa Kışlası içinde yer alan Yıldız Teknik Üniversitesi Davutpaşa Kampüsü'nün örnekleme noktaları, İstanbul'un Avrupa yakasındaki Esenler ilçesinde, deniz seviyesinden yaklaşık 80 metre yükseklikte, yaklaşık 41.0236° K enlemi ve 28.8880° D boylamında yer almaktadır. SEM-EDS ile atmosferik partiküllerde Al, As, Ba, Ca, Cd, Cl, Cr, K, Mg, Na, Pb, S, Sb, Si, Ti, V ve Zr tespit edilmiştir. Sahra toz olayı (SDE), bölgedeki PM₁₀ konsantrasyonunda artışa neden olmuş ve özellikle Ca, Mg ve Ti olmak üzere farklı boyutlardaki partiküllerin elementel kompozisyonunu etkilemiştir. Buna karşılık, kentsel kaynaklardan elde edilen tozsuz günlük numunelerde Cl, Cr, S ve V baskın elementlerdir. Bu çalışma, daha az deneysel uygulama ile kısa sürede SEM-EDS analizi ile filtre üzerinde toplanan elementlerin nitel ölçümünü sağlamaktadır.

Anahtar Kelimeler: Sahra tozu, SEM-EDS, Element analizi, Parçacık taşınımı

ABSTRACT

Particles that cause air pollution are one of the most difficult issues to both understand and control. This occurs because emissions come from many diverse sources, and the dilution and transformation of particles and pollutants in the atmosphere are complex. These pollutants also greatly impact human health and ecosystems. The use of Scanning Electron Microscopy coupled with Energy-Dispersive X-ray Spectroscopy (SEM-EDS) is an effective technique for analyzing the elemental composition and revealing the morphological structures of atmospheric particle, where the results presented show the presence of a wide diversity of particles of natural and anthropogenic origin. In this study, it was aimed to classify and quantify the elemental composition of particles collected in size segregated PM₁₀ samples using SEM-EDS. The sampling points of Davutpaşa Campus of Yıldız Technical University, located within the historic Davutpaşa Barracks, is situated at approximately 41.0236° N latitude and 28.8880° E longitude, at an altitude of around 80 meters above sea level in the Esenler district on the European

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side of Istanbul, Türkiye. Al, As, Ba, Ca, Cd, Cl, Cr, K, Mg, Na, Pb, S, Sb, Si, Ti, V and Zr were detected in the atmospheric particles by SEM-EDS. The Saharan dust event SDE caused an increase in PM₁₀ concentration in the region as well as effected on the elemental composition of different size of the particles especially Ca, Mg and Ti. In contrast, Cl, Cr, S and V were the dominant elements in the dust-free day samples, each originating from urban sources. This study provides the qualitative measurement of the elements collected on the filter by SEM-EDS analysis in a short time with less experimental application.

Keywords: Saharan dust, SEM-EDS, Elemental analysis, Particle transport

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DİJİTAL YETKİNLİĞİN DİJİTAL GİRİŞİMCİLİK NİYETİNE ETKİSİ: ÜNİVERSİTE ÖĞRENCİLERİ BAĞLAMINDA AMPİRİK BİR ÇALIŞMA THE EFFECT OF DIGITAL COMPETENCE ON DIGITAL ENTREPRENEURSHIP INTENTION: AN EMPIRICAL STUDY AMONG UNIVERSITY STUDENTS

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ÖZET

Günümüzün inkâr edilemez bir gerçeği, dijitalleşmenin bireylerden örgütlere, yaşamın her alanını değiştirmesi ve dönüştürmesidir. Dijital dönüşümün bu etkisiyle, sadece ekonomik ve toplumsal yapılar değil, bilgi üretimi ve paylaşımı biçimleri de yeniden tanımlanmıştır. Bu sürecin bir sonucu olarak da bilim camiasında yeni araştırma alanları, dolayısıyla da çağın gereksinimlerine uygun yeni kavramlar ortaya atılmıştır. Dijital yetkinlik ve dijital girişimcilik niyeti bu kavramlar arasındadır. Bu çalışmada bu kavramlar ele alınmış, dijital yetkinliğin dijital girişimcilik niyetini etkileyip etkilemediği belirlenmeye çalışılmıştır. Bu doğrultuda veriler üniversite öğrencilerinden elde edilmiş ve 183 anket verisiyle analizler gerçekleştirilmiştir. Çalışmada öncelikle güvenilirlik ve geçerlilik analizleri ile dijital yetkinlik ve girişimcilik niyeti ölçeklerinin değerlendirmesi yapılmıştır. Gerekli tespitler sonrasında korelasyon analiziyle ilişki tespitine ve yol analiziyle hipotez testine geçilmiştir. Bulgular üniversite öğrencilerinin dijital yetkinlik düzeyinin dijital girişimcilik niyetini pozitif yönde etkilediğini göstermiştir. Bu doğrultuda Sosyal Bilişsel Kuramın bakış açısı ve literatürdeki çalışma bulguları desteklenmiştir. Dolayısıyla da dijital araç ve gereçlerin kullanımına ilişkin yeterlilik algısının bireylerin dijital eylem niyetlerini belirlediği sonucuna ulaşılmıştır.

Anahtar Kelimeler: Dijital yetkinlik, dijital girişimcilik niyeti, Sosyal Bilişsel Kuram, üniversite öğrencileri.

ABSTRACT

An undeniable reality of today is that digitalisation is changing and transforming every aspect of life, from individuals to organisations. With this impact of digital transformation, not only economic and social structures but also the forms of knowledge production and sharing have been redefined. As a result of this process, new research areas have emerged in the scientific community, and consequently, new concepts appropriate to the needs of the era have been introduced. Digital competence and digital entrepreneurial intention are among these concepts. This study examines these concepts and attempts to determine whether digital competence affects digital entrepreneurial intention. To this end, data was collected from university students and analyses were conducted using 183 survey responses. The study first assessed the reliability and validity of the digital competence and entrepreneurial intention scales. After the necessary determinations, correlation analysis was used to identify relationships, and path

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analysis was used to test hypotheses. The findings showed that university students' level of digital competence positively affects their digital entrepreneurial intention. In this regard, the perspective of Social Cognitive Theory and the findings of studies in the literature were supported. Consequently, it was concluded that the perceived competence in using digital tools and equipment determines individuals' digital action intentions.

Keywords: Digital competence, digital entrepreneurship intention, Social Cognitive Theory, university students.

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METaverse TEKNOLOJİSİNİN ÖZEL EĞİTİMDEKİ DÖNÜŞTÜRÜCÜ ROLÜNÜN İNCELENMESİ

EXAMINING THE TRANSFORMATIVE ROLE OF METaverse TECHNOLOGY IN SPECIAL EDUCATION

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ÖZET

Metaverse, sanal, artırılmış ve karma gerçeklik teknolojilerini bir araya getirerek oluşturulan çok katmanlı bir sanal evrendir. Bu evrende kullanıcılar, üç boyutlu, etkileşimli ve kalıcı dijital ortamlarda temsili avatarlar aracılığıyla çeşitli deneyimler yaşayabilmektedir. Mevcut araştırma, metaverse teknolojisinin özel eğitimdeki rolünü incelemeyi amaçlamaktadır. Bu araştırma, nitel araştırma yaklaşımıyla yürütülen betimsel bir alan yazın incelemesi niteliğindedir. Çalışmada, metaverse teknolojisinin özel eğitimdeki kullanımına ilişkin ulusal ve uluslararası düzeyde yayımlanan araştırmalar analiz edilmiştir. İlgili yayınlara ulaşmak amacıyla 2015–2025 yılları arasında yayımlanan çalışmalar Google Scholar, ERIC, Scopus ve Web of Science veri tabanlarında taranmıştır. Elde edilen araştırmalar, içerik analizi yöntemi kullanılarak çözümlenmiştir. Araştırmadan elde edilen bulgular, metaverse teknolojisinin özel eğitim alanına sağladığı olumlu etkileri detaylı bir şekilde ortaya koymaktadır. Metaverse, öğrencilerin bireysel ihtiyaçlarına uygun olarak özelleştirilmiş öğrenme deneyimleri sunmaktadır. Bu kişiselleştirilmiş yaklaşım, özel gereksinimli bireylerin öğrenme süreçlerini daha etkili ve verimli hâle getirmektedir. Ayrıca, metaverse, öğrencilere görsel olarak zengin eğitim materyalleri sunarak, öğrenme sürecini daha çekici ve etkili hale getirmektedir. Bunun yanı sıra, metaverse teknolojisi, öğrencilere güvenli ve etkileşimli sanal ortamlarda iş birliğine dayalı öğrenme deneyimleri sunarak sosyal becerilerini geliştirmelerine olanak sağlamaktadır. Öte yandan, metaverse teknolojisi, güvenli sanal simülasyonlar yoluyla öğrencilerin çeşitli senaryoları deneyimlemesine imkân tanıyarak onların gerçek dünyadaki durumlara daha iyi hazırlanmalarına yardımcı olmaktadır. Son olarak, metaverse tabanlı oyunlaştırılmış öğrenme deneyimleri, öğrencilerin derse olan ilgisini artırarak motivasyon ve katılım düzeylerini yükseltmektedir. İncelenen araştırmalar, metaverse teknolojisinin

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özel eğitim alanına uyarlanması sürecinde çeşitli zorluklarla karşılaşıldığını ortaya koymaktadır. Bazı öğrenciler, teknolojik altyapının yetersizliği ve gerekli cihazlara ulaşmadaki güçlükler nedeniyle bu teknolojiye beklenen düzeyde yararlanamamaktadır. Bununla birlikte, metaverse tabanlı öğrenme ortamlarında kişisel verilerin kötüye kullanılması, öğrenci mahremiyetini ihlal ederek etik sorumlulukların yerine getirilmemesine yol açmaktadır. Ayrıca, alan yazında yer alan araştırmalar, metaverse'in aşırı kullanımının öğrencilerde teknolojiye bağımlılık geliştirme riskini artırabileceğini ortaya koymaktadır. Bu durum, öğrencilerin dijital ortama aşırı odaklanarak gerçek yaşam deneyimlerinden uzaklaşmalarına neden olabilmektedir. Öte yandan, metaverse teknolojisinin kurulumu ve sürdürülebilir bakımı genellikle yüksek maliyet gerektirmektedir. Dolayısıyla, metaverse teknolojisinin yüksek maliyeti özellikle sınırlı bütçesi olan eğitim kurumları açısından önemli bir engel teşkil etmektedir. Bu araştırmada, metaverse teknolojisinin özel eğitimdeki etkisini güçlendirmeye yönelik çeşitli öneriler sunulmaktadır. Öncelikle, metaverse uygulamalarının tüm öğrenciler için erişilebilir olmasını sağlamak amacıyla, cihaz ve internet erişimindeki eksikliklerin giderilmesine yönelik çalışmalar yapılmalıdır. Öğrencilerin kişisel verilerinin güvenliğini sağlamak amacıyla, metaverse ortamlarında uygulanacak gizlilik ve güvenlik politikalarının geliştirilmesi gerekmektedir. Bu politikaların teknolojik gelişmeler doğrultusunda düzenli aralıklarla güncellenmesi de büyük önem taşımaktadır. Son olarak, eğitimcilerin metaverse teknolojilerini etkili bir şekilde kullanabilmeleri için gerekli bilgi ve becerileri kazanmalarına yönelik hizmet içi eğitim programlarının düzenlenmesi önerilmektedir.

Anahtar Kelimeler: Metaverse, Yapay Zeka, Özel Eğitim, Özel Gereksinimli Bireyler.

ABSTRACT

The metaverse is a multi-layered virtual universe created by combining virtual, augmented, and mixed reality technologies. In this universe, users can experience various interactions through representative avatars in three-dimensional, interactive, and persistent digital environments. The current research aims to examine the role of metaverse technology in special education. This research is a descriptive literature review conducted using a qualitative research approach. The study analyzes national and international research published on the use of metaverse technology in special education. To access relevant publications, studies published between 2015 and 2025 were searched in the Google Scholar, ERIC, Scopus, and Web of Science databases. The obtained studies were analyzed using the content analysis method. The findings from the research reveal in detail the positive effects of metaverse technology on the field of special education. The metaverse offers learning experiences customized to the individual needs of students. This personalized approach makes the learning processes of individuals with special needs more effective and efficient. Furthermore, the metaverse makes the learning process more engaging and effective by providing students with visually rich educational materials. In addition, metaverse technology enables students to develop their social skills by offering collaborative learning experiences in safe and interactive virtual environments. On the other hand, metaverse technology helps students better prepare for real-world situations by allowing them to experience various scenarios through secure virtual simulations. Finally, metaverse-based gamified learning experiences increase students' interest in the course, raising their motivation and participation levels. The studies reviewed reveal that various challenges are encountered in the process of adapting metaverse technology to the field of special education. Some students are unable to benefit from this technology to the expected extent due to inadequate technological infrastructure and difficulties in accessing the necessary devices. Furthermore, the misuse of personal data in metaverse-based learning environments violates student privacy and leads to a failure to fulfill ethical responsibilities. Furthermore, studies in the field literature reveal that excessive use of the metaverse may increase the risk of developing technology addiction in

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students. This situation may cause students to become overly focused on the digital environment and distance themselves from real-life experiences. On the other hand, the setup and sustainable maintenance of metaverse technology generally require high costs. Therefore, the high cost of metaverse technology poses a significant obstacle, especially for educational institutions with limited budgets. This study presents various recommendations aimed at enhancing the impact of metaverse technology in special education. First, efforts should be made to address deficiencies in device and internet access to ensure that metaverse applications are accessible to all students. To ensure the security of students' personal data, privacy and security policies to be implemented in metaverse environments must be developed. It is also crucial that these policies are regularly updated in line with technological developments. Finally, it is recommended that in-service training programs be organized to enable educators to acquire the necessary knowledge and skills to effectively use metaverse technologies.

Keywords: Metaverse, Artificial Intelligence, Special Education, Individuals with Special Needs.

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FARKLI RAKIMLARDA YETİŞEN ARONYA ÇEŞİTLERİNDE BÜYÜME VE GELİŞME PARAMETRELERİ İLE FENOLOJİK SAFHALARIN TESPİTİ

DETERMINATION OF GROWTH AND DEVELOPMENT PARAMETERS AND PHENOLOGICAL STAGES IN ARONIA VARIETIES GROWN AT DIFFERENT ALTITUDES

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ÖZET

Üzümsü meyveler grubunda yer alan aronya (*Aronia melanocarpa*), Kuzey Amerika kökenli bir meyvedir ve son yıllarda “süper meyve” olarak anılmaktadır. Küçük, koyu mor-siyah renkteki bu meyve, yüksek antioksidan, vitamin ve fenolik bileşik içeriğiyle dikkat çeker. Özellikle antosiyaninler ve polifenoller bakımından oldukça zengindir. Aronya, doğal bir antioksidan kaynağı olarak genel sağlığın korunmasında önemli bir rol oynayabilir. Düzenli ancak ölçülü tüketimi (örneğin, meyve, meyve suyu veya toz formunda) bağışıklığı destekler, kalp-damar sağlığını iyileştirir ve hücrel yaşlanmaya karşı koruma sağlar. 2012 yılında Türkiye’ye introduksiyonu yapılan aronya hızla yayılmaktadır. Bu çalışmada farklı rakımlarda yetişen ‘Nero’ ve ‘Viking’ aronya çeşitlerinde uyanma, sürme, çiçeklenme, ben düşme, tane tutumu, meyvede renk değişimi (pembe, koyu mor, siyah), hasat zamanı ve çiçeklenme ile hasat arasındaki gün sayısı, aylık sürgün gelişim hızı ve sürgün uzunluğu gibi büyüme ve gelişme parametreleri ile fenolojik evreler karşılaştırılmıştır. Bitkiler 195 m ve 790 m rakımlarda yetiştirilmiştir. Düşük rakımda yetişen aronya çeşitlerinin daha erken uyandığı, hasadın daha geç yapıldığı, bitki boyunun ise daha fazla olduğu tespit edilmiştir.

Anahtar Kelimeler: Aronya, rakım, fenoloji, sürgün uzunluğu

ABSTRACT

Aronia (*Aronia melanocarpa*), a berry fruit and originated from North American, has recently been dubbed a "super fruit." This small, dark purple-black berry is notable for its high content of antioxidants, vitamins, and phenolic compounds. It is particularly rich in anthocyanins and polyphenols. As a natural source of antioxidants, aronya can play a significant role in maintaining overall health. Regular but moderate consumption (e.g., in fruit, juice, or powder form) supports immunity, improves cardiovascular health, and protects against cellular aging. Aronya, introduced to Türkiye in 2012, is

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rapidly spreading. This study compared growth and development parameters such as bud burst, shoot formation, flowering, veraison, berry set, fruit color change (pink, dark purple, black), harvest time, the number of days between flowering and harvest, monthly shoot growth rate, shoot length, and phenological stages in 'Nero' and 'Viking' aronia varieties grown at different altitudes. Plants were grown at altitudes of 195 and 790 m. It was found that aronia varieties grown at lower altitudes had earlier emergence, later harvest, and longer plant height.

Keywords : Aronia, altitude, phenology, bush height

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SUDAN OTUNDA (*Sorghum sudanense* (Piper) Stapf) KULLANILAN GÜBRE KAYNAKLARI VE KABA YEM ÜRETİMİNE ETKİSİ

FERTILISER SOURCES USED IN SUDAN GRASS (*Sorghum sudanense* (Piper) Stapf) AND THEIR EFFECTS ON FORAGE PRODUCTION

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ÖZET

Sudan otu (*Sorghum sudanense* (Piper) Stapf), yüksek sıcaklık ve kurak koşullara dayanıklılığı sayesinde yaz aylarında yem açığının giderilmesinde önemli rol oynayan bir sıcak mevsim yem bitkisidir. C₄ fotosentez yoluna sahip olması, yüksek ışık şiddeti ve sıcaklık koşullarında etkin karbon fiksasyonu yapmasına olanak tanıyarak bitkinin kurak alanlarda yüksek verim potansiyeline ulaşmasını sağlar. Kısa büyüme süresi, yüksek yeniden sürgün verme kabiliyeti ve kaliteli yeşil yem üretme özelliği nedeniyle sudan otu, tropik ve subtropik iklim kuşaklarında yaygın olarak yetiştirilmektedir. Bitkinin yem verimi ve kalitesi; çeşit, hasat zamanı, ekim sıklığı, sulama ve özellikle gübreleme uygulamaları gibi çevresel ve yönetimsel faktörlere bağlı olarak değişmektedir. Günümüzde kimyasal gübrelerin bilinçsiz veya aşırı kullanımı toprak yapısında bozulmalara, besin elementi dengesizliklerine, yer altı sularında nitrat birikimine ve dolaylı olarak ekosistem sağlığının zarar görmesine yol açmaktadır. Bu durum, sürdürülebilir tarımsal üretim anlayışında organik, organomineral ve mikrobiyal (biyogübre) kaynaklı gübrelerin kullanımını ön plana çıkarmaktadır. Organik gübreler toprağın fiziksel ve kimyasal özelliklerini iyileştirirken, mikrobiyal gübreler bitkinin kök gelişimini, besin alımını ve biyokütle üretimini artırmaktadır. Ayrıca leonardit, kompost ve biokömür gibi organik madde kaynaklarının uygulanması, toprak organik karbonunun yükselmesine, su tutma kapasitesinin artmasına ve besin kullanım etkinliğinin gelişmesine katkı sağlamaktadır. Bu çalışmanın amacı, sudan otunda kullanılan farklı gübre kaynaklarının kaba yem verimi ve kalitesi üzerindeki etkilerini değerlendirmek, aynı zamanda bu uygulamaların sürdürülebilir tarımsal üretim açısından önemini ortaya koymaktır.

Anahtar Kelimeler: *Sorghum sudanense*, yem bitkileri, organik gübre, biyogübre, sürdürülebilir tarım.

ABSTRACT

Sudangrass (*Sorghum sudanense* (Piper) Stapf) is a warm-season forage crop that plays a significant role in addressing forage deficits during the summer months due to its resistance to high temperatures. Its C₄ photosynthetic pathway enables efficient carbon fixation under high light intensity and

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temperature conditions, allowing the plant to achieve high yield potential in arid areas. Due to its short growth period, high resprouting capacity, and high-quality green fodder production, Sudangrass is widely cultivated in tropical and subtropical climates. The plant's forage yield and quality vary depending on environmental and management factors, such as variety, harvest time, planting density, irrigation, and fertilisation practices. The indiscriminate or excessive use of chemical fertilizers today leads to soil degradation, nutrient imbalances, and nitrate accumulation in groundwater, ultimately harming ecosystem health. This situation highlights the use of organic, organomineral, and microbial (biofertilizer) fertilisers within the framework of sustainable agricultural production. Organic fertilisers enhance soil physical and chemical properties, while microbial fertilisers stimulate plant root development, nutrient uptake, and biomass production. Furthermore, the application of organic matter sources, such as Leonardite, compost, and biochar, contributes to increased soil organic carbon, enhanced water-holding capacity, and improved nutrient use efficiency. This study aims to evaluate the effects of different fertiliser sources on forage yield and quality in Sudangrass, while also demonstrating the importance of these practices for sustainable agricultural production.

Keywords: Sorghum sudanense, forage crops, organic fertiliser, biofertilizer, sustainable agriculture.

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SORGUMUN (*Sorghum bicolor* (L.) Moench) ALLELOPATİK POTANSİYELİ VE YABANCI OT KONTROLÜNDEKİ ROLÜ ALLELOPATHIC POTENTIAL OF SORGHUM (*Sorghum bicolor* (L.) Moench) AND ITS ROLE IN WEED CONTROL

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ÖZET

Tarım sistemlerinde bitki koruma ürünlerinin yoğun ve kontrolsüz kullanımı, hem çevre hem de insan sağlığı açısından ciddi riskler oluşturmaktadır. Bu durum, yabancı ot kontrolünde daha çevreci, ekonomik ve sürdürülebilir alternatiflerin araştırılmasını gerekli kılmaktadır. Bu bağlamda, allelopatik potansiyele sahip bitkiler üzerine yapılan araştırmalar son yıllarda büyük bir ivme kazanmıştır. Bu bitkiler, çevrelerine salgıladıkları doğal kimyasallar (allelkimyasallar) aracılığıyla diğer bitkilerin çimlenmesini, büyümesini veya gelişmesini baskılayabilmektedir. Allelopatik özellikleriyle öne çıkan türlerden biri sorgumdur (*Sorghum bicolor* L. Moench). Sorgum, kök salgılarında ve bitki dokularında bulunan sorgoleone, p-hidroksibenzaldehit, p-kumarik asit, ferulik asit gibi bileşikler sayesinde çevresindeki yabancı otların gelişimini inhibe edebilmektedir. Sorgumun allelopatik etkisi hem kök bölgesinden salgılanan sorgoleone gibi uzun zincirli hidrokinon bileşikleriyle hem de yaprak ve gövde dokularında biriken fenolik asitlerle ilişkilidir. Bu bileşikler, hedef bitkilerde fotosentezi, solunumu ve hücre bölünmesini baskılayarak büyümenin durmasına neden olur. Ancak bu etkinin düzeyi; toprak tipi, nem, sıcaklık, bitki gelişim dönemi ve sorgum çeşidi gibi çevresel faktörlere bağlı olarak değişmektedir. Literatür verileri, sorgumun örtü bitkisi, rotasyon bitkisi veya doğal herbisit kaynağı olarak kullanılmasının yabancı ot popülasyonlarını azaltabileceğini ve kimyasal herbisit ihtiyacını önemli ölçüde düşürebileceğini göstermektedir. Bu çalışmanın amacı, sorgumun allelopatik etkisinin biyokimyasal temellerini, etkileyen çevresel faktörleri, allelopatik bileşiklerin yapısını ve işlevini ortaya koymak; ayrıca bu doğal mekanizmaların tarımsal uygulamalarda yabancı ot kontrolü ve sürdürülebilir üretim açısından potansiyel kullanım olanaklarını değerlendirmektir.

Anahtar Kelimeler: Sorgoleone, yabancı ot kontrolü, sürdürülebilir tarım, doğal herbisitler.

ABSTRACT

The intensive and uncontrolled use of plant protection products in agricultural systems poses serious risks to both the environment and human health. This necessitates the search for more environmentally

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friendly, economical, and sustainable alternatives for weed control. In this context, research on plants with allelopathic potential has gained significant momentum in recent years. These plants can suppress the germination, growth, or development of other plants through the natural chemicals (allelochemicals) they secrete into their environment. One species noted for its allelopathic properties is sorghum (*Sorghum bicolor* L. Moench). Sorghum can inhibit the growth of weeds in its environment due to compounds such as sorgoleone, p-hydroxybenzaldehyde, p-coumaric acid, and ferulic acid, which are found in its root exudates and plant tissues. The allelopathic effects of sorghum are associated with both long-chain hydroquinone compounds, such as sorgoleone, secreted from the root zone and phenolic acids accumulated in leaf and stem tissues. These compounds inhibit photosynthesis, respiration, and cell division in target plants, resulting in growth arrest. However, the extent of this effect varies depending on environmental factors such as soil type, moisture, temperature, plant development stage, and sorghum variety. Literature data indicate that using sorghum as a cover crop, rotation crop, or natural herbicide source can reduce weed populations and significantly reduce the need for chemical herbicides. This study aims to determine the biochemical basis of the allelopathic effect of sorghum, the influencing environmental factors, and the structure and function of allelopathic compounds. Furthermore, it is essential to assess the potential application of these natural mechanisms in agricultural practices for weed control and sustainable production.

Keywords: Sorgoleone, weed control, sustainable agriculture, natural herbicides.

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NAR ÇEKİRDEĞİ YAĞININ MİNÖR BİLEŞEN PROFİLİ VE SAĞLIĞA ETKİLERİ: DİĞER ÇEKİRDEK YAĞLARIYLA KARŞILAŞTIRMALI BİR İNCELEME MINOR COMPOUND PROFILE AND HEALTH EFFECTS OF POMEGRANATE SEED OIL: A COMPARATIVE STUDY WITH OTHER SEED OILS

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ÖZET

Bitkisel yağlar, içerdikleri minör bileşenler sayesinde, enerji sağlayan besin ögesi olmanın yanında, sağlığı destekleyici fonksiyonel bileşenler olarak da değerlendirilmektedir. Bu bağlamda nar çekirdeği yağı, sahip olduğu benzersiz minör bileşen profili ile dikkat çekmektedir. Özellikle yüksek punisik asit içeriği, çeşitli tokoferol izomerleri, fitosteroller ve fenolik bileşikler bakımından zengin olan nar çekirdeği yağı, metabolik sağlık, inflamasyon regülasyonu ve antioksidatif savunma açısından önemli etkiler göstermektedir.

Bu çalışmada, nar çekirdeği yağının minör bileşen profili, keten, çörek otu, üzüm çekirdeği ve kayısı çekirdeği gibi yaygın çekirdek yağlarıyla karşılaştırmalı olarak incelenmiş; bu bileşenlerin sağlık üzerindeki olası etkileri değerlendirilmiştir. Nar çekirdeği yağının yüksek punisik asit içeriği (%65–80), onu konjuge yağ asitleri açısından benzersiz kılmakta ve insülin duyarlılığı artırıcı, antiinflamatuvar ve antiproliferatif etkiler sağlamaktadır. Diğer yağlar ise farklı profiller sunmaktadır: üzüm çekirdeği yağı proantosyanidinlerce zenginken; çörek otu yağı timokinon ile, kayısı çekirdeği yağı ise E vitamini ile ön plana çıkmaktadır. Ancak bu yağların minör bileşen konsantrasyonu ve metabolik etkileri nar çekirdeği yağının sahip olduğu kadar kapsamlı ve yoğun değildir. Ayrıca nar çekirdeği yağı, içerdği punisik asitin konjuge yapısı nedeniyle oksidatif stresle mücadelede farklı moleküler mekanizmalara sahiptir.

Sonuç olarak, nar çekirdeği yağı minör bileşen yoğunluğu ve çeşitliliği bakımından diğer çekirdek yağlarına kıyasla sağlık açısından daha üstün bir profil sergilemektedir. Bu nedenle yapılan çalışmalarda, nar çekirdeği yağının fonksiyonel gıda ve nutrasötik ürün formülasyonlarında öncelikli bir bileşen olarak değerlendirilmesi önerilmektedir. Literatürdeki güncel bulgular, nar çekirdeği yağının endüstriyel potansiyelinin daha fazla araştırılması gerektiğini ortaya koymaktadır.

Anahtar Kelimeler: Nar çekirdeği yağı, minör bileşenler, fonksiyonel yağlar

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ABSTRACT

Thanks to the minor components they contain, vegetable oils are considered as functional components that support health as well as being nutrients that provide energy. In this context, pomegranate seed oil stands out with its unique minor component profile. Pomegranate seed oil, which is especially rich in high punisic acid content, various tocopherol isomers, phytosterols and phenolic compounds, shows important effects in terms of metabolic health, inflammation regulation and antioxidative defense.

In this study, the minor constituent profile of pomegranate seed oil was examined in comparison with common seed oils such as flax, black cumin, grape seed and apricot seed, and the possible health effects of these constituents were evaluated. The high punisic acid content of pomegranate seed oil (65-80%) makes it unique in terms of conjugated fatty acids and provides insulin sensitizing, anti-inflammatory and antiproliferative effects. Other oils offer different profiles: grape seed oil is rich in proanthocyanidins, black seed oil is characterized by thymoquinone and apricot seed oil by vitamin E. However, the minor constituent concentration and metabolic effects of these oils are not as extensive and intense as those of pomegranate seed oil. In addition, pomegranate seed oil has different molecular mechanisms in the fight against oxidative stress due to the conjugated structure of punisic acid it contains.

In conclusion, pomegranate seed oil exhibits a superior health profile compared to other seed oils in terms of minor component density and diversity. Therefore, studies suggest that pomegranate seed oil should be considered as a priority ingredient in functional food and nutraceutical product formulations. Current findings in the literature suggest that the industrial potential of pomegranate seed oil should be further investigated.

Keywords: Pomegranate seed oil, minor components, functional oils

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KOMPOZİT RESTORASYONLARDA RENK STABİLİTESİNİ ETKİLEYEN FAKTÖRLER: GÜNCEL LİTARATÜR DERLEMESİ

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ÖZET

Bu çalışmanın amacı, kompozit rezin restorasyonlarda renk stabilitesini etkileyen faktörleri güncel literatür doğrultusunda değerlendirmek ve estetik başarının sürdürülebilirliği açısından klinik uygulamalara katkı sağlamaktır. 2015–2024 yılları arasında PubMed, Google Scholar ve Scopus veri tabanlarında yayımlanan çalışmalar taranmıştır. Arama anahtar kelimeleri “composite resin”, “color stability”, “polishing systems”, “light-curing units” ve “staining beverages” olarak belirlenmiştir. Renk değişim değerlerini (ΔE) değerlendiren in vitro ve klinik araştırmalar incelenmiş, materyal tipi, ışık cihazı, içecek türü ve polisaj sistemine göre sonuçlar karşılaştırılmıştır. Literatürdeki veriler, nano-hibrit ve nano dolduruculu kompozitlerin mikrohibrit kompozitlere göre daha yüksek renk stabilitesi gösterdiğini ortaya koymuştur. LED cihazla polimerize edilen materyallerde renk değişimi halojen ışığa göre daha düşüktür. Kahve ve kırmızı şarap gibi içecekler en yüksek renk değişimine yol açarken, düzgün yapılmış polisaj işlemi ve yüzey glaze ajanlarının kullanımı bu etkiyi azaltmaktadır. Kompozit restorasyonların renk stabilitesi; materyal tipi, polimerizasyon yöntemi, bitirme–parlatma protokolü ve bireysel tüketim alışkanlıklarıyla yakından ilişkilidir. Uygun materyal ve doğru klinik prosedür seçimi, uzun süreli estetik başarının korunmasında önem taşır.

Anahtar Kelimeler: Kompozitrezin; renk stabilitesi; estetik diş hekimliği; polisaj sistemi; ışık cihazı.

ABSTRACT

This study aims to evaluate the factors affecting the color stability of composite resin restorations in light of the current literature and to contribute to clinical applications that ensure long-term esthetic success. A comprehensive literature search was conducted in PubMed, Google Scholar, and Scopus databases for studies published between 2015 and 2024. The keywords used were “composite resin,” “color stability,” “polishing systems,” “light-curing units,” and “staining beverages.” In vitro and clinical studies reporting ΔE color change values were analyzed and compared according to composite type, light-curing device, beverage exposure, and polishing protocols. According to the reviewed literature, nanohybrid and nanofilled composites demonstrated higher color stability compared to microhybrid composites. Materials polymerized with LED light-curing units showed less discoloration than those polymerized with halogen lamps. Among staining agents, coffee and red wine produced the most significant color change. Proper polishing and the use of surface glaze agents were found to reduce discoloration effectively. The color stability of composite restorations is closely associated with the type of material, curing method, finishing and polishing procedures, and individual dietary

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habits. Appropriate material selection and correct clinical techniques play a key role in maintaining long-term esthetic outcomes.

Keywords: Composite resin; color stability; esthetic dentistry; polishing system; light-curing unit.

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MİGREN HASTALARINA AİT SERVİKAL MR GÖRÜNTÜLERİNDE MİYODURAL KÖPRÜ KOMPLEKSİ İLE BOYUN BİYOMEKANİĞİ ARASINDAKİ İLİŞKİNİN DEĞERLENDİRİLMESİ

EVALUATION OF THE RELATIONSHIP BETWEEN THE MYODURAL BRIDGE COMPLEX AND CERVICAL BIOMECHANICS ON CERVICAL MRI OF MIGRAINE PATIENTS

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ÖZET

Giriş ve Amaç: Migren, tek taraflı ve zonklayıcı karakterde, yoğunluğu orta ile şiddetli arasında değişen ağrı ataklarıyla seyreden, dünya nüfusunun yaklaşık %15'ini etkileyen bir primer baş ağrısıdır ve kadınlarda erkeklere oranla daha sık görülmektedir. Migren baş ağrısı esas olarak trigeminal ve beyin sapı merkezli yollar ile kortikal-subkortikal ağrı işleme yollarının işlev bozukluğuyla ilişkili olsa da, periferik nosiseptif uyarılar da migren atağını tetikleyebilir. Servikal vertebradaki postural değişiklikler kas kuvvet dengesizliklerine neden olabilir. *Rectus capitis posterior minor*, *rectus capitis posterior major*, *obliquus capitis inferior* kaslarından ve *lig. nuchae*'dan başlayan miyodural köprü kompleksi kaslardaki kuvvet değişikliklerini dura mater'e aktarabilir ve trigeminoservikal kompleks aktivasyonununa neden olarak ağrı oluşturabilir. Bu çalışmada migren tanısı almış hastaların miyodural köprü kompleksi tipi ile boyun biyomekanik parametreleri arasındaki ilişkinin değerlendirilmesi ve kontrol grubuyla karşılaştırılması amaçlanmıştır.

Materyal ve Metot: Balıkesir Üniversitesi Sağlık Uygulama ve Araştırma Hastanesi nöroloji polikliniğine başvurup migren tanısı almış, ortalama yaşı $40,96 \pm 10,74$ olan 3 erkek, 25 kadın hasta ile servikal problemi bulunmayan sağlıklı, ortalama yaşı $41,07 \pm 10,89$ olan 3 erkek, 25 kadın birey çalışmaya alındı. Miyodural köprü kompleksi tipi belirlendi, servikal biyomekanik parametreler MicroDICOM programı ile ölçüldü. Bağımsız Örneklem T-testi ile gruplar arası ortalamalar, Pearson Korelasyon Testi ile parametreler arası korelasyon, One-way ANOVA Testi ile miyodural köprü tipleri ile parametreler arası ilişki değerlendirildi.

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Bulgular: Migren grubunda clivus-kanal açısı, düşük servikal açı ve anterior translasyon mesafesi kontrol grubuna göre anlamlı olarak daha yüksek bulundu ($p=0,037$; $p=0,013$; $p=0,001$). McRea çizgisinin ve servikal vertebranın uzunluğu, C0-C2 ve C2-C7 Cobb açısı, kranioservikal tilt açısı ve Boogard açısında iki grup arasında anlamlı farklılık bulunmadı ($p>0,05$). Migren grubunda C2-C7 Cobb açısı yaş ile pozitif korelasyon ($r=0,485$, $p=0,009$), anterior translasyon mesafesi hem clivus-kanal açısı, hem de düşük servikal açıyla pozitif korelasyon gösterdi ($r=0,424$, $p=0,025$; $r=0,821$, $p=0,000$). Kontrol grubunda ise klivus-kanal açısı ve anterior translasyon mesafesi yaş ile pozitif korele idi ($r=0,401$, $p=0,035$; $r=0,393$, $p=0,039$). Miyodural köprü tipleri ile boyun biyomekanik parametreleri arasında herhangi bir anlamlılık bulunmadı ($p>0,05$).

Tartışma ve Sonuç: Migrenli hastalarda görülen servikal lordoz artışı, servikal nosiseptif afferentlerin aktivasyonunu arttırarak uyarıların miyodural köprü aracılığıyla dura mater'e, oradan da trigeminoservikal komplekse iletilmesine neden olabilir. Bu mekanizma ile servikal postürdeki değişiklikler ağrının devam etmesine neden olabilir. Dolayısıyla servikal bölgenin biyomekaniğinin ve özellikle miyodural köprü gibi anatomik yapıların morfometrik özelliklerinin iyi bilinmesi, migrenin patofizyolojisinin açıklanmasına ve erken tanısına önemli katkılar sağlayabilir.

Anahtar kelimeler: Miyodural Köprü Kompleksi; Migren; Boyun Biyomekaniği; Servikal Lordoz

ABSTRACT

Introduction and Objective: Migraine is a primary headache disorder characterized by unilateral, throbbing pain of moderate to severe intensity, affecting approximately 15% of the global population, with higher prevalence in women than in men. Although migraine attacks are primarily associated with dysfunctions in trigeminal and brainstem-centered pathways as well as cortical-subcortical pain processing circuits, peripheral nociceptive stimuli can also trigger attacks. Postural alterations in the cervical vertebrae may lead to muscle strength imbalances. The myodural bridge complex, originating from the *rectus capitis posterior minor*, *rectus capitis posterior major*, *obliquus capitis inferior* muscles, and the *ligamentum nuchae*, can transmit muscular tension changes to the dura mater and activate the trigeminocervical complex, contributing to pain generation. This study aimed to evaluate the relationship between the type of myodural bridge complex and cervical biomechanical parameters in patients with migraine and to compare these findings with a healthy control group.

Materials and Methods: The study included 28 patients diagnosed with migraine (3 men, 25 women; mean age 40.96 ± 10.74 years) who applied to the Neurology Outpatient Clinic at Balıkesir University Health Practice and Research Hospital, and 28 healthy controls (3 men, 25 women; mean age 41.07 ± 10.89 years) without cervical pathology. The type of myodural bridge complex was determined, and cervical biomechanical parameters were measured using MicroDICOM software. Independent samples *t*-test was used to compare group means, Pearson correlation analysis to evaluate correlations among parameters, and One-way ANOVA to assess the relationship between myodural bridge types and biomechanical parameters.

Results: In the migraine group, the clivus–canal angle, lower cervical angle, and anterior translation distance were significantly higher compared to controls ($p = 0.037$; $p = 0.013$; $p = 0.001$, respectively). No significant differences were observed between the two groups regarding McRae line length, cervical vertebral height, C0–C2 and C2–C7 Cobb angles, cranio-cervical tilt angle, or Boogard angle ($p > 0.05$). In the migraine group, the C2–C7 Cobb angle showed a positive correlation with age ($r = 0.485$, $p = 0.009$), and anterior translation distance was positively correlated with both the clivus–canal angle and lower cervical angle ($r = 0.424$, $p = 0.025$; $r = 0.821$, $p = 0.000$). In the control group, the clivus–canal angle and anterior translation distance were positively correlated with age ($r = 0.401$, $p = 0.035$; $r =$

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0.393, $p = 0.039$). No significant relationship was found between myodural bridge types and cervical biomechanical parameters ($p > 0.05$).

Discussion and Conclusion: The increased cervical lordosis observed in migraine patients may enhance the activation of cervical nociceptive afferents, facilitating the transmission of stimuli via the myodural bridge to the dura mater and subsequently to the trigeminocervical complex. This mechanism could contribute to the persistence of migraine pain through altered cervical posture. Therefore, a thorough understanding of cervical biomechanics and the morphometric characteristics of anatomical structures such as the myodural bridge complex may provide valuable insights into the pathophysiology and early diagnosis of migraine.

Keywords: Myodural Bridge Complex; Migraine; Cervical Biomechanics; Cervical Lordosis

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BALİSTOKARDİYOGRAF ZAMAN SERİSİ VERİLERİNDEN HİPERTANSİYON TESPİTİ: SIVI SINIR MODELLEME YAKLAŞIMI HYPERTENSION DETECTION FROM BALLISTOCARDIOGRAPH TIME SERIES DATA: A LIQUID NEURAL MODELING APPROACH

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ÖZET

Hipertansiyon, kan damarlarının iç yüzeyinde uzun süreli yüksek basınca bağlı olarak gelişen ve çoğunlukla belirgin semptomlar göstermeden ilerleyen yaygın bir kardiyovasküler hastalıktır. Bu durumun erken teşhisi ve düzenli takibi, etkili klinik müdahaleler açısından hayati öneme sahiptir. Son yıllarda, balistokardiyografi (BCG), fotopletizmografi ve elektrokardiyografi gibi non-invaziv biyosinyal yöntemleri, hipertansiyonun neden olduğu fizyolojik değişimlerin tespiti açısından dikkat çekmektedir. Ancak hastalığın semptomsuz seyretmesi, geleneksel tanı yaklaşımlarının duyarlılığını sınırlamaktadır. Bu çalışmada, BCG zaman serisi verilerinden hipertansiyonun tespiti için Sıvı Sinir Ağları (SSA) tabanlı bir model önerilmektedir. SSA mimarisi, biyolojik sinyal işleme süreçlerinde zamansal olarak gelişen desenleri yakalama yeteneği nedeniyle tercih edilmiştir. Çalışmada kullanılan BCG sinyali veri seti 128x 30000 sinyal boyutuna sahiptir. Öncelikle, ham BCG sinyali zaman serisi verileri önce min/max yöntemi ile normalize edilmekte, ardından eğitim ve test alt kümelerine ayrılmaktadır. Eğitim verileri SSA modelinin giriş katmanına beslenmekte, modelin genelleme performansı ise test verileriyle doğrulanmaktadır. SSA’nda leaky integratör nöron tipi kullanılarak dinamik rezervuar durumları ayarlanmıştır. Çıkış ağırlıkları da bu dinamik rezervuar durumlarına göre güncellenmiştir. Bu SSA yapısı, sınıflandırma sürecinde dropout mekanizmasını entegre ederek rezervuar katmanının çıktısını düzenlemiştir ve bu sayede modelin genelleme kapasitesi artırılmıştır. Bu şekilde elde edilen daha dengeli ve çeşitlendirilmiş rezervuar aktivasyonları, çıkış katmanına iletilmeden önce filtrelenmiştir. Ardından, bu düzenlenmiş rezervuar durumu çıkış ağırlıklarıyla çarpılarak softmax fonksiyonuna aktarılmıştır. Softmax katmanı, her sınıfa ait olasılık değerlerini hesaplayarak en yüksek olasılığa sahip sınıfı modelin tahmini olarak belirlemiştir. Sınıflandırma performansını değerlendirmek amacıyla Doğruluk, Kesinlik, Duyarlılık ve F1-skoru gibi performans metrikleri hesaplanmış, sırasıyla %99.02, %98.98, %99.07 ve %99.02 sonuçları elde edilmiştir. Ayrıca, tahmin hatasını nicel olarak değerlendirmek için Kök Ortalama Kare Hata (KOKH), Ortalama Mutlak Hata (OMH) ve Ortalama Mutlak Yüzde Hata (OMYH) analiz edilmiş; bu değerler sırasıyla 0.099,

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0.009 ve 0.980 olarak bulunmuştur. Bu sonuçlar, modelin hem yüksek doğrulukta sınıflandırma yaptığı hem de nicel tahmin hatalarının minimal olduğunu göstermektedir. Özellikle klinik veya gerçek zamanlı uygulamalarda bu düzeyde performans, güvenilirlik, erken teşhis ve karar destek sistemleri açısından büyük avantaj sağlar. SSA mimarisinin dinamik zamansal özellikleri yakalama konusundaki yetkinliği, geleneksel modellere kıyasla daha az parametre kullanarak yüksek sınıflandırma doğruluğu elde edilmesini sağlamıştır.

Anahtar Kelimeler: Balistokardiyografik, Hipertansiyon, Sıvı sinir ağları, Sınıflandırma, Makine öğrenmesi.

ABSTRACT

Hypertension is a common cardiovascular disease that develops due to prolonged high pressure on the inner surface of blood vessels and often progresses without noticeable symptoms. Early diagnosis and regular monitoring of this condition are vital for effective clinical interventions. In recent years, non-invasive biosignal modalities such as ballistocardiography (BCG), photoplethysmography, and electrocardiography have attracted attention for detecting physiological changes associated with hypertension. However, the asymptomatic progression of the condition limits the sensitivity of conventional diagnostic approaches. In this study, a model based on Liquid Neural Networks (LNN) is proposed for the detection of hypertension from BCG time series data. The LNN architecture is chosen for its ability to capture temporally evolving patterns in biological signal processing. The BCG signal dataset used in the study has a signal dimension of 128×30000 . Prior to further processing, the raw BCG signals are normalized using the min-max scaling method and then divided into training and test subsets. The training data are fed into the input layer of the LNN model, and its generalization performance is validated using the test data. In the SSA, dynamic reservoir states are regulated using the leaky integrator neuron model, and the output weights are updated based on these reservoir dynamics. This SSA architecture incorporated a dropout mechanism during the classification process to regulate the output of the reservoir layer, thereby enhancing the model's generalization capacity. The resulting reservoir activations, which are more balanced and diversified, are filtered before being passed to the output layer. Subsequently, the adjusted reservoir state is multiplied by the output weights and fed into the softmax function. The softmax layer computed the probability values for each class and identified the class with the highest probability as the model's prediction. Performance metrics are calculated to evaluate classification performance included Accuracy, Precision, Recall, and F1-score, with respective outcomes of 99.02%, 98.98%, 99.07%, and 99.02%. Additionally, to quantitatively assess prediction error, Root Mean Square Error (RMSE), Mean Absolute Error (MAE), and Mean Absolute Percentage Error (MAPE) are analyzed, with values found to be 0.099, 0.009, and 0.980, respectively. These results demonstrate that the model achieves both high classification accuracy and minimal quantitative prediction errors. Such performance is particularly advantageous for clinical and real-time applications, offering enhanced reliability, early diagnosis capabilities, and support for decision-making systems. The LNN architecture's proficiency in capturing dynamic temporal features enabled it to attain high classification accuracy using fewer parameters than traditional models.

Keywords: Ballistocardiograph, Hypertension, Liquid Neural Networks, Classification, Machine learning.

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DERİN ÖĞRENME TABANLI ÖZELLİK ÇIKARIMI VE MAKİNE ÖĞRENMESİ YÖNTEMLERİYLE MANGO HASTALIKLARININ OTOMATİK SINIFLANDIRILMASI AUTOMATIC CLASSIFICATION OF MANGO DISEASES USING DEEP LEARNING- BASED FEATURE EXTRACTION AND MACHINE LEARNING METHODS

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ÖZET

Mango ağaçlarındaki hastalıklar ürün verimi ve kalitesi üzerinde önemli bir etkiye sahip olduğundan mango yetiştiricileri için erken teşhis oldukça önemlidir. Mango ağaçlarında gözlemlenen hastalıklar yapraklarda belirgin semptomlarla kendini gösterir. Geleneksel yöntemler, uzman bilgisine ve gözleme dayalıdır. Bununla birlikte oldukça zaman alıcı ve doğruluğu net olmayan öznel değerlendirmelere dayanmaktadır. Son yıllarda makine öğrenmesi tekniklerinin ve yapay zeka teknolojisinin gelişmesi ile mango ağaçlarında hastalık tespiti ve sınıflandırılması için etkili ve uygulanabilir bir çözümler sunmaktadır. Bu çalışmada, Bangladeş'in Rajbari ve Pabna bölgelerindeki mango ağaçlarını etkileyen hastalıkları tespit etmek ve sınıflandırmak için yapay zeka tabanlı bir tahminci modeli önerilmiştir. Kullanılan veri setinde, sağlıklı mango yaprakları ve antraknoz, kurumuş yapraklar, gal sineği, unlu küf ve yaşlanmış yapraklar şeklinde mango yaprağı türleri bulunmaktadır ve bu 6 sınıfa ait toplam 4000 görüntü bulunmaktadır. Bu görüntüler özellik çıkarımı için ağırlı girişine uygun olarak yeniden boyutlandırılmış ve sırasıyla %80 - %20 oranında eğitim ve test kümeleri olarak iki sınıfa ayrılmıştır. Tahminci modelin temelinde, güçlü bir derin öğrenme mimarisi olan ResNet-50 kullanılarak derin özellik çıkarımı gerçekleştirilmiştir. Ayrıca, en yakın komşu algoritması (KNN) sınıflandırma yöntemi ile hastalık türleri tespit edilmiştir. KNN sınıflandırıcısı ile ulaşılan sınıflandırma performansı, Destek Vektör Makinesi (SVM), Karar ağacı (DT), Naif Bayes Sınıflandırıcısı (NB), Rassal Orman (RF), ve Topluluk Öğrenme Yöntemleri gibi sınıflandırıcılarla karşılaştırmalı olarak değerlendirilmiştir. Yöntemlere ait sonuçlar, doğruluk (accuracy), duyarlılık (Recall), özgüllük (specificity), ve F1-score gibi değerlendirme indeksleri ile sunulmuştur. Yapılan deneysel çalışmalar sonucunda, önerilen yöntem ile % 99.72 doğruluk, % 0.99634 duyarlılık, % 0.9994 özgüllük ve % 0.99722 F1-skor değerleri elde ederek hastalık teşhisi konusunda yüksek bir güvenilirlik sergilemiştir. Ayrıca, yöntemin performansı, bar grafikleri ve karışıklık matrisi ile görsel olarak sağlanmıştır. Ayrıca, modelin performansı farklı sınıflandırıcılarla ve literatürde yer alan benzer çalışmalarla karşılaştırılmış, sonuçlar önerilen yaklaşımın üstünlüğünü açıkça ortaya koymuştur. Bu sonuçlar, ResNet50 ve KNN tabanlı modelin

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mango yaprak hastalıklarının erken teşhisinde etkili ve uygulanabilir bir yöntem olduğunu göstermektedir. Önerilen yöntemeye dayalı teknolojiler ile tarımsal üretim süreçlerinin daha efektif, sürdürülebilir, düşük maliyetli ve verimli hale getirilmesi sağlanmaktadır.

Anahtar Kelimeler: Mango yaprakları, hastalık sınıflandırması, derin özellik çıkarımı, makine öğrenmesi yöntemleri.

ABSTRACT

Due to the substantial effect of illnesses on mango tree productivity and quality, early detection is essential for mango cultivators. Diseases observed in mango trees manifest with distinct symptoms on the leaves. Traditional methods rely on expert knowledge and observation. However, they are time-consuming and rely on subjective assessments that are uncertain in their accuracy. Recent advances in machine learning and artificial intelligence have enabled effective, practical solutions for disease detection and classification in mango trees. In this study, an AI-based predictive model is proposed to detect and classify diseases affecting mango trees in the Rajbari and Pabna districts of Bangladesh. The dataset used includes healthy mango leaves and types of mango leaves, including anthracnose, dried leaves, gall midge, mealy mold, and senescent leaves. These six classes comprise a total of 4,000 images. The images are resized and divided into two classes as training and test sets with a ratio of 80% - 20%, respectively. ResNet-50, an effective deep learning architecture, is used in the deep feature extraction process of the model. Additionally, the k-nearest neighbors (KNN) classification method was used to identify categories of the illness. The classification performance of the KNN classifier was compared with that of Support Vector Machine (SVM), Decision Tree (DT), Naive Bayes Classifier (NB), Random Forest (RF), and Ensemble Learning Methods. The results of the methods are presented with evaluation indices such as accuracy, recall, specificity, and F1-score. Based on the experimental studies, the proposed method achieved 99.72% accuracy, 99.63% sensitivity, 99.94% specificity, and 99.722% F1-score, demonstrating high reliability in disease diagnosis. The performance of the method is also visualized using bar graphs and a confusion matrix. The performance of the model is also compared with different classifiers and similar studies in the literature, clearly demonstrating the superiority of the proposed approach. These results demonstrate that the ResNet50 and KNN-based model is an effective and applicable method for the early diagnosis of mango leaf diseases. Technologies based on the proposed method enable agricultural production processes to be made more effective, sustainable, low-cost, and efficient.

Keywords: Mango leaves, disease classification, deep feature extraction, machine learning methods.

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SPOR PAZARLAMASINDA NÖROPAZARLAMA STRATEJİLERİNİN OYUN TEORİSİ BAĞLAMINDA BELİRLENMESİ

DETERMINATION OF NEUROMARKETING STRATEGIES IN SPORTS MARKETING WITHIN THE FRAMEWORK OF GAME THEORY

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ÖZET

Bu çalışma, günümüzün rekabetçi spor pazarlaması bağlamında tüketici davranışlarının ardındaki duygusal ve bilinçdışı süreçleri analiz etmek amacıyla nöropazarlama tekniklerini Oyun Teorisi çerçevesiyle bütünleştiren disiplinlerarası bir yaklaşım sunmaktadır. Geleneksel "Homo Economicus" varsayımının aksine, spor tüketicisinin kararlarının duygusal dürtülerle şekillendiği bulgusundan hareketle, çalışma bu duygusal bağlılığı ölçmede fMRI, EEG ve göz izleme gibi nöroteknolojik araçların stratejik önemini vurgulamaktadır. eorik modelleme için, Türkiye Süper Ligi'nden iki büyük spor kulübü arasındaki rekabet, riskten kaçınma dinamiklerini yansıtan Korkak Tavuk Oyunu (Chicken Game) ile uyarlanmıştır. Kulüplerin stratejileri; düşük riskli Geleneksel Pazarlama (N₀) ve yüksek maliyetli, yüksek getirili Nöropazarlama (N₁) olarak tanımlanmıştır. Analiz, oyunun iki adet Saf Strateji Nash Dengesine (N₁, N₀) ve (N₀, N₁) sahip olduğunu ortaya koymuştur. Bu dengeler, bir kulübün risk alarak nöropazarlamayı benimserken diğerinin geri çekildiği ve pazarda asimetrik bir üstünlük olduğu durumları temsil etmektedir. Her iki kulübün de aynı anda N₁'i seçmesi (Çarpışma), yüksek maliyetler nedeniyle sürdürülemez bir felaket durumu olarak modellenmiştir (-1000,-1000). Sonuçlar, spor pazarlamasında yenilikçi stratejilerin benimsenme dinamiklerinin, yalnızca maliyet-getiri analizine değil, aynı zamanda rakibin davranışlarına yönelik karşılıklı gözlem ve koşullu karar verme süreçlerine bağlı olduğunu göstermektedir. Çalışma, spor kulüplerine ve sponsorlara, duygusal temelli tüketici verilerini rasyonel stratejik kararlara entegre etme mekanizması sunarak, uzun vadede marka sadakati ve finansal sürdürülebilirlik açısından rekabet avantajı sağlamayı hedeflemektedir.

Çalışma, spor pazarlamasında tüketici davranışlarını daha derinlemesine anlamak amacıyla nöropazarlama stratejilerinin nasıl geliştirilebileceğini ve bu stratejilerin oyun teorisi çerçevesinde nasıl optimize edilebileceğini incelemektedir. Spor endüstrisinde marka sadakati, duygusal bağlılık ve taraftar davranışları gibi değişkenler, geleneksel pazarlama yaklaşımlarının ötesinde, nörobilimsel verilerle analiz edilmeye başlanmıştır. Nöropazarlama teknikleri sayesinde tüketicilerin bilinçdışı karar süreçleri, duygusal tepkileri ve dikkat düzeyleri bilimsel olarak ölçülebilmekte; bu da spor kulüpleri, sponsor markalar ve medya kurumları açısından stratejik avantajlar sağlamaktadır. Bu bağlamda çalışmada, spor sektöründeki aktörler arasındaki stratejik ilişkiler oyun teorisi perspektifiyle ele alınmış; tarafların rekabet ve iş birliği temelli karar mekanizmaları modellenmiştir. Araştırma kapsamında, nöropazarlama uygulamaları ile oyun teorisine dayalı stratejik karar alma süreçleri birleştirilerek, spor pazarlamasına yönelik çok boyutlu ve yenilikçi bir analiz çerçevesi oluşturulmuştur. Elde edilen bulgular, spor endüstrisinde pazarlama stratejilerinin daha etkili planlanmasına ve hedef kitleye daha derinlemesine ulaşılmasına katkı sunmaktadır.

Anahtar Kelimeler: : Spor Pazarlaması, nöropazarlama, Oyun Teorisi, Tüketici Davranışı, Stratejik Karar Alma

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ABSTRACT

This study presents an interdisciplinary approach that integrates neuromarketing techniques with a Game Theory framework to analyze the emotional and subconscious processes underlying consumer behavior in today's competitive sports marketing context. Contrary to the traditional “Homo Economicus” assumption, based on the finding that sports consumers' decisions are shaped by emotional impulses, the study emphasizes the strategic importance of neurotechnological tools such as fMRI, EEG, and eye tracking in measuring this emotional attachment. For theoretical modeling, the competition between two major sports clubs in the Turkish Super League was adapted to the Chicken Game, reflecting risk-aversion dynamics. The clubs' strategies were defined as low-risk Traditional Marketing (N_0) and high-cost, high-return Neuromarketing (N_1). The analysis revealed that the game has two Pure Strategy Nash Equilibria: (N_1, N_0) and (N_0, N_1). These equilibria represent situations where one club takes a risk by adopting neuromarketing while the other retreats, creating an asymmetric advantage in the market. Both clubs selecting N_1 simultaneously (Collision) has been modeled as an unsustainable disaster scenario due to high costs (-1000,-1000). The results show that the dynamics of adopting innovative strategies in sports marketing depend not only on cost-benefit analysis but also on mutual observation of the competitor's behavior and conditional decision-making processes. The study aims to provide sports clubs and sponsors with a mechanism to integrate emotionally based consumer data into rational strategic decisions, thereby securing a competitive advantage in terms of long-term brand loyalty and financial sustainability.

This study examines how neuromarketing strategies can be developed in the context of sports marketing and how these strategies can be optimized through the framework of game theory. In the sports industry, variables such as brand loyalty, emotional attachment, and fan behavior have increasingly been analyzed through neuroscientific data beyond the scope of traditional marketing approaches. Neuromarketing techniques enable the scientific measurement of consumers' unconscious decision-making processes, emotional responses, and attention levels, thus creating strategic advantages for sports clubs, sponsor brands, and media organizations. In this context, the strategic interactions among actors in the sports sector are analyzed through a game theory perspective, modeling the decision-making mechanisms based on competition and cooperation. By integrating neuromarketing practices with game theory-based strategic decision-making processes, the study proposes a multidimensional and innovative analytical framework for sports marketing. The findings contribute to the more effective planning of marketing strategies in the sports industry and enhance engagement with target audiences.

Keywords: Sports Marketing, Neuromarketing, Game Theory, Consumer Behavior, Strategic Decision-Making

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NÜFUS SAYIMLARI IŞIĞINDA 1940-1950 ARASI SOLHAN'IN DEMOGRAFİK ÖZELLİKLERİ

AN ANALYSIS OF SOLHAN'S DEMOGRAPHIC STRUCTURE BETWEEN 1940 AND 1950 BASED ON POPULATION CENSUS DATA

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ÖZET

Bingöl il merkezine 60 km. uzaklıkta olan Solhan, I. Dünya Savaşı sırasında kısa süreli Rus işgaline uğramış ve 1929'da Muş'a bağlı bir bucak konumunda iken, 1936'da ilçe statüsü olarak Bingöl'e bağlanmıştır. Bu çalışmada Solhan ilçesinin nüfus verileri, 1940-1950 yılları arasında gerçekleşen nüfus sayımlarının verileri kapsamında değerlendirilmiştir. Çalışma ile Solhan'ın ilçe statüsü sonrası sosyal, toplumsal ve ekonomik durumunu gösteren yaş, cinsiyet, dil, din, meslek, sakatlık, okur-yazar durumu ve doğum yeri verilerini 1940-1950 yılları arasında gerçekleşen nüfus sayımı sonuçlarına göre ortaya koymak amaçlanmıştır. 1935 yılı genel nüfus sayımında Bingöl, Bitlis, Bulanık, Çapakçur, Genç, Mutki, Sason, Solhan ve Varto, Muş iline bağlı kazalar arasında yer almakta olup, Solhan'a ilişkin veriler bu kapsamda değerlendirilmiştir. Bu tarihte Solhan ilçe merkezinde 231'i erkek 190'ı kadın olmak üzere 421 kişi, Solhan ilçesine bağlı köylerde ise 3.790'ı kadın 3.610'u erkek olmak üzere toplamda nüfus 7.821'dir. 1940-1950 yılları arasında gerçekleşen nüfus sayımları değerlendirildiğinde cinsiyet, yaş, doğduğu yer, ana lisan, sakatlık, meslek gibi verilerin il kapsamında ilçeler ile bir bütün olarak değerlendirildiği görülmektedir. 1940 yılı sayım sonuçlarına göre Solhan ilçesi şehir merkezinde 214'ü erkek, 207'si kadın olmak üzere 421 kişi, bucak ve köylerde ise 4.067'si erkek ve 4.217'si kadın olmak üzere 8.284 kişi kayıtlı olup Solhan ilçesi toplam nüfusu 8.705'tir. 1945 yılında ise Solhan ilçe nüfusu şehirde 256'sı kadın 272'si erkek olmak üzere 528 kişi, bucak ve muhtarlıklarda ise 3.877'si kadın 3.768'i erkek olmak üzere Solhan toplam nüfusu 8.173'tür. Bingöl ili nüfusu 1950 yılı genel nüfus sayımında 97.328 kişi olarak tespit edilmiştir. 1950 yılı nüfus sayımına göre ise Solhan nüfusu (kadın-erkek birlikte) şehirde 1.746, bucak ve köylerde ise 7.522 kişi olmak üzere Solhan toplam nüfusu 9.268'dir. Yapılan bu çalışma ile Bingöl ili Solhan ilçesinin toplumsal, sosyal, ekonomik ve demografik yapısı Solhan ilçesi özelinde Türkiye Cumhuriyeti Başbakanlık İstatistik Genel Müdürlüğü tarafından hazırlanan 1940, 1945, 1950 genel nüfus sayımları ışığında ele alınacaktır.

Anahtar Kelimeler: Solhan, Nüfus Sayımı, Demografik Yapı, Cumhuriyet

ABSTRACT

Solhan, located 60 km from the provincial center of Bingöl, was briefly occupied by Russia during World War I. While it was a subdistrict of Muş in 1929, it gained district status in 1936 and became part of Bingöl. This study evaluates the population data of Solhan district based on the data from the population censuses conducted between 1940 and 1950. The aim of the study is to present data on age, gender, language, religion, occupation, disability, literacy status, and place of birth, which reveal the social and economic situation of Solhan after it gained district status, based on the results of the 1940-1950 census. In the 1935 general census, Bingöl, Bitlis, Bulanık, Çapakçur, Genç, Mutki, Sason, Solhan,

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and Varto were among the districts affiliated with the province of Muş, and the data related to Solhan was evaluated within this scope. At that time, the population of the Solhan district center was 421, comprising 231 men and 190 women, while the population of the villages affiliated with the Solhan district was 7,821, comprising 3,790 women and 3,610 men. When evaluating the population censuses conducted between 1940 and 1950, it is seen that data such as gender, age, place of birth, mother tongue, disability, and occupation were evaluated as a whole within the province. According to the 1940 census results, there were 421 people registered in the city center of Solhan district, 214 of whom were men and 207 of whom were women, and 8,284 people registered in the townships and villages, 4,067 of whom were men and 4,217 of whom were women, making the total population of Solhan district 8,705. In 1945, the population of Solhan district was 528 people, including 256 women and 272 men in the city, and 3,877 women and 3,768 men in the subdistricts and villages, making the total population of Solhan 8,173. The population of Bingöl province was determined to be 97,328 in the 1950 general census. According to the 1950 census, the population of Solhan (women and men combined) was 1,746 in the city and 7,522 in the townships and villages, making the total population of Solhan 9,268. This study will examine the social, economic, and demographic structure of the Solhan district of Bingöl province in light of the 1940, 1945, and 1950 general population censuses prepared by the General Directorate of Statistics of the Prime Ministry of the Republic of Turkey specifically for the Solhan district.

Keywords: Solhan, Population Census, Demographic Structure, Republic

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EKONOMİ, GELENEK VE ATAERKİLLİK: AŞİRET EVLİLİK PRATİKLERİNİN SOSYO- EKONOMİK ANALİZİ

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ÖZET

Bu çalışma, Güneydoğu Anadolu’da aşiret yapılarının etkili olduğu topluluklarda görülen evlilik pratiklerini ekonomik, kültürel ve ataerki bağlamda incelemeyi amaçlamaktadır. Araştırma, özellikle berdel evliliğinin hangi sosyoekonomik gerekçelerle sürdürüldüğünü anlamaya yönelmiştir. Çalışmanın ilk aşamasında berdel deneyimine sahip ya da bu konuda bilgi sahibi 20 kadınla kartopu örnekleme yoluyla anket yapılmış; yaş, eğitim ve ekonomik durum gibi değişkenlere ilişkin betimsel veriler elde edilmiştir. Katılımcıların büyük bölümünün düşük eğitim düzeyine ve sınırlı ekonomik imkânlara sahip olduğu, berdelin çoğunlukla ekonomik yükü azaltma, aileler arası dengeyi koruma ve başlık parasından kaçınma gerekçeleriyle ilişkilendirildiği görülmüştür. İkinci aşamada bu bulgular, Marx’ın meta, değer, emek ve üretim ilişkileri kavramları ile aşiret yapıları üzerine yapılan literatürle birlikte değerlendirilmiştir. Genel olarak çalışma, söz konusu evlilik pratiklerinin yalnızca kültürel bir gelenek olarak değil, ekonomik zorunluluklar ve ataerki toplumsal yapı ile bağlantılı bir olgu olarak ortaya çıkabileceğine işaret etmektedir. Bu sonuçlar, aşiret toplumlarındaki evlilik biçimlerinin toplumsal cinsiyet ilişkileri ve ekonomik yapı ile ele alınmasının önemini göstermektedir.

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İBN-İ HALDUN, EMİLE DURKHEİM VE JOHN DEWEY'İN EĞİTİM ÜZERİNE DÜŞÜNCELERİNİN KARŞILAŞTIRMALI OLARAK İNCELENMESİ

A COMPARATIVE ANALYSIS OF THE THOUGHTS OF IBN KHALDUN, ÉMILE DURKHEIM AND JOHN DEWEY ON EDUCATION

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ÖZET

Bu makale, Emile Durkheim, John Dewey ve İbn-i Haldun'un eğitim üzerine düşüncelerini karşılaştırmalı bir yaklaşımla incelemeyi amaçlamaktadır. Durkheim, öğretimi toplumsal norm ve değerlerin bireylere aktarıldığı bir sosyalleşme aracı olarak tanımlamaktadır. Ona göre, eğitimin en temel işlevi, toplumsal düzeni ve sürekliliği sağlamaktır. Bu süreç, bireyleri toplumsal yapının bir parçası haline getirerek kolektif dayanışmayı güçlendirmekte ve eğitimin topluma hizmet eden yönünü ön plana çıkarmaktadır. Durkheim'ın aksine, Dewey eğitimi bireyin deneyimleri üzerine kurulu bir süreç olarak değerlendirmektedir. Öğrenme, bireyin eleştirel ve yaratıcı düşünme becerilerini geliştirmesine yardımcı olurken, onu topluma aktif katılım için hazırlamaktadır. Dewey'in pedagojisi, demokrasiyi temel bir değer olarak görür ve eğitimi bireysel gelişimin yanı sıra demokratik bir toplumun inşasına hizmet eden bir araç olarak savunmaktadır. Bu yaklaşım, geleneksel yöntemleri eleştirerek birey merkezli ve dinamik bir anlayış sunmaktadır. İbn-i Haldun ise eğitimi hem bireysel hem de toplumsal gelişimin doğal bir unsuru olarak görmektedir. Bireylerin doğuştan getirdiği yeteneklerin geliştirilmesi gerektiğini vurgulamaktadır. Ona göre öğretimin kalitesi, toplumun ekonomik refahı ve kültürel yapısıyla doğrudan ilişkilidir. İbn-i Haldun ayrıca, bireyin yalnızca bilgiyle değil, ahlaki erdemlerle de donatılması gerektiğini belirtmektedir. Bu üç düşünür arasında belirgin farklılıklar olduğu gibi önemli ortak noktalar da bulunmaktadır. Durkheim eğitimi toplumsal düzen ve uyumla, Dewey bireysel deneyim ve demokratik değerlerle, İbn-i Haldun ise birey ve toplum arasındaki dengeyle ilişkilendirmektedir. Ancak her biri, bireyin ve toplumun birbirini tamamlayan unsurlar olduğu konusunda hemfikirdir. Bu durum, eğitimin evrensel bir değer taşıdığını ve bireyin potansiyelini gerçekleştirmesi için olduğu kadar, toplumun sürdürülebilirliği için de vazgeçilmez olduğunu ortaya koymaktadır.

Sonuç olarak, bu makalede ele alınan üç farklı perspektif, eğitimin hem bireysel hem de toplumsal işlevlerini daha derinlemesine anlamak için bir araya getirilmiştir. Eğitim, bireyin potansiyelini gerçekleştirmesi ve toplumun sürdürülebilirliğini sağlaması için vazgeçilmez bir araçtır ve bu bağlamda Durkheim, Dewey ve İbn-i Haldun'un fikirleri çağdaş eğitim anlayışına önemli katkılar sunmaktadır.

Anahtar Kelimeler: İbn-i Haldun, Emile Durkheim, John Dewey, Eğitim Felsefesi, Karşılaştırmalı Eğitim.

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ABSTRACT

This article aims to examine the educational thoughts of Emile Durkheim, John Dewey, and Ibn Khaldun through a comparative approach. Durkheim defines education as a tool of socialization through which social norms and values are transmitted to individuals. According to him, the most fundamental function of education is to ensure social order and continuity. This process strengthens collective solidarity by making individuals a part of the social structure and emphasizes the socially beneficial aspect of education. Unlike Durkheim, Dewey views education as a process built upon the individual's experiences. Learning helps individuals develop critical and creative thinking skills while preparing them for active participation in society. Dewey's pedagogy views democracy as a fundamental value and advocates education as a tool that serves not only individual development but also the construction of a democratic society. This approach critiques traditional methods and offers an individual-centered and dynamic understanding. Ibn Khaldun, on the other hand, views education as a natural element of both individual and social development. He emphasizes the need to develop individuals' innate abilities. For him, the quality of education is directly related to the economic well-being and cultural structure of society. Ibn Khaldun also states that individuals should be equipped not only with knowledge but also with moral virtues. While there are significant differences between these three thinkers, there are also significant commonalities. Durkheim associates education with social order and harmony, Dewey with individual experience and democratic values, and Ibn Khaldun with the balance between the individual and society. However, each agrees that the individual and society are complementary elements. This demonstrates that education has universal value and is indispensable not only for the individual to realize their potential but also for the sustainability of society. In conclusion, the three different perspectives explored in this article are brought together to provide a deeper understanding of both the individual and societal functions of education. Education is an indispensable tool for individuals to realize their potential and ensure the sustainability of society, and in this context, the ideas of Durkheim, Dewey, and Ibn Khaldun offer significant contributions to contemporary educational thinking.

Keywords: Ibn Khaldun, Emile Durkheim, John Dewey, Philosophy of Education, Comparative Education.

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NANOTEKNOLOJİ TABANLI KOMPOZİT REZİNLER: AVANTAJLAR VE DEZAVANTAJLAR

NANOTECHNOLOGY-BASED COMPOSITE RESINS: ADVANTAGES AND DISADVANTAGES

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ÖZET

Son yıllarda nanoteknoloji, restoratif diş hekimliğinde estetik ve dayanıklılığı bir arada sunan yenilikçi materyallerin geliştirilmesini sağlamıştır. Nanohibrit ve nanofill kompozit rezinler, partikül boyutunun 100 nm'nin altına indirilmesiyle, geleneksel mikrohürit kompozitlere göre üstün mekanik, optik ve yüzey özellikleri göstermektedir. Nano boyuttaki doldurucular, ışık geçirgenliğini artırarak dişe daha doğal bir translüsens kazandırmakta ve polisaj sonrası yüzey parlaklığını uzun süre koruyabilmektedir. Bununla birlikte, nanopartiküllerin yüksek yüzey alanı ve aglomerasyon eğilimi, polimer matrisle etkileşimi etkileyebilmekte; bu durum, üretim maliyetini artırmakta ve uzun dönem renk stabilitesi açısından sınırlamalar oluşturabilmektedir. Ayrıca, bazı nanokompozitlerin elastik modülünün düşük olması, posterior bölgelerde kırılma riskini artırabilir. Sonuç olarak, nanoteknoloji tabanlı kompozitler, estetik restorasyonlarda yüksek parlaklık, renk uyumu ve mekanik direnç açısından önemli avantajlar sunsa da, uzun dönem klinik verilerle desteklenmeleri gerekmektedir.

Anahtar Kelimeler: Nanohibrit kompozit, nanofill, restoratif diş tedavisi, mekanik dayanıklılık, renk stabilitesi.

ABSTRACT

In recent years, nanotechnology has enabled the development of innovative restorative materials that combine both aesthetics and durability in dentistry. Nanohybrid and nanofilled composite resins, with filler particle sizes reduced to below 100 nm, exhibit superior mechanical, optical, and surface properties compared to conventional microhybrid composites. The nanosized fillers enhance light transmission, providing a more natural translucency and maintaining surface gloss after polishing for extended periods. However, the high surface area and agglomeration tendency of nanoparticles can affect their interaction with the polymer matrix, leading to increased production costs and potential limitations in long-term color stability. In addition, some nanocomposites may present a lower elastic modulus, which could increase the risk of fracture in posterior restorations. In conclusion, nanotechnology-based composites offer significant advantages in aesthetic restorations by providing high gloss, color harmony, and mechanical strength; nevertheless, further long-term clinical evidence is required to fully confirm their performance.

Keywords: Nanohybrid composite, nanofill, restorative dentistry, mechanical strength, color stability.

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SARIÇAM RAM 2020-2025 OKUL ÖNCESİ OTİZM TANILARI: SIKLIK, CİNSİYET VE
TANI DÜZEYİ EĞİLİMLERİ

CHANGES IN THE PREVALENCE OF AUTISM SPECTRUM DISORDER DIAGNOSES IN
PRE-SCHOOL CHILDREN (2020–2025) IN SARIÇAM GUIDANCE AND RESEARCH
CENTER: DIFFERENCES BY YEAR, GENDER, AND SEVERITY

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ÖZET

Adana ili Sarıçam Rehberlik ve Araştırma Merkezi (RAM) istatistiki bilgi kayıtlarına dayanarak 2020-2025 yılları arasında okul öncesi dönemde Otizm Spektrum Bozukluğu (OSB) tanısı alan çocukların sayısındaki yıllık değişimi incelemekte olan bu çalışma; yıllar içerisindeki değişimin cinsiyete göre dağılımı ile tanı düzeylerine göre farklılaşmasını analiz etmektedir. Araştırma betimsel tarama modelinde tasarlanmış ve RAM'in resmî veri tabanından elde edilen yıllık kayıtlar sistematik biçimde değerlendirilmiştir. Her yıl tanı konulan çocuk sayıları, kız/erkek dağılımları ve tanı düzeyleri (hafif, orta, ağır) grafiksel ve tablolaştırılmış karşılaştırmalarla irdelenmiştir.

Veriler, beş yıllık dönemde okul öncesi OSB tanılarında kayda değer bir artış olduğunu göstermektedir. 2020 yılına kıyasla 2025 yılında yeni tanı sayısının yaklaşık üç-dört kat arttığı görülmüştür. Cinsiyet dağılımı incelendiğinde erkek çocukların tüm yıllarda kız çocuklara göre yüksek oranda tanı aldığı; erkek/kız oranının yaklaşık 4/1 olduğu sonucu orta çıkmaktadır. Buna göre yıllar içerisinde kız çocuklarda tanılanma oranının görece yükseldiği gözlemlenmiş, bu durum hafif tanıli kız çocuklarında farkındalığın artması ile ilişkilendirilmiştir. Tanı düzeylerine göre inceleme sonucunda araştırmanın ilk yıllarında orta ve ağır düzey OSB tanılarının baskın olduğu, sonraki yıllarda ise hafif düzey tanılarının daha fazla tanı aldığı saptanmıştır. Bu bulgu, erken tarama ve erken yönlendirme süreçlerinin güçlendiğini en temel göstergelerinden birisi olabilir.

Elde edilen veriler ışığında OSB'nin uluslararası yaygınlığı karşılaştırmalı olarak yorumlanmıştır. Amerika Birleşik Devletleri'nde 8 yaş grubu için prevalansın son 20 yılda 150'de 1'den 36'da 1'e yükselmesi, aynı doğrultuda Dünya Sağlık Örgütü'nün son verilerinde OSB yaygınlığının yaklaşık %1'e ulaştığının belirtilmesi Sarıçam ilçesindeki artış eğilimini desteklemektedir. Yerel verilerin ilçe nüfusuna oranla %1 düzeyine yaklaşması, Türkiye'de tanı süreçlerinin küresel eğilimlerle paralel seyretmesi olarak açıklanabilir. Sonuç olarak, okul öncesi dönemde OSB tanılarının artışı, yalnızca olgu sayısındaki yükselişle değil, tarama, farkındalık ve tanı hizmetlerindeki iyileşmeyle birlikte değerlendirilmelidir. Bu doğrultuda, erken tanı süreçlerinin yaygınlaştırılması, hafif tanıli ve özellikle

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kız çocuklarda tanı gecikmesini azaltacak yönlendirmelerin güçlendirilmesi ve ailelere sunulan erken müdahale hizmetlerinin kapsamının artırılması önerilmektedir.

Anahtar Kelimeler: Otizm Spektrum Bozukluğu, okul öncesi çocuklar, prevalans eğilimi, cinsiyet farkı, tanı düzeyi, erken tanı, Sarıçam RAM.

ABSTRACT

This study analyzes the change in preschoolers diagnosed with Autism Spectrum Disorder (ASD) from 2020 to 2025, using data from the Sarıçam Guidance and Research Center (RAM) in Adana. Analysis examines gender and diagnostic severity differences in these changes as well as the overall trend. A descriptive survey was conducted utilizing RAM's official database and annual records were methodically evaluated. Tables and graphs showed the number of newly diagnosed children, the male–female distribution, and the proportions of mild, moderate, and severe diagnoses for each year.

Five years of ASD diagnoses show a rise. Three to four times more preschool diagnoses were made in 2025 than in 2020. Girls were diagnosed less often than males in every year of the research, with a 4:1 ratio. Although this disparity remains considerable, the proportionate increase in diagnosed females over time reflects a rising recognition of milder or less obvious early childhood manifestations. While moderate and severe instances were more common early on, mild ASD diagnoses were more common later on. This pattern suggests earlier detection and better referral.

Interpretations were based on international prevalence trends. ASD prevalence among 8-year-olds in the US has increased from 1 in 150 two decades ago to 1 in 36, and the WHO estimates the global rate at 1%. Turkey aligns with worldwide diagnostic trends as Sarıçam's local figures approach similar levels. The growth in preschool ASD diagnoses appears to be due to more detected cases, screening opportunities, parental and institutional awareness, and diagnostic service accessibility. Thus, improving early identification—especially for girls and mildly affected children—and expanding early intervention and family support may reduce diagnosis delays.

Keywords: Autism Spectrum Disorder, preschool children, prevalence trend, gender distribution, diagnostic severity, early identification, Sarıçam RAM.

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OTİZM SPEKTRUM BOZUKLUĞUNDA ORTAK DİKKAT: BAŞLATMA, SÜRDÜRME VE GENELLEME SÜREÇLERİNİN İNCELENMESİ

JOINT ATTENTION IN AUTISM SPECTRUM DISORDER: AN EXAMINATION OF INITIATION, MAINTENANCE, AND GENERALIZATION PROCESSES

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ÖZET

Bu çalışmada, otizm spektrum bozukluğu (OSB) olan bireylerde ortak dikkat başlatma, sürdürme ve genelleme süreçleri dokümaner analiz ile incelenmiştir. Bu doğrultuda, mevcut literatür taranarak, ortak dikkatin gelişimi, OSB'deki önemi, karşılaşılan güçlükler ve müdahale yaklaşımları değerlendirilmiştir. Google Akademik aracılığıyla ulaşılan açık ve kapalı erişimli bilimsel çalışmalar incelenmiş, otizimli bireylerde ortak dikkatin başlatılması, devam ettirilmesi ve farklı bağlamlara genellenmesine ilişkin bulgular derlenmiştir. OSB'li bireylerin, özellikle ortak dikkati başlatma (bir nesne veya olaya dikkat çekme) davranışlarında belirgin gecikmeler ve sınırlılıklar olduğu, sürdürme (ortak ilgi durumunu devam ettirme) kapasitesinde zorluklar yaşadığı ve öğrenilen becerilerin genellenmesinde güçlükler bulunduğu saptanmıştır. Ortak dikkat becerilerinin, dil ve sosyal iletişim gelişimi için kritik bir temel olduğu ve erken dönemdeki eksikliklerinin ileriki yaşlarda sosyal-bilişsel sorunlarla ilişkili olabileceği anlaşılmıştır. Çeşitli eğitim ve terapi yaklaşımlarıyla (doğal etkileşimler, oyun temelli müdahaleler, davranışsal teknikler) ortak dikkat becerilerinin geliştirilebileceği; ancak bu becerilerin farklı ortamlar ve kişiler arasında genellenmesi ve kalıcılığının sağlanması için çoklu ortam eğitimi ve aile katılımı gibi stratejilerin gerekli olduğu görülmüştür. Elde edilen sonuçlar ilgili literatür ışığında tartışılmış, ortak dikkat becerilerinin eğitim, terapi ve günlük sosyal etkileşim bağlamlarında desteklenmesine yönelik öneriler sunulmuştur. Ortak dikkatin OSB'de erken tanı ve müdahalede kilit bir rol oynadığı ve bu alandaki eksikliklerin giderilmesiyle dil, iletişim ve sosyal yaşamda önemli iyileşmeler sağlanabileceği sonucuna varılmıştır.

Anahtar Kelimeler: otizm spektrum bozukluğu, ortak dikkat, başlatma, sürdürme, genelleme, doküman analizi.

ABSTRACT

In this study, the processes of initiating, maintaining, and generalizing joint attention in individuals with autism spectrum disorder (ASD) were examined through documentary analysis. Accordingly, the existing literature was reviewed to evaluate the development of joint attention, its importance in ASD, the challenges encountered, and intervention approaches. Scientific studies accessible via Google Scholar, including both open- and closed-access publications, were analyzed, and findings concerning the initiation, maintenance, and generalization of joint attention across different contexts in autistic individuals were synthesized. It was determined that individuals with ASD exhibit marked delays and

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limitations particularly in initiating joint attention (directing attention to an object or event), experience difficulties in maintaining it (sustaining a state of shared interest), and encounter challenges in generalizing acquired skills. Joint attention skills constitute a critical foundation for language and social communication development, and early deficits may be associated with later social–cognitive difficulties. While joint attention can be enhanced through various educational and therapeutic approaches (e.g., naturalistic interactions, play-based interventions, behavioral techniques), strategies such as training across multiple settings and family involvement are necessary to promote generalization across environments and people and to ensure maintenance. The results were discussed in light of the relevant literature, and recommendations were offered for supporting joint attention within educational, therapeutic, and everyday social interaction contexts. It was concluded that joint attention plays a pivotal role in early identification and intervention in ASD, and that addressing deficits in this area can yield substantial improvements in language, communication, and social functioning.

Keywords: autism spectrum disorder, joint attention, initiation, maintenance, generalization, documentary analysis.

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DİJİTAL ANTROPOLOJİDE ASMR MUKBANG İÇERİKLERİNİN GASTRONOMİK PERSPEKTİFTEN DEĞERLENDİRİLMESİ

EVALUATION OF ASMR MUKBANG CONTENTS FROM A GASTRONOMICAL PERSPECTIVE IN DIGITAL ANTHROPOLOGY

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ÖZET

Dijital kültür günümüz teknolojilerinin yarattığı modernizmin bir sonucudur. Bu kültürle beraber ortaya çıkan birtakım trendler bireylerin yaşam kalitesini etkileyen arketipler haline gelebilmektedir. Çevrimiçi yayınlarda kamera karşısında yemek yemeyi içeren Asmr Mukbang videoları dijital kültürün bir parçası olarak bireylerde yalnızlık duygusunu gidermek için izlenmesinin yanı sıra diyet yapanlar için vekaleten yemek yemeyi teşvik edici kültürü içermektedir. Çalışmanın amacı dünya üzerinde giderek popüler hale gelen, dijital ortamda olmasından kaynaklı kolay para kazanmanın bir yolu olarak görülen ve bu bağlamda toplumu psikolojik ve sosyolojik yönden etkisi altına alan Asmr Mukbang video içeriklerinin gastronomik perspektiften incelenerek altta yatan kültürel mantığın incelenmesini içermektedir. Bu çalışma Asmr Mukbang içeriklerinin obeziteye olan etkisi göze çarpmakla birlikte abartılı ve orantısız porsiyonlarda rahatsız edici sesler çıkarılarak yemek yenmesi yemek sofrası adabını olumsuz yönde etkilediği bir başka sosyal yöndür. Sonuç olarak bu çalışmada açlık duygusunu harekete geçiren prototipik olgular içerisinde Asmr Mukbang içeriklerinin etkin yönü irdelenmekte ve nörolojik etken olarak sinestezik modalitede yiyecek seslerinin kolektif bünyede bireye olan etkisinin kausal bağı analiz edilmektedir.

Anahtar Kelimeler: Açlık, Asmr, Dijitalleşme, Mukbang, Sinestezi

ABSTRACT

Digital culture is a result of modernism created by today's technologies. Some trends that emerged with this culture can become archetypes that affect the quality of life of individuals. Asmr Mukbang videos, which include eating in front of the camera in online broadcasts, are watched as a part of digital culture to relieve the feeling of loneliness in individuals, as well as a culture that encourages eating by proxy for dieters. The aim of the study is to examine the underlying cultural logic by examining the video contents of Asmr Mukbang, which has become increasingly popular in the world, seen as a way of making easy money due to its being in the digital environment and in this context, which affects the society psychologically and sociologically, from a gastronomic perspective. This study was created with the document analysis method, which is one of the qualitative research methods. Although the effect of Asmr Mukbang contents on obesity is striking, eating food in exaggerated and disproportionate portions by making disturbing sounds is another social aspect that negatively affects table manners. As a result, in this study, the effective aspect of Asmr Mukbang contents in prototypical cases that activate the

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feeling of hunger is examined and the causal link of the effect of food sounds on the individual in the collective body in the synesthetic modality as a neurological factor is analyzed.

Keywords: Hunger, Asmr, Digitization, Mukbang, Synesthesia

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YANGIN SONRASI T-PARÇALARIN DAVRANIŞININ İNCELENMESİ INVESTIGATION OF POST-FIRE BEHAVIOR OF T-STUB

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ÖZET

Cıvata ve kaynaklı bağlantılar, çelik yapısal elemanların birleştirilmesinde kullanılan iki ana yöntemdir. Cıvatalı bağlantı, kaynaklı bağlantıya göre daha avantajlıdır. Cıvatalı bağlantılar, özel aletler gerektirmeden kolayca monte edilebilir ve montajları hava koşullarından daha az etkilenir. Genel olarak, T-parça modeli, alın levhalı cıvatalı bağlantıların davranışını temsil etmek için benimsenir. T-parça üzerine yapılan büyük çaplı çalışmalara rağmen, yangın koşullarındaki güvenliği ve güvenilirliği hala önemli bir endişe kaynağıdır. Çelik malzemenin yüksek sıcaklıklara karşı duyarlı olduğu iyi bilinmektedir. Yüksek sıcaklıklarda malzeme bozulması, Tparçanın çökmesine veya akmasına ve muhtemelen tüm yapının kademeli olarak çökmesine neden olabilir. Son çalışmalar, yangından sonra ve artan sıcaklık altında çelik bağlantıların moment-dönme davranışında önemli bir değişiklik gösterdiğini, bağlantının nihai kapasitesini, dönüş rijitliğini, davranışını ve sıcaklığa bağlı olarak göçme modlarını değiştirdiğini göstermiştir. Ancak, yangın sonrası yüksek sıcaklıklardaki T-parçalar üzerine yapılan çalışmalar sınırlıdır. Uygulanan sıcaklıklar genellikle 700-800°C'ye kadar çıkmaktadır. Bu sıcaklık değerinin 1000°C'ye kadar çıkabileceği göz önüne alındığında, deneysel çalışmalar yetersiz görünmektedir. Bu projede, T-parçanın yangın sonrası yük ve yer değiştirme eğrilerini karşılaştırmak, uygulanan sıcaklık değişimine bağlı olarak plastik ve nihai kapasiteleri incelemek ve yangın sonrası T-parçanın süneklik ve gevrek davranışını karşılaştırmak amaçlanmıştır.

Teşekkür:

Bu çalışma, Necmettin Erbakan Üniversitesi'nin 221219023 numaralı Bilimsel Araştırma Projesi tarafından desteklenmiştir.

Anahtar Kelimeler: İnce cidarlı kabuk yapılar; Paslanmaz çelik; Delik etkisi; Burkulma davranışı; FRP güçlendirme

ABSTRACT

Bolt and welding are the two main methods of attaching steel structural members. Bolted connection is more advantageous than welded connection. The bolted joint can be easily installed without any special tools, and the mounting of the bolted joint is less affected by weather conditions. In general, a T-stub model is adopted to represent the behavior of end-plate bolted connections. Despite tremendous valuable work on the T-stub, its safety and reliability under fire conditions remains a major concern. It is well known that steel material is sensitive to high temperatures. Material degradation at high temperatures is likely to result in collapse or yielding of the T-stub, possibly triggering the gradual collapse of the entire structure. Recent studies have shown that steel joints exhibit a significant change in moment-rotational response after fire and under increasing temperature, as the joint changes its ultimate capacity, rotational stiffness, behavior, and failure modes by temperature. However, studies on Tstubs at high post-fire temperatures are limited. The temperatures applied are generally up to 700-800 °C. Considering that this

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temperature value can go up to 1000 °C, it seems that the experimental studies are insufficient. In this project, it is aimed to compare the post-fire load and displacement curves of T-stub, to examine the plastic and final capacities depending on the applied temperature change, and to compare the ductility and brittle behavior of T-stub after fire.

Acknowledgement:

This study was supported by the Scientific Research Project No. 221219023 of Necmettin Erbakan University.

Keywords: Thin-walled shell structures; Stainless steel; Perforation effect; Buckling behavior; FRP strengthening

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İNCE CİDARLI SİLİNDİRİK PASLANMAZ ÇELİK KABUKLARDA DELİK KAYNAKLI ZAYIFLIKLARIN FRP İLE GÜÇLENDİRİLMESİ VE BURKULMA PERFORMANSINA ETKİSİ

STRENGTHENING OF PERFORATED THIN-WALLED STAINLESS STEEL CYLINDRICAL SHELLS WITH FRP COMPOSITES AND EFFECTS ON BUCKLING PERFORMANCE

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ÖZET

İnce cidarlı çelik yapıların burkulma davranışlarının doğru şekilde analiz edilmesi, bu yapıların güvenliğinin ve uzun hizmet ömrünün sağlanması açısından kritik öneme sahiptir. Metal yapı elemanlarının yüzeylerinde oluşan geometrik kusurlar, özellikle ince cidarlı çelik kabuklarda hem taşıma kapasitesini azaltmakta hem de yapısal bütünlüğü olumsuz yönde etkilemektedir. Kabuk yüzeyinde lokalize olmuş delikler, oyuklar, çentikler ve çatlaklar gibi yerel geometrik düzensizlikler, yapının genel gerilme dağılımını bozarak burkulmaya karşı hassasiyeti arttırabilir. Bu tür kusurlar ile burkulma davranışı arasındaki ilişki, yapının malzeme özellikleri ve geometrik konfigürasyonuna bağlı olarak oldukça karmaşık ve çok boyutludur. İnce cidarlı çelik kabukların burkulma analizinde; elastik modül, kayma modülü, çekme dayanımı ve kırılma tokluğu gibi temel malzeme özelliklerinin yanı sıra başlangıç geometrik kusurların da dikkate alınması gerekmektedir. Tank ve silo gibi basınca maruz kalan endüstriyel yapı elemanlarında, bakım-onarım, havalandırma, seviye kontrolü, boru bağlantısı veya sensör yerleşimi gibi işlevsel gereklilikler nedeniyle çeşitli çap ve konumlarda delikler açılmaktadır. Ancak bu yapısal kesintiler, yerel gerilme birikimine neden olarak yapının bütünlüğünü zayıflatmakta ve burkulma ile göçme gibi stabilite problemlerine yol açabilmektedir. Bu nedenle, deliklerin yapısal performans üzerindeki etkisinin dikkatle değerlendirilmesi büyük önem taşımaktadır.

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Açılan delikler, yapısal sürekliliği bozarak yerel zayıflıklara ve stabilite kayıplarına yol açabileceğinden mutlaka uygun yöntemlerle güçlendirilmelidir. Bu tür zayıf bölgelerin takviyesinde, yüksek dayanım ve hafiflik özellikleriyle öne çıkan karbon fiber takviyeli polimer (CFRP) ve cam fiber takviyeli polimer (GFRP) kompozit malzemeler etkili bir çözüm sunabilir. CFRP ve GFRP sarımları, delik çevresindeki gerilme yığılmalarını azaltarak yapının burkulma ve taşıma kapasitesini önemli ölçüde artırabilir. Açılan deliklerin boyutu, konumu ve şekli, yapısal davranış üzerinde doğrudan etkili parametreler olup, bu özelliklerin sayısal modellere doğru şekilde entegre edilmesi, burkulma tepkisinin daha gerçekçi şekilde tahmin edilmesini sağlar. Literatürde, delik açılmış silindirik paslanmaz çelik kabukların burkulma davranışına yönelik çalışmalar sınırlı sayıdadır ve özellikle bu zayıf bölgelerin FRP kompozitlerle güçlendirilmesinin deneysel olarak incelendiği araştırmalar oldukça kısıtlıdır. Bu çalışmada, belirli konum ve çaplarda delikler açılmış paslanmaz çelik kabuk numuneler, kompozit takviyeli polimerlerle güçlendirilecek ve ardından deneysel burkulma testlerine tabi tutulmuştur

Teşekkür:

Bu çalışma, Necmettin Erbakan Üniversitesi'nin 25GAP19008 numaralı Bilimsel Araştırma Projesi tarafından desteklenmiştir.

Anahtar Kelimeler: İnce cidarlı kabuk yapılar; Paslanmaz çelik; Delik etkisi; Burkulma davranışı; FRP güçlendirme

ABSTRACT

Accurate analysis of the buckling behavior of thin-walled steel structures is critically important to ensure their structural safety and long-term performance. Geometric imperfections and local discontinuities on the surface of metal structural elements, such as holes, notches, pits, and cracks, can significantly reduce both the load-bearing capacity and the structural integrity of cylindrical steel shells. These localized defects disturb the stress distribution and increase the susceptibility of the structure to buckling. In pressure-loaded industrial components such as tanks and silos, perforations are often introduced intentionally due to operational requirements, including maintenance access, ventilation, pipe connections, and sensor installation. However, these openings may act as stress concentrators, leading to local weaknesses and global instability. To mitigate the adverse effects of such discontinuities, structural strengthening becomes essential. Fiber-reinforced polymer (FRP) composites, particularly carbon (CFRP) and glass (GFRP) fiber systems, offer effective solutions due to their high strength-to-weight ratio, corrosion resistance, and ease of application. Wrapping FRP around perforated regions can redistribute stress concentrations and significantly enhance the buckling resistance of the shell. The size, location, and shape of the openings are critical parameters that influence the structural response and must be accurately represented in numerical models to obtain realistic predictions. Despite the importance of this topic, experimental studies investigating the buckling behavior of perforated stainless steel cylindrical shells strengthened with FRP composites remain limited in the literature. In this study, stainless steel shell specimens with circular holes of varying sizes and positions are strengthened using composite wraps and subjected to experimental buckling tests.

Acknowledgement:

This study was supported by the Scientific Research Project No. 25GAP19008 of Necmettin Erbakan University.

Keywords: Thin-walled shell structures; Stainless steel; Perforation effect; Buckling behavior; FRP strengthening

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TRANSFORMER-BASED MACHINE TRANSLATION: A COMPREHENSIVE ANALYSIS OF RESEARCH PROGRESS AND GLOBAL CONTRIBUTIONS

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ABSTRACT

Machine Translation (MT) has evolved significantly with the advent of deep learning, particularly through the introduction of Transformer-based models. This bibliographic review systematically examines the academic literature on Transformer-based MT, leveraging data from the Web of Science Core Collection to analyze publication records by year, researcher, author, Web of Science category, citation topic micro, affiliation, country, publisher, funding agency, and citations of Transformer-based MT papers. The review highlights the transformative impact of the Transformer architecture. By synthesizing publication trends, citation patterns, and future directions, this review underscores the continued dominance and potential of Transformer-based models in advancing MT and natural language processing, while calling for further innovations in efficiency and adaptability to broaden their real-world applicability.

Keywords: Machine Translation, Transformer, Bibliographic Reviews.

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A COMPARATIVE ANALYSIS OF K-MEANS AND AGGLOMERATIVE CLUSTERING FOR BEHAVIORAL DATA USING SILHOUETTE SCORES

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ABSTRACT

This study analyses the digital habits of mobile device users using K-means and agglomerative clustering methods. Feature engineering and data normalization techniques were applied to increase the integrity of the dataset and facilitate meaningful clustering. Performance measures such as Silhouette Score, Davies-Bouldin Index and Dunn Index were used to evaluate the effectiveness of the methods. In addition, a number of similarity measures, including Euclidean distance and cosine similarity, as well as linkage methods were included to evaluate clustering effectiveness. The results show that the Single Linkage method combined with Euclidean distance consistently outperforms K-Means on datasets with different cluster structures. This highlights the importance of using a variety of clustering methods and metrics to achieve reliable and robust results in clustering analysis.

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İNSTAGRAM KULLANIMININ EVLİLİK İLİŞKİSİNE YANSIMALARI: KADINLARIN PERSPEKTİFİNDEN ALGILANAN İLİŞKİ KALİTESİ VE GÜVEN ÜZERİNE NİTEL BİR ARAŞTIRMA

REFLECTIONS OF INSTAGRAM USE ON MARITAL RELATIONSHIPS: A QUALITATIVE STUDY ON WOMEN'S PERSPECTIVES REGARDING PERCEIVED RELATIONSHIP QUALITY AND TRUST

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ÖZET

Dijitalleşmenin dünyada artması ile sosyal medya platformları, bireylerin gündelik yaşam pratiklerini ve kişilerarası ilişkilerini derinden etkilemektedir. Bu sosyal medya platformları arasında Instagram, görsel ağırlıklı yapısı, beğeni ve takip mekanizmaları, anlık paylaşım özellikleri ve sürekli erişilebilirlik imkânı ile evli bireylerin ilişki pratiklerini en çok etkileyen mecralardan biri hâline gelmiştir. Bu çalışma, kadınların perspektifinden Instagram kullanımının evlilik ilişkisine yansımalarını, algılanan ilişki kalitesi ve güven kavramları çerçevesinde incelemeyi amaçlamaktadır. Araştırma nitel bir desende yürütülmüş; veri toplama yöntemi olarak yarı yapılandırılmış görüşmeler kullanılmıştır. Çalışma grubunu, en az bir yıldır evli olan ve aktif biçimde Instagram kullanan 25 kadın katılımcı oluşturmaktadır. Veriler, tematik analiz yöntemiyle değerlendirilmiştir. Analiz sürecinde katılımcı ifadelerinden hareketle Instagram kullanımının ilişkilere olan etkisini temsil eden ana ve alt temalar oluşturulmuştur. Maxqda ile oluşturulan bu alt temalarda anlamlı bulgular elde edilmiştir. Elde edilen bulgular doğrultusunda Instagram kullanımının çiftler arasındaki iletişim biçimini, duygusal yakınlığı ve karşılıklı güven algısını farklı biçimlerde etkilediğini ortaya koymuştur. Katılımcıların bir bölümü, eşlerinin sosyal medya etkileşimlerinden kaynaklı olarak kıskançlık, güvensizlik ve duygusal uzaklaşma yaşadıklarını, evde beraber geçirilen sürenin azalarak sosyal medyaya yöneldiğini belirterek eşlerin takip ettiği kişiler, beğeniler, yorumlar, çevrimiçi geçirilen süre ve hesap gizliliği gibi unsurların çatışma ve güvensizlik duygusunu artırdığı aktarmıştır. Bununla birlikte, bazı katılımcılar Instagram kullanımının herhangi bir sorun yaratmadığını, bireysel kimliklerin yansıtıldığı yer olarak tanımladıklarını dile getirmiştir. Bu durum, sosyal medyanın ilişkiler üzerindeki etkisinin tek yönlü olmadığını, kullanım amacı ve sınırlarının belirlenmesinin ilişkinin niteliğinde belirleyici olduğunu göstermektedir. Bulgular sonucunda, sosyal medya kullanımının evliliklerde hem risk hem de bireysel

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alan oluşturduğunu; özellikle güven, sınır koyma, iletişim tarzı ve dijital mahremiyetin ilişki kalitesini belirleyen temel unsurlar arasında yer aldığını ortaya koymaktadır. Evliliklerin yapısında sosyal medya platformlarının aktif rol oynadığı artık ev içi ilişkilerinin sosyal medya platformları bağlamında da değerlendirilmesi gerektiği kanaatine varılmıştır. Elde edilen bulgular sonucunda çiftlerle çalışacak sosyal hizmet uzmanları, aile danışmanları ve ilişki profesyonelleri için artık dijitalleşmenin, sosyal medya platformlarının dikkate alınarak müdahale modellerinin gerekliliğini vurgulamaktadır

Anahtar Kelimeler: Evlilik ilişkisi, Sosyal Medya Platformları, Güven İlişkisi, Kadın Deneyimleri

ABSTRACT

With the rapid global expansion of digitalization, social media platforms have profoundly influenced individuals' daily life practices and interpersonal relationships. Among these platforms, Instagram has become one of the most impactful mediums shaping the relational dynamics of married individuals through its visually oriented structure, mechanisms of likes and followers, instant sharing features, and constant accessibility. This study aims to examine the reflections of Instagram use on marital relationships from the perspectives of women, focusing on perceived relationship quality and trust. The research was conducted within a qualitative design, and data were collected through semi-structured interviews. The study group consisted of 25 women who had been married for at least one year and were active Instagram users. The data were analyzed using thematic analysis, through which main and sub-themes representing the effects of Instagram use on relationships were generated. These sub-themes, developed with Maxqda, revealed meaningful and coherent findings. The results demonstrate that Instagram use influences communication patterns, emotional intimacy, and mutual trust within marital relationships in varying ways. A portion of the participants stated that their spouses' social media interactions led to jealousy, distrust, emotional distancing, and decreased time spent together at home, as partners increasingly turned toward social media. They emphasized that factors such as the people spouses follow, likes, comments, time spent online, and account privacy settings heightened conflict and contributed to a sense of insecurity. Conversely, some participants reported that Instagram use did not create any problems in their relationships and described the platform as a space where individual identities are expressed. This indicates that the impact of social media on relationships is not unidirectional and that the purpose of use and clarity of boundaries play a decisive role in shaping relational quality. Overall, the findings suggest that social media use presents both risks and opportunities for personal space within marriages, highlighting trust, boundary-setting, communication styles, and digital privacy as key determinants of relationship quality. It is concluded that social media platforms now play an active role in the structure of marital relationships, and that intra-family dynamics should also be evaluated within the context of digital environments. The findings underscore the necessity for social service professionals, family counselors, and relationship

Keywords: Marital Relationship, Social Media Platforms, Trust Dynamics, Women's Experiences

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ALGORİTMİK GÜRÜLTÜYE KARŞI DİJİTAL SESSİZLİK: SOSYAL MEDYADA GÖRÜNMEZLİĞİN POLİTİKASI

AGAINST ALGORITHMIC NOISE: THE POLITICS OF INVISIBILITY ON SOCIAL MEDIA

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ÖZET

Bu çalışma, dijital çağda bireylerin sosyal medya platformlarındaki “sessizleşme” ve “görünmez olma” tercihlerini eleştirel bir perspektiften incelemektedir. Gillespie’nin (2014) ve Bucher’ın (2018) vurguladığı üzere, algoritmik kültürün bireysel görünürlük üzerindeki baskısı ve politikaları; kullanıcılara sürekli paylaşım, beğeni ve etkileşim döngüsüne katılmayı dayatmakta; bunun sonucunda görünürlük bir tür ekonomik ve siyasal kaynak olarak yeniden düzenlenmektedir. Çalışma, dijital sessizliği salt bireysel bir çekilme olarak değil, aynı zamanda algoritmik iktidarın üretim mantığına karşı geliştirilen bir “mikro-direnç biçimi” ve “iletişimsel bir özneleşme pratiği” olarak konumlandırmaktadır. Bu okuma özelinde çalışma, eleştirel medya kuramı, Noelle-Neumann’ın *Spiral of Silence* yaklaşımı ve Zuboff’un gözetim kapitalizmi eleştirisini Foucault’nun iktidar, söylem ve özneleşme kuramıyla buluşturarak kavramsal bir sentez sunar. Böylece dijital sessizlik hem iktidarın üretken süreçlerinin bir sonucu hem de bu süreçlere karşı politik ve etik açıdan anlamlı bir yanıt olarak ortaya konulmuştur. Araştırma ampirik veri içermemekle birlikte, literatüre teorik derinlik ve kuramsal yeniden konumlandırma yoluyla katkı sunmayı amaçlamaktadır.

Anahtar Kelimeler: Dijital Sessizlik, Algoritmik Kültür, Görünürlük Politikası, Eleştirel Medya Kuramı, Foucault, Dijital Direnç.

ABSTRACT

This study critically examines individuals’ tendencies toward “silence” and “invisibility” on social media platforms in the digital age. As Gillespie (2014) and Bucher (2018) emphasize, the pressures and policies of algorithmic culture on individual visibility compel users to engage continuously in cycles of sharing, liking, and interaction; consequently, visibility is reorganized as a form of economic and political resource. Rather than viewing digital silence merely as an act of individual withdrawal, the study positions it as a form of “micro-resistance” and a “communicative practice of subjectivation” developed against the productive logic of algorithmic power. Within this framework, the study brings together critical media theory, Noelle-Neumann’s *Spiral of Silence* approach, and Zuboff’s critique of surveillance capitalism with Foucault’s concepts of power, discourse, and subjectivation, offering a conceptual synthesis. Accordingly, digital silence is presented both as a consequence of power’s productive processes and as a politically and ethically meaningful response to them. Although the research does not include empirical data, it aims to contribute to the literature through theoretical depth and conceptual repositioning.

Keywords: Digital Silence, Algorithmic Culture, Politics of Visibility, Critical Media Theory, Foucault.

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ÜNİVERSİTE TANITIM VİDEOLARI ÜZERİNE EKONOMİ POLİTİK BİR ANALİZ UNIVERSITY PROMOTION VIDEOS: AN ECONOMY-POLITICAL ANALYSIS

Yıldız KOL

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ÖZET

Bu çalışma, 2024–2025 döneminde Türkiye’deki üniversitelerin tanıtım videolarında öne çıkan iletişim söylemlerini çözümleyerek, yükseköğretim alanında hangi değerlerin ve temsillerin ön plana çıkarıldığını ortaya koymayı amaçlamaktadır. Çalışmanın çıkış noktası, üniversitelerin tanıtım faaliyetlerinde yalnızca akademik ve bilimsel yönlerini değil, aynı zamanda rekabet, bireysel başarı ve markalaşma odaklı bir dili de benimsediklerinin gözlemlenmesidir. Bu doğrultuda araştırma, söz konusu söylemlerin yükseköğretimin toplumsal rolünü nasıl yeniden tanımladığına ilişkin eleştirel bir değerlendirme sunmaktadır. Araştırma nitel bir tasarımla yürütülmüş; 2024–2025 yıllarında çevrimiçi platformlarda yayımlanan devlet ve vakıf üniversitelerine ait on tanıtım videosu, Van Dijk’in Eleştirel Söylem Analizi (ESA) yöntemiyle incelenmiştir. Analiz süreci, Adorno ve Horkheimer’in kültür endüstrisi, Althusser’in ideolojik aygıtlar ve Bourdieu’nun sembolik sermaye kavramlarıyla desteklenmiştir. Bu bağlamda çalışma, üniversitelerin dijital tanıtım videolarında kullanılan söylemleri çözümleyerek, yükseköğretimin kamusal bir hak ve toplumsal gelişim alanı olmaktan ziyade, piyasa mantığına dayalı bir rekabet alanı olarak nasıl temsil edildiğini tartışmaktadır. Tanıtım videolarında üniversite; “fırsatlar sunan marka”, “geleceğe yatırım yapılan kurum” ya da “başarıya giden en doğru adres” gibi pazarlama temelli kavramlarla betimlenmekte, eğitim süreci ise giderek ticarileşen bir deneyim olarak sunulmaktadır. Bu temsil biçimi, öğrenciyi potansiyel bir “müşteri”, eğitimi ise “satın alınabilir bir değer” olarak yeniden konumlandırmakta; böylece neoliberal piyasa ideolojisinin dilsel ve görsel kodlarını yeniden üretmektedir. Sonuç olarak, çalışma, üniversite tanıtım videolarının yalnızca bilgilendirme aracı değil, aynı zamanda belirli toplumsal ve ekonomik değerleri yansıtan söylemsel yapılar olarak işlev gördüğünü göstermekte; yükseköğretimin pazarlama iletişimiyle kesiştiği noktaları eleştirel biçimde tartışmaktadır.

Anahtar Kelimeler: Üniversite Tanıtım Videoları, Kapitalist İdeoloji, Kültür Endüstrisi, Sembolik Sermaye, Eleştirel Söylem Analizi

ABSTRACT

This study aims to examine the prominent communicative discourses in the promotional videos of Turkish universities during the 2024–2025 academic year, revealing which values and representations are emphasized in higher education. The starting point of the research is the observation that universities, in their promotional activities, adopt a language that not only highlights academic and scientific achievements but also emphasizes competition, individual success, and branding. Accordingly, the study offers a critical evaluation of how these discourses redefine the social role of higher education. The research was conducted using a qualitative design; ten promotional videos from both public and foundation universities, published on online platforms during 2024–2025, were analyzed through Van Dijk’s Critical Discourse Analysis (CDA) method. The analysis was further supported by the concepts of the culture industry (Adorno & Horkheimer), ideological apparatuses (Althusser), and symbolic

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capital (Bourdieu). In this context, the study discusses how the discourses employed in university promotional videos represent higher education less as a public right and a domain of social development, and more as a competitive field driven by market logic. Universities are depicted through marketing-oriented concepts such as “a brand offering opportunities,” “an institution investing in the future,” or “the most reliable path to success,” while the educational process itself is presented as an increasingly commodified experience. This form of representation repositions students as potential “customers” and education as a “purchasable value,” thereby reproducing the linguistic and visual codes of neoliberal market ideology. In conclusion, the study demonstrates that university promotional videos function not merely as informational tools but also as discursive structures that reflect specific social and economic values, critically highlighting the intersections of higher education and marketing communication.

Keywords: University Promotional Videos, Capitalist Ideology, Culture Industry, Symbolic Capital, Critical Discourse Analysis

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200MVA_r 245kV SHUNT REACTOR SHORT CIRCUIT AND TANK RAPTURE WITHSTAND ABILITY ANALYSES ACCORDING TO IEEE

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ABSTRACT

Shunt reactors are essential components in power systems, balancing reactive power and enhancing voltage stability in high-voltage transmission networks. However, during short-circuit events, the extremely high electromagnetic forces generated within the windings can compromise their structural integrity.

This study presents the withstandability analysis of a 200 MVA_r, 245 kV shunt reactor under short-circuit forces, following the stringent requirements of IEEE standards. Using a combination of finite element analysis (FEA) and analytical calculations, the mechanical and structural performance of the reactor is evaluated under extreme electromagnetic and mechanical stresses. The analysis includes tank wall deformation, tank body integrity, and tank cover displacement, ensuring the reactor's ability to maintain operational functionality after fault conditions.

The FEA models, incorporating non-linear material properties and detailed geometric representations, enable accurate prediction of stress and strain distributions during short-circuit events. Transient structural analyses are performed to evaluate critical components and confirm that mechanical stress and strain limits are not exceeded. Additionally, modal and harmonic response analyses are conducted to assess the dynamic behavior of the reactor and identify potential resonance frequencies that could amplify short-circuit effects.

The results demonstrate the 200MVA_r 245kV shunt reactor's compliance with IEEE short-circuit withstand requirements. The analysis confirms the reactor's ability to withstand the specified short-circuit current without incurring permanent deformation or damage. The presentation includes detailed graphical representations of stress, displacement, and temperature distributions, along with quantitative comparisons to IEEE acceptance criteria.

Keywords: Finite element analysis (FEA), Short-circuit forces, Structural integrity, IEEE standards, Electromagnetic forces

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ŞEBEKEDEN BAĞIMSIZ DÜŞÜK ENERJİ TÜKETİMLİ BİNA TOPLULUĞU: GAZİANTEP ÖRNEĞİ

OFF-GRID LOW ENERGY CONSUMPTION BUILDING COMMUNITY: GAZİANTEP CASE

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ÖZET

Sera gazı emisyonlarındaki artış ile atmosferin ısınması neticesinde gerçekleşen iklim değişikliği, günümüzde çevreyi tehdit eden en önemli unsurlar arasına girmiştir. Bu sebeple, yenilenebilir enerji kaynaklarıyla enerji talebinin karşılanması ile fosil yakıt tüketiminin azaltılması sürdürülebilir şehirler hedefine ulaşmak için kaçınılmazdır. Güneş, rüzgâr, biyokütle ve hidroelektrik gibi yenilenebilir kaynaklardan elde edilen enerji, karbon salımlarını azaltmaktadır. Sektörel enerji tüketiminde ikinci sırada olan bina sektörünün enerji talebinin yenilenebilir enerji ile sağlanmasının sera gazı emisyonunda önemli azalmalar sağlayacağı düşünülmektedir.

Bu çalışmada, Gaziantep’de şebekeden bağımsız sıfır enerji tüketimli bina ve bina topluluklarının fizibilitesini gerçekleştirmek amacı ile müstakil on konut binasından ve 22 kW gücünde bir elektrikli araç şarj istasyonundan oluşan bir bina topluluğunun sıfır enerji tüketimli bina topluluğu hedefi doğrultusunda optimum yenilenebilir enerji sistemi tasarlanmıştır. Yapılan hesaplama sonucunda, bina topluluğunun yıllık elektrik tüketimi 88438 kWh/yıl olarak hesaplanmıştır. Topluluğunun enerji ihtiyacını karşılayacak optimum yenilenebilir enerji sisteminin gücü 27 kW fotovoltaik panel, 21 kW rüzgar türbini olarak hesaplanmıştır. Yenilenebilir enerji sisteminin yıllık elektrik üretimi 99.096 kWh/yıl olarak hesaplanmıştır. 10 kW gücünde dizel jeneratör ve 48 kW gücünde akü ile desteklenen şebekeden bağımsız topluluğun yenilenebilir enerji oranı %90 olarak hesaplanmıştır. Dizel jeneratörün yıllık yakıt tüketimi ise 4065 ton/yıl olarak hesaplanmıştır.

Anahtar Kelimeler: Yenilenebilir Enerji, Sürdürülebilir şehirler, Net Sıfır Emisyon

ABSTRACT

Climate change, caused from atmospheric warming due to the increased greenhouse gas emissions, has become one of the most significant threats to the environment today. Therefore, meeting energy demand with renewable energy sources and reducing fossil fuel consumption is essential for achieving the goal of sustainable cities. Energy generated from renewable sources such as solar, wind, biomass, and hydroelectricity reduces carbon emissions. Meeting the energy demand of the building sector, which ranks second in sectoral energy consumption, with renewable energy is expected to significantly reduce greenhouse gas emissions.

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In this study, to assess the feasibility of off-grid, zero-energy buildings and building complexes in Gaziantep, an optimal renewable energy system was designed for a building complex consisting of ten detached residential buildings and a 22 kW electric vehicle charging station, in line with the goal of achieving a zero-energy building complex. The analysis resulted in an annual electricity consumption of the complex as 88,438 kWh/year. The power output of the optimum renewable energy system to meet the energy demand of the complex was calculated as 27 kW photovoltaic panels and 21 kW wind turbine. The annual electricity production of the renewable energy system is calculated as 99,096 kWh/year. The off-grid community, supported by a 10 kW diesel generator and a 48 kW battery, has a renewable energy ratio of 90%. The annual fuel consumption of the diesel generator is calculated as 4,065 tons/year.

Keywords: Renewable Energy, Sustainable Cities, Net Zero Emissions

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GÖLGE VE IŞIK ARASINDA: DÜZCE MİLLET BAHÇESİ KAFESİ'NDE GÜN IŞIĞI KULLANIMI VE MEKÂNSAL ATMOSFERİN DEĞİŞİMİ BETWEEN LIGHT AND SHADOW: THE USE OF DAYLIGHT AND THE TRANSFORMATION OF SPATIAL ATMOSPHERE IN DÜZCE NATION'S GARDEN CAFÉ

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ÖZET

Kamusal alanlar, insanlara bir araya gelecekleri, sosyalleşecekleri ve gündelik deneyimlerini paylaşacakları bir ortam oluşturur. Bu alanların fiziksel ve duysal özellikleri, kullanıcının çevreyle olan etkileşiminde doğrudan etkilidir. Gün ışığının, mekânsal atmosfer oluşumunda ve kullanıcının mekânı algılaması üzerinde önemli bir rolü vardır. Işığın yoğunluğu, yönü ve süresi; kullanıcı davranışı ve mekânın algısal konforuyla yakından ilişkilidir. Bu çalışma Düzce Millet Bahçesinde yer alan kafe yapısında gün ışığı kullanımının kullanıcı davranışı, mekânsal atmosfer ve algısal konfor üzerindeki etkisini incelemektedir. Çalışma kapsamında gün ışığının yoğunluğu ve yönü analiz edilmiştir. Bu analizlerle birlikte kullanıcıların oturma tercihleri, kafede geçirdikleri süre ve farklı zamanlarda (sabah-öğle-akşam) mekânı kullanım nedenleriyle gerçekleştirdikleri etkinlik çeşitleri gözlemlenmiştir. Araştırmada; alan gözlemleri, aydınlık düzeyi ölçümleri ve kullanıcı anketleri yapılarak nitel ve nicel veri toplama yöntemleri kullanılmıştır. Düzce Millet Bahçesi kafesinde gün ışığının mekânsal atmosfer üzerindeki etkisini değerlendirmek için Light Stanza programı üzerinden simülasyon aracılığıyla 3B gün ışığı analizi yapılmış, elde edilen verilerle aydınlık düzeyi ölçümleri ve alan gözlemleri karşılaştırılarak belirli parametrelerle infografik haritalar oluşturulmuş, analiz süreci alan fotoğraflarıyla belgelenmiştir. Bu süreçte günün farklı zamanlarında (sabah, öğlen, akşam) ışığın yönü, yoğunluğu, gölge dağılımı ve yansıma oranları incelenmiştir. Elde edilen sonuçları, kullanıcıların mekândaki davranışsal tercihleriyle ilişkilendirilmiş; kalış süreleri, oturma düzenleri ve algısal konfor düzeyleri anket ve gözlem verileriyle desteklenmiştir. Tüm bu veriler, gün ışığının ve gölge dağılımının kullanıcıların mekânsal tercihlerine olan etkisini açıkça ortaya koymuştur. Işık ve gölge arasındaki zıtlığın ve aynı zamanda da bağın; mekânda algılanan sıcaklığı, samimiyeti ve atmosferik hissi üzerinde güçlü bir etkisi olduğu belirlenmiştir. Düzce Millet Bahçesi kafesinde yürütülen bu çalışma, güncel literatürdeki kavramsal ve yöntemsel çerçevenin Türkiye bağlamında uygulanmasını amaçlamaktadır. Çalışmada, nitel (kullanıcı testleri, atmosfer algısı, mekân gözlemi) ve nicel (aydınlık düzeyi ölçümleri, yönlenme analizi) verileri toplanarak ışığın deneyim niteliğinin şekillenmesindeki gücünü ortaya koymaktadır. Elde edilen veriler, kamusal alanlarda (kapalı, yarı açık, açık) kullanıcı tercihi odaklı tasarım yaklaşımlarının geliştirilmesine katkı sağlamaktadır.

Anahtar Kelimeler: Gün ışığı, mekânsal atmosfer, kullanıcı davranışı, kamusal mekân, Düzce Millet Bahçesi

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ABSTRACT

Public spaces provide environments where people can come together, socialize, and share their everyday experiences. The physical and sensory characteristics of these spaces directly influence how users interact with their surroundings. Daylight plays a significant role in shaping the spatial atmosphere and influencing users' perception of space. The intensity, direction, and duration of light are closely related to user behavior and perceptual comfort. This study examines the effects of daylight use on user behavior, spatial atmosphere, and perceptual comfort in a café located within Düzce Nation's Garden. Within the scope of the study, the intensity and direction of daylight were analyzed. Alongside these analyses, users' seating preferences, duration of stay, and activities performed during different times of the day (morning–noon–evening) were observed. In the research, both qualitative and quantitative data collection methods were employed through field observations, illuminance measurements, and user surveys. A 3D daylight analysis was carried out using Light Stanza software to evaluate the impact of daylight on the spatial atmosphere of the café. The data obtained from the simulations were compared with on-site illuminance measurements and observations. Infographic maps were created based on specific parameters, and the analysis process was documented with field photographs. During this process, the direction, intensity, shadow distribution, and reflection ratios of light at different times of the day (morning, noon, evening) were examined. The findings were correlated with users' behavioral preferences within the space—such as duration of stay, seating patterns, and perceived comfort—supported by survey and observation data. The results clearly revealed the influence of daylight and shadow distribution on users' spatial preferences. It was determined that the contrast and interplay between light and shadow have a strong impact on the perceived warmth, intimacy, and atmospheric quality of the space. This study, conducted in the café located in Düzce Nation's Garden, aims to apply the conceptual and methodological framework found in current literature to the Turkish context. By integrating qualitative (user tests, atmosphere perception, spatial observation) and quantitative (illuminance measurements, orientation analysis) data, the study demonstrates the power of light in shaping the experiential quality of space. The findings contribute to the development of user-oriented design approaches for public spaces—whether enclosed, semi-open, or open.

Keywords: Daylight, spatial atmosphere, user behavior, public space, Düzce Millet Bahçesi

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TÜRKİYE’NİN DOĞU-GÜNEYDOĞU ANADOLU BÖLGESİNDEN TOPLANAN BAL ÖRNEKLERİNDE NEONİKOTİNOİD KALINTILARININ BELİRLENMESİ DETERMINATION OF NEONICOTINOID RESIDUES IN HONEY SAMPLES COLLECTED FROM THE EAST-SOUTHEAST ANATOLIA REGION OF TURKEY

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ÖZET

Bal, yüksek enerji içeriği ve zengin besin bileşimiyle insan beslenmesinde önemli bir yere sahip doğal bir üründür. İçeriğinde karbonhidratlar, proteinler, vitaminler, mineraller ve enzimler gibi yaklaşık 200 farklı bileşen bulunur. Ancak, balın üretiminde kullanılan çevresel koşullar ve tarımsal faaliyetler, pestisit kalıntıları açısından risk oluşturabilmektedir. Özellikle son yıllarda tarımsal zararlılarla mücadelede yaygın olarak kullanılan neonikotinoid grubu insektisitler, arılar ve diğer böcekler üzerinde yüksek toksisite gösterirken memelilerde daha düşük etki oluşturur. Bu bileşikler, böceklerin sinir sisteminde nikotinik asetilkolin reseptörlerine bağlanarak geri dönüşümsüz bir şekilde etki ederler. Dolayısıyla, neonikotinoidlerin balda kalıntı düzeylerinin izlenmesi, hem arı sağlığının korunması hem de tüketici güvenliği açısından büyük önem taşımaktadır.

Bu çalışmada, Doğu ve Güneydoğu Anadolu Bölgesi’nin farklı illerinden (Şanlıurfa, Van, Bitlis, Bingöl, Adıyaman, Diyarbakır, Mardin) temin edilen toplam 30 bal örneğinde neonikotinoid türü pestisit kalıntıları araştırılmıştır. Numunelerde pestisit analizleri, sıvı-sıvı ekstraksiyon yöntemiyle yapılan ön işlemin ardından UHPLC-MS/MS sistemi kullanılarak gerçekleştirilmiştir. Analizlerde yüksek saflıkta pestisit standartları ($\geq 97.8\%$) kullanılmış, stok ve çalışma çözeltileri metanolde hazırlanarak $-18\text{ }^{\circ}\text{C}$ ’de muhafaza edilmiştir. UHPLC analizinde Agilent Proshell 120 SB: C18 kolonu ve asetonitril-asidifiye su (0.2% asetik asit) mobil faz karışımı kullanılmıştır. Kütle spektrometrik tayin AB Sciex 3200 QTRAP cihazında elektrosprey iyonizasyon (ESI) kaynağı ile pozitif ve negatif iyon modlarında, Multiple Reaction Monitoring (MRM) yöntemiyle yapılmıştır. Bu yöntemle bal örneklerinde seçilmiş neonikotinoid ve diğer pestisitlerin kantitatif tayini yüksek duyarlılık ve seçicilikle gerçekleştirilmiştir.

Bu çalışmada, Doğu ve Güneydoğu Anadolu bölgelerinden Eylül-Ekim aylarında bal hasadı sonrasında toplanan toplam 30 süzme bal numunesinde neonikotinoid kalıntı düzeyleri HPLC-MS/MS cihazı kullanılarak analiz edilmiştir. Analizler pozitif iyon modunda, MRM (Multiple Reaction Monitoring) ve Elektrosprey İyonizasyon (ESI) modülü ile gerçekleştirilmiş, analiz öncesinde kısa bir metot validasyonu yapılmıştır. Elde edilen sonuçlara göre Acetamiprid $0.93\text{--}4.98\text{ }\mu\text{g/kg}$ aralığında,

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İmazosulfuran yalnızca bir numunede 4.4 µg/kg, sistemik bir fungusit olan Carbandazim ise üç numunede 3.60–4.40 µg/kg aralığında tespit edilmiştir. Diğer analitler için anlamlı bir kalıntıya rastlanmamıştır. Belirlenen tüm pestisit kalıntı düzeylerinin FAO/WHO ve Türk Gıda Kodeksi'ne (TGK) göre 5 µg/kg olarak belirtilen maksimum kalıntı limitinin (MRL) altında olduğu saptanmıştır. Ayrıca, neonikotinoidlerin CCα, CCβ ve linearite değerlerinin MRL sınırlarıyla uyumlu olduğu belirlenmiştir. Bu bulgular, bölgedeki bal örneklerinde pestisit kalıntılarının düşük seviyede olduğunu ve tüketici sağlığı açısından risk oluşturmadığını göstermektedir.

Bu çalışmada, Doğu ve Güneydoğu Anadolu bölgelerinden toplanan bal numunelerinde neonikotinoid ve diğer pestisit kalıntı düzeyleri HPLC-MS/MS yöntemiyle analiz edilmiştir. Elde edilen bulgular, Acetamiprid'in 0.93–4.98 µg/kg, İmazosulfuranın yalnızca bir numunede 4.4 µg/kg ve sistemik bir fungusit olan Carbandazim'in üç numunede 3.60–4.40 µg/kg aralığında bulunduğunu göstermiştir. Diğer analitlerde anlamlı düzeyde kalıntıya rastlanmamıştır. Tespit edilen tüm pestisitlerin FAO/WHO ve Türk Gıda Kodeksi tarafından belirlenen maksimum kalıntı limiti (5 µg/kg) altında olduğu belirlenmiştir. Bu sonuçlar, Türkiye'nin farklı bölgelerinde yapılan önceki araştırmalarla uyumludur ve neonikotinoid kalıntı düzeylerinin insan sağlığı açısından risk oluşturmadığını göstermektedir. Ancak bölgedeki yoğun tarımsal faaliyetler ve pestisit kullanımına bağlı olarak arı ölümlerinin bildirilmiş olması, pestisit kalıntılarının izlenmesine yönelik daha kapsamlı ve uzun dönemli çalışmaların gerekliliğini ortaya koymaktadır.

Bu çalışmada, bazı bal numunelerinde MRL değerinin altında neonikotinoid tespit edilmiştir, bu durum özellikle pamuk tarımının yoğun olduğu bölgelerde az da olsa neonikotinoid kullanımının devam ettiğini göstermektedir. Neonikotinoidlerin yasaklanması veya kullanımına getirilen sınırlamalara rağmen uygulamada kullanımın sürdüğü düşünülmektedir. Halk sağlığının korunması ve arı ölümlerinin önlenmesi amacıyla, tarımsal faaliyet yürüten çiftçilere biyolojik mücadele yöntemleri konusunda eğitim verilmesi ve pestisit kullanımına yönelik bilinçlendirme çalışmalarının artırılması önerilmektedir.

Anahtar Kelimeler: Bal, LC-MS/MS, Kalıntı, Neonikotinoid, Doğu-Güneydoğu.

ABSTRACT

Honey is a natural product with high nutritional value and plays an important role in human nutrition due to its high energy content and rich composition. It contains nearly 200 different components, including carbohydrates, proteins, vitamins, minerals, and enzymes. However, environmental conditions and agricultural practices used during honey production may pose a risk in terms of pesticide residues. In particular, neonicotinoid insecticides, which have been widely used in recent years for pest control in agriculture, are highly toxic to bees and other insects while exerting relatively lower effects on mammals. These compounds act irreversibly by binding to nicotinic acetylcholine receptors in the nervous system of insects. Therefore, monitoring neonicotinoid residue levels in honey is of great importance for both bee health and consumer safety.

In this study, neonicotinoid-type pesticide residues were investigated in a total of 30 honey samples collected from different provinces of the Eastern and Southeastern Anatolia regions of Türkiye (Şanlıurfa, Van, Bitlis, Bingöl, Adıyaman, Diyarbakır, and Mardin). Pesticide analysis was performed using the UHPLC-MS/MS system following liquid-liquid extraction as a sample preparation step. High-purity pesticide standards (≥97.8%) were used for the analyses, and stock and working solutions were prepared in methanol and stored at –18 °C. The UHPLC analysis was carried out using an Agilent Proshell 120 SB: C18 column with an acetonitrile–acidified water (0.2% acetic acid) mobile phase. Mass spectrometric detection was conducted on an AB Sciex 3200 QTRAP instrument equipped with an

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electrospray ionization (ESI) source in both positive and negative ion modes using the Multiple Reaction Monitoring (MRM) method. This approach enabled the quantitative determination of selected neonicotinoids and other pesticides in honey samples with high sensitivity and selectivity.

The results showed that Acetamiprid was detected in the range of 0.93–4.98 µg/kg, Imazosulfuron was found in only one sample at a level of 4.4 µg/kg, and the systemic fungicide Carbendazim was detected in three samples at levels ranging from 3.60 to 4.40 µg/kg. No significant residues were detected for the other analytes. All detected pesticide residue levels were below the maximum residue limit (MRL) of 5 µg/kg established by FAO/WHO and the Turkish Food Codex. In addition, CC α , CC β , and linearity values for the neonicotinoids were found to comply with MRL criteria. These findings indicate that pesticide residues in honey samples from the region remain at low levels and do not pose a risk to consumer health.

Although neonicotinoid residues were detected below MRL levels in some samples, this finding suggests that the use of neonicotinoids persists to some extent, particularly in areas with intensive cotton cultivation. Despite legal restrictions or bans on neonicotinoids, their use appears to continue in practice. To protect public health and prevent bee losses, it is recommended that farmers be educated on biological control methods and that awareness activities regarding pesticide use be strengthened. Furthermore, more comprehensive and long-term monitoring studies are required due to the intense agricultural activities and reported bee mortalities in the region.

Keywords: Honey, LC-MS/MS, Residue, Neonicotinoid, Eastern–Southeastern Anatolia.

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ERGENLERDE ERKEN DÖNEM UYUM BOZUCU ŞEMALAR İLE ARKADAŞLIK KALİTESİ ARASINDAKİ İLİŞKİ¹

THE RELATIONSHIP BETWEEN EARLY MALADAPTIVE SCHEMAS AND FRIENDSHIP QUALITY IN ADOLESCENTS

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ÖZET

Bu araştırmanın temel amacı, ergenlik dönemindeki bireylerde erken dönem uyum bozucu şemalar ile arkadaşlık kalitesi arasındaki ilişkiyi bir şekilde incelemektir. Nicel araştırma deseninde yürütülen bu çalışma, ilişkisel tarama modeline dayanmaktadır ve değişkenler arasındaki örüntüleri ortaya koymayı hedeflemektedir.

Araştırmanın çalışma grubu, 2024–2025 öğretim yılında Gaziantep ilinde farklı liselerde öğrenim gören ve araştırmaya gönüllü olarak katılmayı kabul eden toplam 519 lise öğrencisinden (293 erkek, %56,5; 226 kız, %43,5) oluşmaktadır. Katılımcıların yaşları 14–17 arasında değişmekte olup, örneklemin büyük çoğunluğu 15 yaş grubunda yer almaktadır. Araştırmada veri toplama araçları olarak Kişisel Bilgi Formu, Arkadaşlık Kalitesi Ölçeği (AKÖ) ve 10–16 Yaş Çocuk ve Ergenler için Erken Dönem Uyumsuz Şemalar Ölçekler Takımı (ÇEŞÖT) kullanılmıştır. Uygulama sürecinde araştırma etiği kapsamında gerekli etik kurul onayı alınmış, ilgili kurumlardan gerekli izinler sağlanmış ve tüm katılımcılardan bilgilendirilmiş onam ilkesi doğrultusunda gönüllülük esasına dayalı olarak veri toplanmıştır.

Toplanan verilerin analizi SPSS 25.0 istatistik paket programı kullanılarak gerçekleştirilmiştir. Normallik varsayımları çarpıklık ve basıklık değerleri incelenerek kontrol edilmiştir. Yapılan analizler sonucunda verilerin normal dağılım gösterdiği sonucuna ulaşılmıştır. Araştırmada erken dönem uyum bozucu şemalar ile arkadaşlık kalitesinin cinsiyet değişkenine göre farklılaşma analizinde analizinde bağımsız örneklem t testi, sınıf düzeyine göre farklılaşma analizinde tek yönlü varyans analizi (ANOVA), uygulanırken, değişkenler arasındaki ilişkiler ise pearson korelasyon analizi ile değerlendirilmiş, arkadaşlık kalitesini anlamlı düzeyde yordayan değişkenleri belirlemek amacıyla çoklu doğrusal regresyon analizi uygulanmıştır. Korelasyon analizi sonucunda kopukluk ve reddedilmişlik ile başkalarına yönelimlilik şema alanları ile arkadaşlık kalitesi arasında negatif yönde anlamlı ilişki olduğu görülmüştür. Yapılan Çoklu Doğrusal Regresyon analizi sonuçlarına göre ise

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kurulan regresyon modelinin anlamlı olduđu ve sadece kopukluk ve reddedilmişlik şema alanının arkadaşlık kalitesini istatistiksel olarak anlamlı düzeyde yordadığını ortaya koymuştur.

Araştırma bulgularına göre, katılımcıların zedelenmiş özerklik ve performans ile aşırı tetikte olma ve baskılama/ketleme puanları cinsiyete göre anlamlı düzeyde farklılaşmış; kız öğrencilerin bu alanlarda erkek öğrencilere kıyasla daha yüksek puanlara sahip olduđu görülmüştür. Buna karşılık, zedelenmiş sınırlar, kopukluk ve reddedilmişlik ile başkalarına yönelimlilik puanlarının cinsiyete göre anlamlı bir farklılık göstermediği belirlenmiştir. Yaş değişkeni açısından incelendiğinde, zedelenmiş özerklik ve performans, zedelenmiş sınırlar, kopukluk ve reddedilmişlik ve başkalarına yönelimlilik puanlarının yaş grupları arasında anlamlı bir farklılık göstermediği, ancak aşırı tetikte olma ve baskılama/ketleme puanlarının özellikle 16 yaş grubunda daha yüksek olduđu saptanmıştır. Ayrıca, arkadaşlık kalitesi değişkeninin hem cinsiyet hem de yaş açısından anlamlı şekilde farklılaştığı; kız öğrencilerin daha yüksek arkadaşlık kalitesi puanlarına sahip olduđu ve bu farkın yaş grupları arasında özellikle 14 ve 17 yaşlarda belirginleştiği görülmüştür.

Anahtar Kelimeler: Erken dönem uyum bozucu şemalar, arkadaşlık kalitesi, ergenlik

ABSTRACT

The primary aim of this study is to examine the relationship between early maladaptive schemas and friendship quality among adolescents. Conducted within a quantitative research framework, the study employs a relational screening model to identify the patterns among variables. The study group consists of 519 high school students (293 males, 56.5%; 226 females, 43.5%) enrolled in different schools in Gaziantep during the 2024–2025 academic year. Participants ranged in age from 14 to 17, with the majority belonging to the 15-year-old age group. The data were collected using the Personal Information Form, the Friendship Quality Scale (FQS), and the Early Maladaptive Schema Questionnaire Set for Children and Adolescents aged 10–16 (ÇEŞÖT). Ethical approval was obtained, institutional permissions were granted, and all participants took part voluntarily in accordance with the principles of informed consent.

Data analyses were performed using SPSS 25.0. Normality assumptions were examined through skewness and kurtosis values, indicating that the data were normally distributed. Independent samples t-test was used to examine differences in early maladaptive schemas and friendship quality based on gender, while one-way ANOVA was used to analyze differences by grade level. Relationships among variables were assessed through Pearson correlation analysis, and multiple linear regression analysis was performed to identify the variables that significantly predicted friendship quality. Correlation analysis revealed significant negative relationships between friendship quality and the schema domains of disconnection/rejection and other-directedness. Regression analysis indicated that the overall model was significant and that only the disconnection/rejection schema domain significantly predicted friendship quality.

According to the findings, the schema domains of impaired autonomy/performance and hypervigilance/inhibition differed significantly by gender, with female students scoring higher than males in both domains. In contrast, no significant gender differences were found in impaired limits, disconnection/rejection, or other-directedness. Regarding age groups, impaired autonomy/performance,

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impaired limits, disconnection/rejection, and other-directedness did not differ significantly; however, hypervigilance/inhibition was significantly higher among 16-year-old students. Friendship quality differed significantly in terms of both gender and age, with female students reporting higher friendship quality, and the most notable age-related difference occurring between the ages of 14 and 17.

Keywords: Early maladaptive schemas, friendship quality, adolescence

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EPOKSİ MATRİSLİ HİBRİT KOMPOZİTLERDE KARBON FİBER VE H-BN PARTİKÜL TAKVİYESİNİN SU ABSORBSİYONU VE BASMA DAYANIMI ÜZERİNE ETKİSİ EFFECT OF CARBON FIBER AND H-BN PARTICLE REINFORCEMENT ON WATER ABSORPTION AND COMPRESSIVE STRENGTH IN EPOXY MATRIX HYBRID COMPOSITES

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ÖZET

İleri teknoloji gerektiren havacılık, otomotiv ve denizcilik gibi endüstriyel alanlar, yüksek mekanik dayanım, korozyon direnci ve düşük ağırlık gibi avantajlar sunan ileri malzemelere artan bir talep göstermektedir. Epoksi matrisli fiber takviyeli kompozitler, bu talepleri karşılamada kilit bir rol oynamaktadır. Bu malzemeler, yapısal uygulamalarda performansı artırmanın yanı sıra, enerji verimliliğini ve malzeme ömrünü optimize ederek endüstriyel verimliliğe önemli katkılar sunmaktadır. Fiber takviyeli kompozitlerde, en önemli kritik faktör, yükü taşıyan ve ana yapıya dağıtan fiber ile ana malzeme arasında çatlak oluşumu ve bu çatlakın yükler neticesinde ilerleyerek yapının dayanımını düşürmesidir. Bu çalışmada, fiber takviye (karbon fiber - CF) ile partikül takviyesinin (hegzagonal bor nitrür - h-BN) hibrit olarak kullanılmasının, bu arayüzey sorunlarını azaltma ve malzemenin bütüncül performansını artırma potansiyeli araştırılmaktadır. Temel amaç, farklı ağırlıkça yüzdelerde CF ve h-BN eklenmesinin, kompozit yapının mekanik ve fiziksel davranışları üzerindeki sinerjistik etkilerini belirlemektir. Bu amaç doğrultusunda, farklı oranlarda dokuz adet numune serisi üretilmiştir. Bu seriler; sadece fiber takviyeli C05 (ağırlıkça %0.5 CF) ve C1 (ağırlıkça %1 CF); sadece partikül takviyeli H05 (ağırlıkça %0.5 h-BN) ve H1 (ağırlıkça %1 h-BN); hibrit takviyeli CH0505 (ağırlıkça %0.5 CF + %0.5 h-BN), CH105 (ağırlıkça %1 CF + %0.5 h-BN), CH051 (ağırlıkça %0.5 CF + %1 h-BN) ve CH11 (ağırlıkça %1 CF + %1 h-BN) olarak hazırlanmıştır. Referans olarak ise hiçbir takviye içermeyen saf epoksi (E00) numunesi de üretilmiş ve karşılaştırmalara dahil edilmiştir. Üretilen numunelerin karakterizasyonu amacıyla, belirli fiziksel ve mekanik testler uygulanmıştır. Fiziksel

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özelliklerin belirlenmesi için, malzemelerin çevresel etkilere karşı dayanıklılığını ve potansiyel iç yapı boşlukluluğunu analiz eden su absorpsiyon testi gerçekleştirilmiştir. Mekanik performansın kapsamlı bir şekilde değerlendirilmesi amacıyla ise, yapısal mukavemetini belirleyen basma testi yapılmıştır. Bu testler, farklı takviye oranlarının ve hibrit yapının, malzemenin su emme davranışı ile basma dayanımı üzerindeki etkilerini ortaya koymayı hedeflemiştir. Numunelerin tam karakterizasyonu için fiziksel ve mekanik özelliklere ilişkin ek testler devam etmektedir.

Anahtar Kelimeler: Epoksi matris, hibrit kompozit, karbon fiber, hegzagonal bor nitrür, su absorpsiyonu, basma testi.

ABSTRACT

Industrial fields requiring advanced technology, such as aerospace, automotive, and marine, are experiencing increasing demand for advanced materials offering advantages such as high mechanical strength, corrosion resistance, and low weight. Epoxy matrix fiber-reinforced composites play a key role in meeting these demands. These materials not only improve performance in structural applications but also offer significant contributions to industrial productivity by optimizing energy efficiency and material life. The most critical factor in fiber-reinforced composites is the formation of cracks between the fibers that carry and distribute the load to the main structure and the base material. This crack propagates under load, reducing the strength of the structure. This study investigates the potential of using a hybrid of fiber reinforcement (carbon fiber - CF) and particulate reinforcement (hexagonal boron nitride - h-BN) to mitigate these interfacial problems and enhance the overall performance of the material. The primary objective is to determine the synergistic effects of adding different weight percentages of CF and h-BN on the mechanical and physical behavior of the composite structure. For this purpose, nine sample series were produced at different ratios. These series were composed of: only fiber reinforced C05 (0.5 wt% CF) and C1 (1 wt% CF); only particle reinforced H05 (0.5 wt% h-BN) and H1 (1 wt% h-BN); hybrid reinforced CH0505 (0.5 wt% CF + 0.5 wt% h-BN), CH105 (1 wt% CF + 0.5 wt% h-BN), CH051 (0.5 wt% CF + 1 wt% h-BN) and CH11 (1 wt% CF + 1 wt% h-BN). As a reference, a pure epoxy (E00) sample without any reinforcement was also produced and included in the comparisons. For the characterization of the produced samples, certain physical and mechanical tests were applied. To determine the physical properties, a water absorption test was performed, which analyzes the resistance of the materials to environmental effects and the potential internal structure porosity. To comprehensively evaluate mechanical performance, compression tests were conducted to determine structural strength. These tests aimed to reveal the effects of different reinforcement ratios and hybrid structures on the material's water absorption behavior and compressive strength. Additional tests on physical and mechanical properties are ongoing to fully characterize the samples.

Keywords: Epoxy matrix, hybrid composite, carbon fiber, hexagonal boron nitride, water absorption, compression testing.

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ELEKTRONİK SİGARA KULLANIMI: KÜRESEL YAYGINLIK, SAĞLIK ETKİLERİ VE HALK SAĞLIĞI PERSPEKTİFİNDEN DEĞERLENDİRME ELECTRONIC CIGARETTE USE: GLOBAL PREVALENCE, HEALTH EFFECTS, AND PUBLIC HEALTH PERSPECTIVE

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ÖZET

Elektronik sigara kullanımı ülkemizde ve dünyada gittikçe artmaktadır. Elektronik sigara kullanan insanların bir kısmı elektronik sigaranın zararlı olmadığını düşünmekte ve bir kısmı da geleneksel sigarayı bırakmak için bir araç olarak kullanılmaktadır. Ancak elektronik sigaralar da geleneksel sigaralar gibi insan sağlığı tehdit eden ciddi maddelerdir.

Bu derlemenin amacı, elektronik sigara kullanımına dair mevcut bilimsel bilgileri özetlemek ve elektronik sigaranın insan sağlığına etkilerini ortaya koymaktır.

Tüm dünyada ve ülkemizde geleneksel sigara kullanımını azaltmak için birçok önlem alınmış ve bu önlemler etkin bir şekilde uygulanmaya çalışılmıştır. Ancak alınan önlemler, zamanla elektronik sigara gibi yeni alternatiflerin ortaya çıkmasına neden olmuştur. Elektronik sigara dünyaya 'tütün içermeyen sigara' olarak tanıtılmış ve sosyal medya üzerinden milyonlarca insana ulaşmıştır. Özellikle ergenleri ve genç yetişkinleri etkisi altına alan ilgi çekici reklamlarla kendi pazarını oluşturmaktadır. Birinci nesil cihazlar uzun ve ince görünümüyle geleneksel sigaraya alternatif olarak üretilmiştir. Bu e-sigaralar "sigara benzeri" olarak da adlandırılır, yanmalı sigaraların görünümünü taklit eder ve tek kullanımlıdır. İkinci nesil cihazlar veya "vape kalemleri", daha fazla miktarda e-likit içeren bir kartuş, bir ısıtma elemanı ve bir atomizerden oluşan bir kartuş veya clearomizer bulunur. Şarj edilebilir piller ve yeniden doldurulabilir tanklarla yeniden kullanılabilir. Üçüncü nesil cihazlar, "mod" adına yol açan watt gibi kullanıcı tarafından değiştirilebilir ayarlara sahiptir. Yapılan çalışmalar e-sigara kullanımının hızla yaygınlaştığını, erkeklerin yalnızca elektronik sigara kullanma veya elektronik sigarayı iki kez kullanma olasılığının kadınlara göre iki kat daha yüksek olduğunu ortaya koymaktadır. Elektronik sigaraların da diğer sigara türleri gibi kardiyovasküler sistem ve solunum sistemi hastalıklarına neden olduğu, ağız ve diş sağlığını olumsuz etkilediği, anksiyete ve depresyon gibi ruhsal sorunlara neden olduğu bildirilmektedir. Ayrıca içerisindeki nikotin diğer sigara türlerinde olduğu gibi elektronik sigaranın da bağımlılık yapmasına neden olmaktadır.

Bu aşamada özellikle birinci basamak sağlık hizmetlerinde çalışan sağlık profesyonellerinin elektronik sigara ile ilgili eğitimlere katılıp farkındalıkları arttırmaları önemlidir. Bu farkındalıkla toplumdaki bireyleri elektronik sigaraya karşı bilinçlendirmesi, eğitimler vererek elektronik sigara kullanımını

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önlemeye çalışması ve bunu taramalarla desteklemesi çağımızın yeni sorunu olan elektronik sigaranın kullanımının önlenmesi açısından son derece gereklidir.

Anahtar kelimeler: Elektronik sigara, halk sağlığı, hemşirelik, sağlığı koruma

ABSTRACT

The use of electronic cigarettes is increasing both in our country and around the world. Some individuals who use electronic cigarettes believe that they are not harmful, while others use them as a means to quit traditional smoking. However, electronic cigarettes, like conventional ones, contain substances that pose serious threats to human health. The aim of this review is to summarize the current scientific knowledge regarding electronic cigarette use and to reveal the effects of electronic cigarettes on human health.

Across the world and in our country, many measures have been implemented to reduce traditional cigarette use, and these measures have been applied effectively. However, such efforts have gradually led to the emergence of new alternatives such as electronic cigarettes. Introduced globally as “tobacco-free cigarettes,” electronic cigarettes have reached millions of people through social media. They have created their own market, particularly through appealing advertisements targeting adolescents and young adults. First-generation devices were produced as an alternative to traditional cigarettes with their long and slim appearance. These e-cigarettes are also called “cigarette-like,” mimic the appearance of combustible cigarettes, and are disposable. Second-generation devices, or “vape pens,” feature a cartridge or clearomizer containing a heating element and atomizer, along with a cartridge holding a larger amount of e-liquid. They are reusable with rechargeable batteries and refillable tanks. Third-generation devices feature user-adjustable settings such as wattage, giving rise to the term “mod.” Studies have shown that e-cigarette use is rapidly increasing and that men are twice as likely as women to use or have tried electronic cigarettes. Similar to other types of cigarettes, electronic cigarettes have been reported to cause cardiovascular and respiratory diseases, negatively affect oral and dental health, and lead to psychological problems such as anxiety and depression. In addition, the nicotine they contain, as in other tobacco products, causes addiction.

At this stage, it is crucial for health professionals, especially those working in primary healthcare services, to participate in training programs related to electronic cigarettes and to increase their awareness. With this awareness, they should educate the public about the risks of electronic cigarette use, organize preventive training programs, and support these efforts with regular screenings. These actions are essential for preventing the spread of this modern health issue — the increasing use of electronic cigarettes.

Keywords: Electronic cigarette, public health, nursing, health protection

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TÜRKİYE’DE GELENEKSEL BEBEK BAKIM UYGULAMALARI: KÜLTÜREL DEĞERLER VE HALK SAĞLIĞI HEMŞİRELİĞİ AÇISINDAN BİR DEĞERLENDİRME TRADITIONAL INFANT CARE PRACTICES IN TÜRKİYE: AN EVALUATION FROM THE PERSPECTIVE OF CULTURAL VALUES AND PUBLIC HEALTH NURSING

Pınar TAŞ¹

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ÖZET

Geleneksel sağlık uygulamaları, toplumların tarih boyunca edindiği deneyimlerin, inanç sistemlerinin ve kültürel değerlerin bir yansıması olarak kuşaktan kuşağa aktarılan önemli bir yaşam pratiğidir. Bu uygulamalar, özellikle doğum ve bebeklik dönemlerinde ailelerin bakım anlayışını şekillendirerek hem kültürel kimliğin korunmasına hem de toplumsal dayanışmanın güçlenmesine katkı sağlamaktadır.

Bu derlemenin amacı, Türkiye’de bebek bakımına ilişkin yapılan geleneksel uygulamaların tarihsel kökenleri, kültürel anlamları, aile yapısı içerisindeki sembolik rolleri ve bebek sağlığı üzerindeki olası etkileri incelemektir.

Araştırma sonuçlarına göre, geleneksel uygulamalar aile içi dayanışmayı, toplumsal bağlılığı ve kültürel sürekliliği güçlendirmekte; ebeveynlerin bebek bakımına yönelik güven duygusunu artırmaktadır. Kuşaktan kuşağa aktarılan bu uygulamalar arasında; üç ezan aç bırakma, kundaklama, nazar boncuğu takma, bebek tuzlama, göbek bağı bakımı, kırk çıkarma, bitkisel karışımlar kullanma ve çeşitli koruyucu ritüeller yer almaktadır. Ancak uygulanan bazı yöntemler, bebeklerin fizyolojik gelişimi ve genel sağlığı açısından risk oluşturmaktadır. Bebeklerin doğumdan sonra üç ezan aç bırakılması bebeklerde hipoglisemiye yol açabilmektedir. Bebeklere uygulanan bir diğer riskli uygulama kundaklamadır. Çok sıkı yapılan kundaklama, kalça eklemlerine uygulanan baskı nedeniyle gelişimsel kalça displazisi riskini artırabilmektedir. Bu uygulamalar dışında; göbek bağına yabancı madde sürülmesi, bebek tuzlama, kurşun dökme, şekerli su veya bitkisel çay verilmesi gibi uygulamalar, enfeksiyon, cilt tahrişi, solunum sıkıntısı, elektrolit dengesizliği ve beslenme bozukluğu gibi tıbbi komplikasyonlara yol açabilmektedir.

Halk sağlığı hemşireliği bakış açısıyla değerlendirildiğinde, bu geleneksel uygulamalara tamamen karşı çıkmak yerine kültürel duyarlılıkla yaklaşmak büyük önem taşımaktadır. Modern tıbbın önerileriyle uyumlu biçimde ele alındığında, bu uygulamalar hem kültürel sürekliliğin korunmasına hem de bebek sağlığının en üst düzeyde desteklenmesine katkı sağlayabilir. Bu nedenle, Halk sağlığı hemşireleri ve diğer sağlık profesyonelleri, bu karmaşık durumu dikkate alarak ailelere kültürel duyarlılık çerçevesinde yaklaşmalıdır. Hemşireler bu süreçte; empatik, etkili iletişim ve bilimsel bilgi temelli rehberlik ile aileleri zararlı uygulamalardan uzaklaştırarak kültürel değerlerin korunmasına yardımcı olmalıdır. Bu bağlamda hemşirelerin kültürel yeterliliklerini geliştirmeleri, toplum temelli eğitim programları düzenlemeleri ve aileleri güvenli bebek bakımı konusunda bilinçlendirmeleri önerilmektedir.

Anahtar Kelimeler: Bebek bakımı, geleneksel uygulamalar, halk sağlığı, hemşirelik

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ABSTRACT

Traditional healthcare practices are an important way of life passed down from generation to generation, reflecting the experiences, belief systems, and cultural values that societies have acquired throughout history. These practices contribute to both the preservation of cultural identity and the strengthening of social solidarity by shaping families' understanding of care, especially during childbirth and infancy.

The aim of this compilation is to examine the historical origins, cultural meanings, symbolic roles within the family structure, and possible effects on infant health of traditional practices related to infant care in Türkiye.

According to research findings, traditional practices strengthen family solidarity, social cohesion, and cultural continuity; they increase parents' confidence in caring for their babies. These practices, passed down from generation to generation, include leaving the baby awake for three calls to prayer, swaddling, wearing an evil eye bead, salting the baby, umbilical cord care, removing the forty days, using herbal mixtures, and various protective rituals. However, some of the methods used pose a risk to the physiological development and general health of babies. Leaving babies without food for three prayers after birth can cause hypoglycemia in babies. Another risky practice applied to babies is swaddling. Swaddling too tightly can increase the risk of developmental hip dysplasia due to the pressure applied to the hip joints. Apart from these practices, applying foreign substances to the umbilical cord, salting the baby, pouring lead, giving sugary water or herbal tea can lead to medical complications such as infection, skin irritation, respiratory distress, electrolyte imbalance, and nutritional disorders.

When evaluated from a public health nursing perspective, it is crucial to approach these traditional practices with cultural sensitivity rather than completely rejecting them. When handled in a manner consistent with modern medical recommendations, these practices can contribute to both preserving cultural continuity and supporting infant health at the highest level. Therefore, public health nurses and other health professionals should approach families with cultural sensitivity, taking this complex situation into account. During this process, nurses should help protect cultural values by guiding families away from harmful practices through empathetic, effective communication and science-based guidance. In this context, it is recommended that nurses develop their cultural competence, organize community-based education programs, and raise awareness among families about safe infant care.

Keywords: Infant care, traditional practices, public health, nursing

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MICROBIOTA MODULATION AS THERAPEUTIC APPROACH IN THE NEUROPATHIC PAIN IN DOG WITH SPINAL CORD INJURY: IMPACT OF POLENOPLASMIN

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ABSTRACT

Background Studies have demonstrated the presence of gut dysbiosis (alterations in gut bacterial homeostasis) secondary to spinal cord injury in dogs. The dysbiosis is thought to impair recovery by decreasing the production of short-chain fatty acids which play a role in suppressing inflammation within the central nervous system.

Objective Therefore, targeting gut dysbiosis could have significant therapeutic value in the management of spinal cord injury. The purpose of this study is to determine if gut dysbiosis occurs in dogs with spinal cord injury. Another area of potential intervention interest is in situations of spinal injury where there is an urgent need to generate new neurons. To arrive at these observations, the authors examined how Polenoplasmin and diet solve paralysis in dogs.

Materials and methods The most common cause of spinal problems in dogs is trauma. We are currently assessing whether indoles can also stimulate formation of neurons in dogs with paralysis.

Results We found that gut microbes that metabolize tryptophan-an essential amino acid-secrete small molecules called indoles, which stimulate the development of new brain cells in dogs, also demonstrated that the indole-mediated signals elicit key regulatory factors known to be important for the formation of new neurons.

Conclusion This study is another intriguing piece of the puzzle highlighting the importance of lifestyle factors and diet. The link between the health of the microbiome and the health of the brain shows how microorganisms in the gut solve paralysis, gut microbe secreted molecule linked to formation of new nerve cells in paralyzed dogs.

Keywords: gut dysbiosis, indole, paralyzed dog, Polenoplasmin

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RHODIUM, RUTHENIUM, AND IRIIDIUM COMPLEXES OF N-HETEROCYCLE- FUNCTIONALIZED N-HETEROCYCLIC CARBENE LIGANDS IN THE HYDROSILYLATION OF ALKYNES

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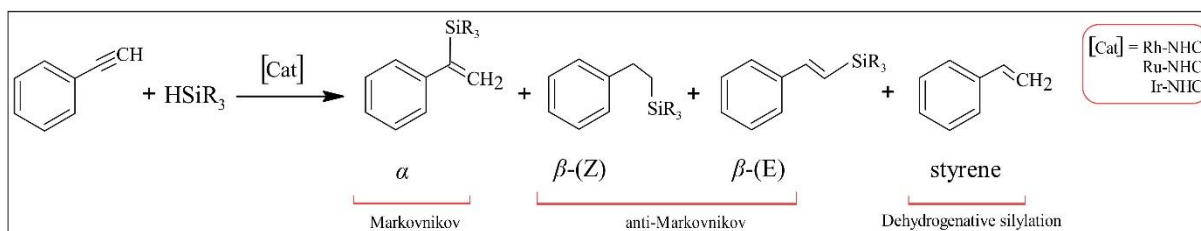
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ABSTRACT

Vinylsilanes are electron-rich and highly valuable molecules as intermediates in the synthesis of various organic compounds and materials. In recent years, the use of transition-metal catalyzed addition of silanes to alkynes has gained importance for their synthesis, as it offers a more atom-economic alternative to classical methods. However, this method may lead to both Markovnikov (α) and anti-Markovnikov (β -E) and β -Z)) isomers, and dehydrogenative silylation products, making the development of selective catalysts crucial [1].

N-Heterocyclic carbene (NHC) complexes have become one of the most extensively studied classes of ligands in transition-metal catalysis due to their strong σ -donor character, high thermal stability, and the ease of structural modification of their carbon backbone. The tunable electronic and steric properties of NHC ligands enable rational design of catalytic systems with controllable activity and selectivity [2].

Based on the knowledge given above, in this study, we have prepared Rh, Ru, and Ir complexes of N-heterocycle-functionalized N-Heterocyclic carbene ligand to investigate their catalytic performance in hydrosilylation of alkynes. The target complexes were prepared via the transmetalation reaction of silver (I)-NHC intermediates, synthesized from the corresponding NHC precursors [3]. In the catalytic tests, the reaction progress was monitored by ^1H NMR spectroscopy. In this presentation, we will outline the endeavours and details of our studies conducted toward this goal.



Keywords: N-heterocyclic carbene; rhodium; iridium; hydrosilylation

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İLÂHİYAT FAKÜLTELERİNDE ARAPÇA ÖĞRETİMİ: KARŞILAŞILAN SORUNLAR VE ÇÖZÜM ÖNERİLERİ TEACHING ARABIC IN FACULTIES OF DIVINITY: PROBLEMS ENCOUNTERED AND PROPOSED SOLUTIONS

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ÖZET

Toplumların birbirleri ile anlaşabilmeleri için istek ve meramlarını dile getirmede kullandıkları dil, aralarındaki en önemli iletişim aracıdır. Dünyada farklı toplumlar tarafından kullanılmakta olan pek çok dil vardır. Bunlardan biri de Kur'an'ın dili olan Arapçadır. Ülkeler arasındaki askerî, siyasî, ekonomik ve kültürel ilişkilerin sağlıklı şekilde sürdürülebilmesi dil aracılığı ile mümkündür. Bu nedenle yabancı dil öğretimi toplumların öncelikleri arasında yer alır. Yabancı dil olarak Arapça öğretimi, yedinci yüzyılda İslam'ın yayılması ile Orta Doğu'da Arapça dışındaki dilleri konuşan topluluklar arasında başlamıştır. Türkiye'de ise 1913 yılında İmam-Hatip okullarında başlatılmış, 1930 yılında bu okulların kapatılmasıyla durdurulmuş, 1951 yılında yeniden açılması ile bu okullarla birlikte Yüksek İslam Enstitüleri ve İlahiyat fakültelerinde yeniden başlatılmıştır. Bu çalışmada, "İlahiyat fakültelerinde yabancı dil olarak Arapça öğretiminde karşılaşılan sorunlar ve çözüm önerileri" konusu ele alınmıştır. İslam medeniyeti, Kur'an ve sünnetin dili olan Arapça üzerine inşa edilmiştir. Türk halkı, Müslüman toplumların dili olduğu için Arapçaya ayrı bir önem vermiştir. Günümüz dünyasında bilim ve teknoloji hızla gelişmiş, iletişim çağında insanlar arası etkileşim artmıştır. Bu durum yabancı dillerin öğrenilmesini zorunlu kılmıştır. Öte yandan savaşlar, ekonomik ve sosyal nedenler ile yaşanan göçler; Türkiye'ye sığınan Arapların sayısını artırmıştır. Türkiye'nin Arap dünyası ile coğrafi, tarihî, dinî ve kültürel bağlarının korunması; Arapça öğretimini gerekli kılmaktadır. Arapça, dinî ilimlere ulaşmanın en önemli araçlarından biridir. Kur'an-ı Kerim ve hadis-i şeriflerin dili olmasının yanı sıra tefsir, hadis, fıkıh, kelam, İslam Felsefesi, İslam Tarihî gibi temel ilimlerdeki eserlerin neredeyse tamamı Arapçadır. Ayrıca matematik, tıp, astronomi, fizik, kimya, edebiyat, tarih, coğrafya ve musiki alanlarında da çok sayıda eser bu dilde yazılmıştır. Osmanlı arşivlerinde yer alan tarihî vesikalar, el yazmaları ve matbu eserler de Arapçanın öğrenilmesini gerekli kılan sebepler arasında yer almaktadır. Arapça öğrenmek, dinî ve kültürel mirasa erişim açısından büyük önem taşırken İmam-Hatip okulları, İlahiyat fakülteleri ve dinî ilimler alanında eğitim-öğretim veren tüm kurumlarda Arapçanın öğretilmesi zorunlu hale gelmiştir. Diğer taraftan Arapçanın dünyada 22 ülkede 400 milyondan fazla kişinin ana dili olması; uluslararası iş dünyasında, siyasette ve kültürde öneminin giderek artması; finans, sağlık, eğitim ve turizm gibi sektörlerde bireylere küresel pazarda avantaj sağlayarak yeni iş imkânları sunması ve Birleşmiş Milletlerin resmî dillerinden biri olması Arapça öğrenmenin önemini daha da artırmıştır. Ancak Türkiye'de Arapça öğretimine uzun yıllar önce başlanmasına rağmen dil öğretiminde hâlâ arzu edilen düzeye ulaşamadığı, çeşitli sorunlarla karşılaştığı ve bu sorunların çözüme kavuşturulması gerektiği görülmektedir. Yapılan çalışmalar; İlahiyat fakültelerinde Arapça öğretimi esnasında karşılaşılan ve çözüm bekleyen temel sorunların fizikî yapı, ders kitapları, öğrenci, öğretici ve sistem kaynaklı olduğunu göstermektedir. Bu çalışmanın amacı, İlahiyat fakültelerinde Arapça eğitimi sırasında öğrenmeyi zorlaştıran bu sorunlara dikkat çekmek ve çözüm önerileri sunmaktır. Ayrıca Arapçanın daha etkili ve kolay öğrenilmesi ile sağlıklı ve verimli bir Arapça eğitimi verilebilmesi

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hususunda ilgili kurum ve kuruluşlarla bazı bilgilerin paylaşılması da çalışmanın amaçları arasında yer almaktadır. Çalışma, İlahiyat fakültelerinde okuyan öğrencilerin Arapça öğrenimi sırasında “okuma, yazma, dinleme, anlama, ezberleme ve anladığını aktarma” becerilerini geliştirmelerine rehberlik etmesi bakımından önemlidir. Çalışmada nitel yöntemlerden yazılı doküman incelemesi kullanılmış; kitap, dergi ve anket çalışmalarından elde edilen bilgiler değerlendirilmiştir. Çözüm önerileri arasında Arapça öğretiminde istenilen seviyenin yakalanabilmesi için gerekli alt yapının hazırlanması, fizikî yapının iyileştirilmesi, öğreticinin bilgilerini güncellemesi, öğrencilerin Arapça öğrenmenin zor olduğuna ilişkin kaygılarının giderilerek güven tazelemelerinin sağlanması, motivasyon eksikliklerinin nedenlerinin tespit edilerek gerekli tedbirlerin alınması ve sistemin gözden geçirilerek modern dil öğretimine uygun hale getirilmesi yer almaktadır. Bu önerilerle İlahiyat fakültelerinde Arapça öğretiminin daha verimli ve sürdürülebilir hale getirilmesi amaçlanmaktadır.

Anahtar Kelimeler: İlahiyat Fakültesi, Arap dili, Arapça öğretimi, Sorunlar, Çözüm önerileri.

ABSTRACT

Language is the primary means of communication through which societies express their intentions and needs. Communities around the world speak many languages, including Arabic, the language of the Qur'an. Military, political, economic, and cultural relations between countries can be maintained healthily only through language. For this reason, foreign language education has always been a priority for societies. The teaching of Arabic as a foreign language dates back to the seventh century, when Islam spread across regions whose populations spoke languages other than Arabic. In Türkiye, Arabic language instruction began in 1913 in the İmam-Hatip schools, was interrupted with their closure in 1930, and was reinitiated in 1951 with the reopening of these schools and the establishment of the Higher Islamic Institutes and Faculties of Divinity. This study addresses the topic of “the challenges encountered in teaching Arabic as a foreign language in Faculties of Divinity and proposes solutions.” Islamic civilization is built upon Arabic, the language of the Qur'an and the Sunnah. The Turkish people have historically attached special importance to Arabic, as it is the language of Muslim societies. In today's world, rapid advances in science and technology and increased human interaction in the information age have made learning foreign languages a necessity. Additionally, wars and economic and social factors have led to waves of migration, increasing the number of Arabic-speaking individuals seeking refuge in Türkiye. Preserving Türkiye's geographical, historical, religious, and cultural ties with the Arab world further underscores the need to teach Arabic. Arabic is one of the most essential tools for accessing the Islamic religious sciences. Beyond being the language of the Qur'an and the Prophet's hadiths, foundational works in fields such as tafsir, hadith, fiqh, kalām, Islamic philosophy, and Islamic history are predominantly written in Arabic. Moreover, numerous works in mathematics, medicine, astronomy, physics, chemistry, literature, history, geography, and music were also authored in this language. Historical documents, manuscripts, and printed works preserved in Ottoman archives are additional reasons to learn Arabic. Given its significance for accessing religious and cultural heritage, the teaching of Arabic has become obligatory in İmam-Hatip schools, Faculties of Divinity, and all institutions offering instruction in Islamic sciences. Furthermore, Arabic is spoken as a mother tongue by more than 400 million people in 22 countries; its growing importance in international business, politics, and culture; the employment opportunities it offers in global markets across sectors such as finance, healthcare, education, and tourism; and its status as one of the official languages of the United Nations further increase the value of learning Arabic. However, despite the long history of Arabic language education in Türkiye, it is evident that the desired level of proficiency has not yet been achieved, and various difficulties persist that require resolution. Studies indicate that the main challenges encountered in Arabic language instruction within Faculties of Divinity stem from physical

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infrastructure, textbooks, students, instructors, and the educational system itself. This study aims to highlight the problems that hinder learning in Arabic education within the Faculties of Divinity and to offer potential solutions. Another objective is to provide relevant institutions and stakeholders with insights to achieve more effective, accessible, and productive Arabic-language education. The study is significant in that it aims to guide students in the Faculties of Divinity in developing their skills of reading, writing, listening, comprehension, memorization, and expression in Arabic. A qualitative method written document analysis was employed, and data obtained from books, journals, and survey studies were evaluated. Among the proposed solutions are preparing the necessary infrastructure for effective Arabic instruction, improving the physical environment, ensuring that instructors keep their knowledge up to date, alleviating students' anxiety about the perceived difficulty of learning Arabic, identifying and addressing sources of low motivation, and revising the system to align with contemporary foreign language teaching methodologies. Through these recommendations, the study aims to improve the efficiency and sustainability of Arabic language instruction in the Faculties of Divinity.

Keywords: Faculty of Divinity, Arabic language, Arabic teaching, Problems, Solution proposals.

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TR63 BÖLGESİ BİYOGAZ ENERJİ POTANSİYELLERİNİN BELİRLENMESİ DETERMINATION OF THE BIOGAS ENERGY POTENTIALS OF THE TR63 REGION

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ÖZET

TR63 Bölgesi (Kahramanmaraş, Hatay ve Osmaniye) kapsamında yapılan çalışmalar, bölgedeki bitkisel ve hayvansal atıkların yenilenebilir enerji üretiminde değerlendirilebilecek önemli bir potansiyele sahip olduğunu ortaya koymuştur. Hayvancılığın yaygın olarak yapıldığı TÜİK verilerinden elde edilen hayvan sayılarına göre gerekli enerji hesaplamaları sonucunda TR63 Bölgesi'nde yıllık yaklaşık 1.008 milyon kg hayvansal atık oluşmakta olup bu atıklardan 912,6 TJ biyogaz enerjisi üretilebileceği hesaplanmıştır. Büyükbaş hayvan atıkları, yüksek bireysel atık üretimleri ve metan verimleri nedeniyle toplam enerji üretiminin %64'ten fazlasını oluştururken; küçükbaş ve kümes hayvancılığı atıkları daha düşük birim değere sahip olsa da toplam hayvan sayısının fazla olması nedeniyle toplam potansiyele anlamlı katkı sunmaktadır. Bu durum, bölge biyogaz tesislerinin planlanmasında büyükbaş hayvancılık işletmelerinin yoğun olduğu alanların önceliklendirilmesi, küçükbaş ve kanatlı atıklarının ise destekleyici kofermentasyon materyali olarak değerlendirilmesi gerektiğini göstermektedir. Elde edilen bulgular, TR63 Bölgesi'nin Türkiye'nin yenilenebilir enerji hedeflerine katkı sağlayabilecek güçlü bir biyokütle potansiyeline sahip olduğunu ortaya koymaktadır. Tarımsal ve hayvansal atıkların enerji üretiminde değerlendirilmesi, hem atık yönetiminde çevresel sürdürülebilirliği sağlayacak hem de bölgesel kalkınmaya katkı sunacaktır.

Anahtar Kelimeler: TR63 Bölgesi, Biyogaz, Enerji

ABSTRACT

Studies conducted within the TR63 Region (Kahramanmaraş, Hatay, and Osmaniye) have revealed that the region's agricultural and animal waste possesses significant potential for renewable energy production. In the TR63 Region, where livestock farming is widely practiced, approximately 1.008 million kg of animal waste is generated annually, from which 912.6 TJ of biogas energy can be produced. Cattle manure accounts for more than 64% of the total energy output due to its high individual waste production and methane yield, while sheep, goat, and poultry waste—although having lower unit values—still make meaningful contributions to the overall potential because of their large population numbers. This indicates that areas with high densities of cattle farms should be prioritized when planning regional biogas facilities, and that small ruminant and poultry waste should be utilized as complementary co-fermentation materials. The findings demonstrate that the TR63 Region holds a strong biomass

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potential capable of contributing to Türkiye's renewable energy targets. Utilizing agricultural and animal waste for energy production will both ensure environmental sustainability in waste management and support regional development.

Keywords: TR63 Region, Biogas, Energy

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ÇİFTLİK HAYVANLARINDA ÜREME PERFORMANSINI GELİŞTİREN DOĞAL ANTİOKSİDANLAR

NATURAL ANTIOXIDANTS IMPROVING REPRODUCTIVE PERFORMANCE IN FARM ANIMALS

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ÖZET

Çiftlik hayvanları yetiştiriciliğinde üreme başarısı, hayvansal üretimin verimliliğini büyük ölçüde belirleyen bir faktördür. Bu nedenle, hayvanlarda oksidatif stresten kaynaklı hastalıkların önlenmesi ve kontrolü, kısırılık riskini azaltmada önemli bir rol oynar. Antioksidanlar antienflamatuar özellikleriyle oksidatif hasarı azaltarak doğurganlığı ve üreme başarısını desteklerler. Ayrıca, çiftlik hayvanları çevresel ve yönetimsel koşullar, beslenme uygulamaları, iç/biyolojik faktörler ve hayvanların sağlık durumuyla ilgili çeşitli stres faktörlerine maruz kalmaktadır. Bu nedenle stresten kaçınmak pratik olarak imkânsız olduğundan, serbest radikallerin aşırı miktarda üretimi ve oksidatif stres, ticari hayvan üretiminde yaygın sorunlardan birisidir. Doğal veya sentetik antioksidanlar, hayvanların üreme sistemi üzerinde potansiyel olarak olumsuz etkileri olabilecek serbest radikalleri nötralize etmek ve lipid peroksidasyonunu en aza indirmek için kullanılmaktadır. Bu inceleme, çiftlik hayvanlarında üreme performansını artıran doğal antioksidanları ele almaktadır.

Anahtar Kelimeler: Çiftlik hayvanı, dişi, erkek, fertilité, oksidatif stres, antioksidanlar.

ABSTRACT

Reproductive success in livestock farming is a factor that largely determines the productivity of animal production. Therefore, preventing and controlling diseases caused by oxidative stress in animals plays an important role in reducing the risk of infertility. Besides, farm animals are exposed to different stressors associated with environmental and management conditions, nutritional practices, internal/biological factors and also health status of animals. Therefore, it is practically impossible to avoid stresses, so therefore overproduction of free radicals and oxidative stress are common problems in commercial animal production. Natural or synthetic antioxidants could be used to neutralize free radicals and minimize lipid peroxidation, which could potentially cause negative effects on the reproductive system of animals. The natural antioxidants improving reproductive performance in farm animals are discussed in this review.

Keywords: Farm animals, female, male, fertility, oxidative stress, antioxidants

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5G'YE GEÇİŞİN ENERJİ TÜKETİMİ VE KARBON AYAK İZİ ÜZERİNDEKİ ETKİLERİ THE IMPACTS OF THE TRANSITION TO 5G ON ENERGY CONSUMPTION AND CARBON FOOTPRINT

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ÖZET

Beşinci nesil mobil iletişim teknolojileri, sundukları yüksek veri hızları, düşük gecikme süreleri ve devasa bağlantı kapasitesi ile dijital dönüşümün temel omurgasını oluşturmaktadır. Ancak bu teknolojik sıçrama, şebeke donanımlarının enerji talebi yoğunluğu nedeniyle telekomünikasyon sektörü için ciddi bir çevresel sürdürülebilirlik paradoksu yaratmaktadır. Bu çalışma, Türkiye'nin 5G'ye geçiş sürecinin ulusal karbon ayak izi üzerindeki potansiyel etkisini, en fazla baz istasyonu sahasına sahip Turkcell'in gerçek şebeke altyapısı verileri üzerinden nicel olarak modellemeyi amaçlamaktadır.

Çalışmanın metodolojisi kapsamında, Turkcell operatörüne ait 25.680 adet aktif 4.5G sahasının 2024 yılı gerçek enerji tüketim verileri temel alınarak kapsamlı bir mevcut durum analizi gerçekleştirilmiştir. Hesaplamalar, operatörün rüzgâr ve güneş gibi mevcut yenilenebilir enerji yatırımlarının sağladığı emisyon azaltım etkisi düşüldükten sonra dahi, şebekenin net karbon ayak izinin 272.062 tCO₂ e seviyesinde olduğunu göstermektedir.

Çalışmanın ikinci aşamasında, sahaların tamamının 5G Massive MIMO AAU teknolojisi ile donatıldığı bir tam geçiş senaryosu modellenmiştir. Farklı trafik yoğunluklarını ve enerji taleplerini simüle etmek amacıyla, literatürdeki güncel veriler ışığında saha başına 3 kW ve 3,5 kW olmak üzere iki farklı ilave güç yükü senaryosu karşılaştırmalı olarak analiz edilmiştir. Enerji yükü açısından daha düşük seviyeyi temsil eden 3 kW senaryosu baz alındığında dahi 5G dönüşümünün şebekeye yıllık yaklaşık 674,8 GWh ilave enerji tüketimi getireceğini ve bunun 322.554 tCO₂ e tutarında ek bir karbon yüküne neden olacağını ortaya koymuştur. Bu ilave yük, şebekenin toplam karbon ayak izini mevcut duruma kıyasla %118 oranında artırarak 594.617 tCO₂ e seviyesine yükseltmektedir.

Bulgular, 5G teknolojisine geçişin Türkiye'nin iklim hedefleri üzerinde ciddi bir baskı oluşturacağını kanıtlamaktadır. Sonuç olarak bu çalışma, 5G dönüşümünün sürdürülebilirliği için enerji verimliliğinin

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ötesinde, operatörlerin yenilenebilir enerji üretim kapasitelerini radikal ölçekte artırmalarının kaçınılmaz bir zorunluluk olduğunu vurgulamaktadır.

Anahtar Kelimeler: 5G, enerji tüketimi, karbon ayak izi, sürdürülebilirlik, yenilenebilir enerji.

ABSTRACT

Fifth generation mobile communication technologies constitute the backbone of digital transformation by offering ultra-high data speeds, low latency, and massive connectivity capacity. However, this technological leap creates a significant environmental sustainability paradox for the telecommunications sector due to the high energy density of network hardware. This study aims to quantitatively model the potential impact of Turkey's transition to 5G on the national carbon footprint, utilizing real network infrastructure data from Turkcell, the market leader with the highest number of base station sites.

Within the scope of the methodology, a comprehensive baseline analysis was conducted using actual 2024 energy consumption data from 25,680 active 4.5G sites belonging to the operator. Calculations indicate that even after deducting the emission reduction effects provided by existing renewable energy investments (wind and solar), the network's net carbon footprint stands at 272,062 tCO₂ e.

In the second phase of the study, a full transition scenario was modeled in which all sites are equipped with 5G Massive MIMO AAU technology. To simulate varying traffic densities and energy demands, two distinct additional power load scenarios 3 kW and 3.5 kW per site were comparatively analyzed considering current literature data. Even when basing projections on the 3 kW scenario, which represents the more conservative energy load, the results reveal that the 5G transition would impose an additional annual energy consumption of approximately 674.8 GWh on the network, resulting in an additional carbon load of 322,554 tCO₂ e. This additional burden increases the network's total carbon footprint by 118% compared to the status, raising it to 594,617 tCO₂ e.

The findings demonstrate that the transition to 5G technology will place significant pressure on Turkey's climate goals. Consequently, this study emphasizes that ensuring the sustainability of the 5G transformation requires operators to go beyond energy efficiency measures and treat the radical expansion of renewable energy generation capacities as an inevitable necessity.

Keywords: 5G, carbon footprint, energy consumption, renewable energy, sustainability.

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GENÇLER İÇİN ÖZ DEĞERLENDİRME UYKUSUZLUK ÖLÇEĞİ'NİN (YSIS) TÜRKÇE'YE UYARLAMASI

ADAPTATION STUDY OF YOUTH SELF-RATING INSOMNIA SCALE (YSIS) TO TURKISH

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ÖZET

Uyku sorunları, yani insomniya, genel popülasyonun %20–40'ını etkileyen ve yaklaşık %10'u için kronik bir sorun olan yaygın bir sağlık problemidir. İnsomniya; uykuya dalmakta, uykuyu sürdürmekte veya çok erken uyanıp tekrar uyuyamamada zorluk çekme durumu olarak tanımlanır. Bu durum, kişinin yaşam kalitesi, bilişsel performansı, ruh sağlığı (anksiyete, depresyon) ve genel sağlığı üzerinde geniş kapsamlı olumsuz etkilere yol açar. Bu kapsamda, uyku sorunlarının araştırılabilmesi için Türk kültüründe kullanılabilecek geçerli ve güvenilir bir ölçme aracına ihtiyaç duyulmaktadır.

Bu çalışmanın amacı, Liu ve arkadaşları (2019) tarafından geliştirilen ve uykusuzluk belirtilerini ölçmek için tasarlanmış Gençlik Öz Değerlendirme Uykusuzluk Ölçeği'nin (Youth Self-Rating Insomnia Scale-YSIS) Türk kültürüne uyarlanması ve psikometrik özelliklerinin incelenmesidir.

Çalışma, sorumlu yazardan izin alınması ve ardından etik kurul onayı (E-72321963-050.04-371588) ile başlamıştır. Ölçeğin çeviri süreci, iki bağımsız akademisyen tarafından Türkçe'ye çeviri ve ardından başka bir akademisyen tarafından İngilizce'ye geri çeviri yöntemleriyle gerçekleştirilerek dilsel eşdeğerlik sağlanmıştır.

Veriler, bir yükseköğretim kurumunda öğrenim gören, gönüllü toplam 269 öğrenciden online olarak toplanmıştır. Katılımcıların yaş ortalaması 23.25 yıl (SS = 4.94) olup, ortalama uyku süreleri 7.19 saat (SS = 1.19) olarak belirlenmiştir. Elde edilen veriler üzerinde Açıklayıcı Faktör Analizi (AFA) uygulanmıştır. Analizlerde Temel Eksen Faktörleme (PAF) tahmin yöntemi ve faktörler arasında korelasyon öngörüldüğü için promax döndürme kullanılmıştır.

AFA sonuçları, faktör sayısına karar vermede kullanılan K1 kuralı ve öz-değer grafiği ile iki faktörlü bir yapıya işaret etmiştir. KMO değeri .80 ve Bartlett'in testi anlamlı bulunarak veri setinin faktör analizine uygun olduğu doğrulanmıştır.

Ancak, ortaya çıkan bu iki faktörlü yapı, orijinal ölçekteki yapıdan farklıdır. Uyarlama çalışmasında faktörlerden biri iki maddeden, diğeri ise altı maddeden oluşmuştur. Bu iki faktör birlikte toplam varyansın %54.25'ini açıklamaktadır. Faktör yükleri birinci faktörde .53 ile .80, ikinci faktörde ise .85 ve .89 arasında değer almıştır.

Faktörler arasındaki korelasyonun anlamlı olduğu ($r = .49$, $p < .01$) bulunmuştur. Cronbach alfa güvenirlik katsayıları, altı maddeden oluşan Birinci Faktör için .84 ve iki maddeden oluşan İkinci Faktör

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için .85 olarak elde edilmiştir. Bu değerler, orijinal ölçeğin toplam iç tutarlık katsayısı olan .80'e yakın olduğu için ölçeğin güvenilirliğini desteklemektedir.

Gençlik Öz Değerlendirme Uykusuzluk Ölçeği'nin (YSIS) Türk kültürüne uyarlaması çalışmasında dil çevirisi ve açımlayıcı faktör analizi değerlerinin kabul edilebilir olduğu söylenebilir. Çalışmanın sonuçları, uyarlama ölçeğinin güvenilir olduğunu gösterse de faktör yapısındaki farklılıklar (2+6 madde) nedeniyle ileri çalışmalar gerekmektedir. Araştırmacılar, elde edilen yapıyı daha büyük gruplarda Doğrulamalı Faktör Analizi (DFA) ile test etmeyi planlamaktadır.

Anahtar Kelimeler Uykusuzluk, Ölçek Uyarlaması, Açımlayıcı Faktör Analizi

ABSTRACT

Sleep problems, or insomnia, are widespread health issues, affecting 20–40% of the general population and becoming a chronic problem for about 10%. Insomnia is defined as difficulty falling asleep, staying asleep (sleep maintenance problems), or waking up too early in the morning and being unable to return to sleep. This condition has far-reaching negative effects on an individual's quality of life, cognitive performance, mental health (anxiety, depression), and overall health. Therefore, there is a need for a valid and reliable measurement tool to investigate sleep problems in Turkish culture.

The purpose of this study is to adapt the Youth Self-Rating Insomnia Scale (YSIS), developed by Liu et al. (2019) to measure insomnia symptoms, into Turkish culture and to examine its psychometric properties. The study began with obtaining permission from the corresponding author and subsequently receiving ethical approval. The translation process was carried out using the translation-back-translation method, involving two independent academics translating into Turkish and another back-translating into English, ensuring linguistic equivalence.

Data was collected online from a total of 269 voluntarily participating students enrolled at a higher education institution. The mean age of the participants was 23.25 years (SD = 4.94), and their average sleep duration was reported as 7.19 hours SD = 1.19). Exploratory Factor Analysis (EFA) was performed on the data. The Principal Axis Factoring (PAF) estimation method and promax rotation were used, as a correlation between potential factors was anticipated.

The EFA results, based on the K1 rule and the scree plot, indicated a two-factor structure. The KMO value was .80 and Bartlett's test was found to be significant, confirming the data set's suitability for factor analysis. However, this emergent two-factor structure differs from the original scale. In the adaptation study, one factor consisted of two items, while the other consisted of six items. These two factors collectively explained 54.25% of the total variance. Factor loadings ranged from .53 to .80 for the first factor and .85 and .89 for the second factor.

A significant correlation was found between the resulting factors ($r = .49, p < .01$). The Cronbach's alpha reliability coefficients were obtained as .84 for the six-item First Factor and .85 for the two-item Second Factor. These values are close to the total internal consistency coefficient of .80 reported for the original scale, supporting the scale's reliability.

The linguistic translation and exploratory factor analysis values in the adaptation study of the Youth Self-Rating Insomnia Scale (YSIS) into Turkish culture are considered acceptable. Although the study's

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results indicate that the adapted scale is reliable, the difference in the factor structure (2+6 items) suggests the need for further research. The researchers plan to test the obtained structure using Confirmatory Factor Analysis (CFA) with larger groups.

Keywords: Insomnia, Scale Adaptation, Exploratory Factor Analysis (EFA)

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POZİTİF VE NEGATİF STRES ÖLÇEĞİ'NİN (DESS) TÜRKÇE'YE UYARLAMASI ADAPTATION STUDY FOR THE POSITIVE AND NEGATIVE STRESS SCALE (DESS) TO TURKISH

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ÖZET

Stres, bir bireyin normal işleyişini bozan fizyolojik ve psikolojik bir tepkidir. Stres hem hoş (östre/pozitif stres) hem de nahoş (sıkıntı/negatif stres) deneyimlerden kaynaklanabilir. Östre, bireyin odaklanmasına ve performansını artırmasına yardımcı olan olumlu ve motive edici bir türken, sıkıntı ise olumsuz sağlık sorunlarına yol açabilen motivasyon düşürücü bir türdür. Literatürde stresle ilgili çalışmalar çoğunlukla sıkıntılı strese odaklandığından, her iki tür stresi de ölçebilecek bir araca olan ihtiyaç öne çıkmaktadır. Bu nedenle, Vikoler ve arkadaşları (2024) tarafından geliştirilen ve hem olumlu hem de olumsuz stresi ölçen DESS ölçeğinin Türk kültürüne uyarlanması hedeflenmiştir.

Çalışma, sorumlu yazardan e-posta yoluyla izin alınmasıyla başlamış ve ardından etik izin alınmıştır. Ölçek maddeleri iki akademisyen tarafından Türkçe'ye çevrilmiş, ortak bir form oluşturulmuş ve başka bir akademisyen tarafından İngilizce'ye geri çevrilerek son şekli verilmiştir.

Veriler, bir yükseköğretim kurumunda öğrenim gören, gönüllülük esasına göre katılan 293 öğrenciden (yaş ortalaması 23.25, SS = 4.54) online olarak toplanmıştır. Örneklemenin %78'ini kadınlar oluşturmaktadır. Veri analizi için Temel Eksen Faktörleme (PAF) tahmin yöntemi ve promax döndürme kullanılarak Açımlayıcı Faktör Analizi (AFA) gerçekleştirilmiştir.

AFA sonucunda K1 kuralı ve öz-değer grafiği ile iki faktörlü bir yapıya karar verilmiştir. Kaiser-Meyer-Olkin (KMO) değeri .87 ve Bartlett'in testi anlamlı bulunarak veri setinin faktör analizine uygun olduğu doğrulanmıştır. Elde edilen iki faktörlü yapı, orijinal ölçekle uyumlu olup, toplam varyansın %77.56'sını açıklamaktadır. Faktör yapısı, orijinalinde olduğu gibi, ilk beş madde Birinci Faktör (Negatif Stres), diğer maddeler ise İkinci Faktör (Pozitif Stres) altında yapılanmıştır.

Birinci faktör tek başına %46.62, ikinci faktör ise %30.94 varyans açıklamaktadır. Faktör yükleri oldukça yüksektir, birinci faktörde .87 ile .93, ikinci faktörde .50 ile .97 arasında değişmektedir. Faktörler arasındaki korelasyon anlamsızdır. Güvenilirlik: Cronbach alfa güvenilirlik katsayıları, birinci Faktör için .95 ve ikinci faktör için .88 olarak yüksek bulunmuştur, bu da ölçeğin güvenilir olduğunu işaret etmektedir.

Sonuç olarak uyarlama çalışması, dokuz maddeli ve iki boyutlu olan DESS ölçeğinin Türkçe formunun faktör yapısının orijinal ölçekle uyumlu olduğunu göstermiştir. Yüksek güvenilirlik değerleri ve toplam açıklanan varyans (%77.56) göz önüne alındığında, Pozitif ve Negatif Stres Ölçeği'nin Türkçe'ye başarıyla uyarlandığı ve Türk kültüründe geçerli ve güvenilir bir ölçme aracı olduğu sonucuna

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varılmıştır. Ancak bu çalışmanın doğrulayıcı faktör analizi, benzer ölçek geçerliliği, test-tekrar test çalışmalarının yapılması planlanmaktadır. Bu çalışmalarla ölçeğin geçerlik ve güvenirlik özellikleri doğrulanmış olacaktır.

Anahtar Kelimeler: Stres, Östres, Pozitif Stres, Sıkıntı, Negatif Stres, Ölçek uyarlaması

ABSTRACT

Stress is a complex physiological and psychological reaction to demands or challenges that disrupt an individual's normal functioning. Stress can stem from both pleasant (eustress/positive stress) and unpleasant (distress/negative stress) experiences. Eustress is a positive and motivating type of stress that helps individuals focus and improve their performance. Conversely, distress is a negative and demotivating type of stress that can lead to inactivity and negative health problems. Since studies on stress in the literature primarily focus on distress, there is a need for a tool that can measure both types of stress. Therefore, the objective of this study was to adapt the DESS scale, developed by Vikoler et al. (2024), into Turkish culture.

The study began with requesting permission from the corresponding author via email, followed by obtaining ethical approval. The scale items were translated into Turkish by two independent academics, an initial Turkish form was created, and then back-translated into English by another academic to finalize the Turkish form.

Data was collected online from 293 students (mean age 23.25, SD = 4.54) voluntarily participating from a higher education institution. Women constituted 78% of the sample. Exploratory Factor Analysis (EFA) was conducted using the Principal Axis Factoring (PAF) estimation method and promax rotation.

EFA results, utilizing the K1 rule and the scree plot, indicated a two-factor structure. The Kaiser-Meyer-Olkin (KMO) value of .87 and Bartlett's test (Chi-square = 2556, df = 36, $p < .01$) confirmed the suitability of the data set for factor analysis. The resulting two-factor structure is consistent with the original scale and accounts for 77.56% of the total variance.

Factor Structure: In line with the original, the first five items were structured under the First Factor (Negative Stress), and the other items under the Second Factor (Positive Stress). The First Factor alone explained 46.62% of the variance, and the Second Factor explained 30.94%. Factor loadings were quite high, ranging between .87 and .93 for the first factor and .50 and .97 for the second factor. The correlation between the resulting factors was found to be insignificant ($r = -.06$). Reliability: The Cronbach's alpha reliability coefficients were found to be .95 for the five-item First Factor and .88 for the four-item Second Factor, which indicates the scale is reliable.

The adaptation study demonstrated that the factor structure of the nine-item, two-dimensional DESS scale's Turkish form is consistent with the original scale. Given the high reliability values and the total variance explained (77.56%), it is concluded that the Positive and Negative Stress Scale has been successfully adapted into Turkish and serves as a valid and reliable measurement tool in Turkish culture.

Keywords: Stress, Eustress, Positive Stress, Distress, Negative Stress, Scale adaptation.

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HERAION TEIKHOS ANTİK KENTİNDE BULUNAN DAMGALI AMPHORALAR STAMPED AMPHORAS OF HERAION TEIKHOS

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ÖZET

Heraion Teikhos, Marmara Denizi kıyısındaki konumu itibarıyla Trakya ve Ege Bölgesi dünyası ile ticari etkileşimleri yansıtan önemli bir liman kentidir. MÖ 3.binden MS 13.yüzyıla kesintisiz yerleşim olduğu tespit edilen bu Trak kenti hem siyasi ve hem de ticari ilişkileriyle bölgedeki pek çok kent ile temas halinde olmuştur. Kentte yapılan kazılarda ele geçen zengin bezemeli Attika kapları, sade/basit günlük kullanım kapları ve damgalı amphora kulpları, bu kentin ithal ürün çeşitliliğini ve geniş ticaret ağlarını açıkça göstermektedir. Bu çalışma, *Heraion Teikhos*'ta bulunmuş olan damgalı amphora kulplarının tipolojik açıdan incelenerek, kulpların üretim merkezleri ile bu merkezlerle kurulan ticari ağın nasıl oluştuğunu/meکانizmasını/ işleyişini amaçlamaktadır. *Amphoralar*, antik dönemde özellikle deniz taşımacılığında kolay taşınabilmeleri olmaları ve maliyeti ucuz olmaları/düşük maliyetli olmaları sebebiyle tercih edilmişlerdir. Zaman içerisinde artan ticari hareketlilik nedeni ile *amphoralar* içlerinde hangi ürünleri taşıdıkları, üretim merkezleri ve üreticilerime ilişkin belirleyici bilgiler/damgalar taşımaya başlamışlardır. Bu bilgiler/veriler doğrultusunda, *Heraion Teikhos* kentinde bulunan amphoraların hangi üretim merkezlerinden geldiği ve hangi kentlerle ticari ilişkiler içinde oldukları saptanmaktadır.

Anahtar Kelimeler: *Heraion Teikhos*, ticaret, *Amphora*, Damgalı *amphora* kulpları, Trakya, Traklar

ABSTRACT

Heraion Teikhos is an important port city that reflects the commercial interactions between Thrace and the Aegean world through its coastal location on the Sea of Marmara. This Thracian settlement, which has been shown to possess continuous occupation from the 3rd millennium BC to the 13th century AD, maintained contact with numerous regional centers through both political and commercial relations. The excavations conducted at the site have yielded richly decorated Attic wares, plain utilitarian vessels, and stamped amphora handles, all of which clearly demonstrate the diversity of imported goods and the extensive trade networks connected to the city. This study aims to examine the stamped amphora handles recovered from *Heraion Teikhos* through a typological assessment, with the objective of identifying their production centers and reconstructing the mechanisms and structure of the trade networks established with these centers.

Amphorae were widely preferred in antiquity, especially in maritime transport, due to their ease of handling and low cost. With the expansion of commercial activity over time, amphorae began to bear stamps that provided essential information on the types of goods they contained, the production centers, and the manufacturers involved. Through the analysis of this evidence, it becomes possible to determine the production centers associated with the amphorae recovered from *Heraion Teikhos* and to identify the cities with which the settlement maintained commercial relationships.

Keywords: *Heraion Teikhos*, Trade, *Amphora*, Stamped Amphora Handles, Thrace, Thracians

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QUENTİN TARANTİNO FİLMLERİNDE YEMEK SAHNESİ TEMSİLLERİ: ANLAM, GÜÇ VE KİMLİK BAĞLAMINDA BİR ÇÖZÜMLEME

REPRESENTATIONS OF DINNER SCENES IN QUENTIN TARANTINO FILMS: AN ANALYSIS IN THE CONTEXT OF MEANING, POWER AND IDENTITY

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ÖZET

Bu çalışma, Quentin Tarantino sinemasında yemek sahnelerinin anlatsal, kültürel ve sembolik işlevlerini inceleyerek yiyeceğin film dilindeki çok katmanlı kullanımını çözümlemeyi amaçlamaktadır. Sinemada yiyeceğin yalnızca işlevsel bir unsur değil, aynı zamanda karakter inşası, güç ilişkilerinin görünür kılınması ve kültürel kimliklerin temsilinde belirleyici bir araç olduğu varsayımından hareket eden bu çalışma, Tarantino'nun filmografisini tematik bir perspektifle ele almaktadır. Yiyecek, Tarantino'nun sinemasında atmosfer yaratmanın ötesine geçerek hem karakterlerin iç dünyalarına hem de toplumsal yapılara dair derinlikli anlamlar üretir; bu yönüyle yemek sahneleri, yönetmenin stilize anlatı dünyasında güçlü bir görsel-işitsel sembol olarak konumlanmaktadır. Tarantino filmlerinde yemek, öncelikle güç ve tahakküm kavramlarıyla iç içe geçmektedir. Pulp Fiction (1994) filmi, yemek üzerinden kurulan psikolojik ve fiziksel üstünlüğün çarpıcı bir örneğini sunarken; Inglourious Basterds (2009) filminde karakter üzerindeki mutlak kontrolü sunmaktadır. Bu sahneler Tarantino'nun yemek eylemini iktidar ilişkilerinin performatif bir parçası haline getirdiğini göstermektedir. Yiyecek aynı zamanda kültürel kimlik, ötekilik ve sınıfsal göstergelerin inşasında merkezi bir semboldür. Pulp Fiction filmi Amerikan kültürünün küresel yayılımı ve tüketim pratikleri üzerine ironik bir farkındalık üretirken, Kill Bill serisi Doğu-Batı melezliğini kültürel bir temsil olarak kodlamaktadır. Django Unchained'daki akşam yemeği sahneleri ise tarihsel travmalar, kölelik ve ırksal hiyerarşiler bağlamında yemek ritüelinin bir güç oyunu olarak işlev gördüğünü göstermektedir. Bu bağlamda Tarantino, yemeği kimlik çatışmalarının, kültürel kodların ve tarihsel gerilimlerin bir temsil mekânı olarak inşa etmektedir. Çalışmanın bir diğer bulgusu, Tarantino'nun yemek sahnelerinde şiddet ve gündelik rutin arasındaki sınırları bilinçli şekilde bulanıklaştırdığıdır. Reservoir Dogs (1992) filmindeki kafe sahnesi, görünüşte banal bir bahşiş tartışmasıyla açılırken filmin ilerleyişinde şiddetin sıradanlaşmasına zemin hazırlamaktadır. Yemeğin gündelikliğinin aniden şiddetle kesilmesi, Tarantino sinemasının imza niteliğindeki kontrast estetiğini yansıtmaktadır. Bu yaklaşım, izleyicide rahatsız edici bir gerilim yaratarak tüketim, etik ve şiddet arasındaki ilişkileri yeniden düşünmeye davet etmektedir. Yiyeceklerin

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Tarantino sinemasında aynı zamanda estetik bir obje olarak konumlandığı da görülmektedir. Yönetmen, fast food ürünlerini, milkshake'leri veya geleneksel mutfak öğelerini kadraj içinde bir tür stilize edilmiş fetiş objeye dönüştürmekte; yavaş çekim, yakın plan ve renk kontrastları ile yemek sahnelerine ikonografik bir değer kazandırmaktadır. Bu estetikleştirme, tüketim kültürünün popüler imgelerinin sinemasal bir yeniden üretimi olarak değerlendirilebilir. Sonuç olarak bu çalışma, Tarantino'nun yemek sahnelerini yalnızca anlatısal bir öğe olarak değil, aynı zamanda güç, kimlik, kültür, şiddet ve estetik eksenlerinde çok katmanlı anlamlar üreten sinemasal araçlar olarak kurguladığını ortaya koymaktadır. Yiyecek, Tarantino sinemasında hem sembolik hem de sosyokültürel düzeyde işleyen bir temsil alanı olup, karakterler arası ilişkileri, toplumsal eleştirileri ve yönetmenin kendine özgü stilini anlamlandırmada kritik bir rol üstlenmektedir. Bu bağlamda yemek sahneleri, Tarantino'nun film dilinin ayrılmaz ve güçlü bir bileşeni olarak değerlendirilmelidir.

Anahtar Kelimeler: Quentin Tarantino, Yemek, Güç, Kültürel Kimlik, Şiddet

ABSTRACT

This study aims to analyze the narrative, cultural, and symbolic functions of food scenes in Quentin Tarantino's cinema, examining the multilayered use of food within his filmic language. Departing from the assumption that food in film is not merely a functional element but also a crucial tool for character construction, the articulation of power relations, and the representation of cultural identities, the study approaches Tarantino's filmography from a thematic perspective. In Tarantino's cinematic universe, food transcends atmospheric embellishment to generate profound meanings regarding both characters' inner worlds and broader social structures. In this sense, food scenes function as potent audio-visual symbols embedded within the director's stylized narrative aesthetics. In Tarantino's films, food is primarily intertwined with notions of power and domination. While *Pulp Fiction* (1994) offers a striking example of psychological and physical superiority exerted through food, *Inglourious Basterds* (2009) foregrounds absolute control over another character through a seemingly mundane culinary encounter. These scenes demonstrate how Tarantino transforms acts of eating into performative components of power dynamics. Food also serves as a central symbol in the construction of cultural identity, otherness, and class markers. *Pulp Fiction* generates ironic awareness regarding the global diffusion of American consumer culture, whereas the *Kill Bill* series encodes East-West hybridity as a cultural representation. The dinner scenes in *Django Unchained* reveal how food rituals operate as power games within the historical contexts of trauma, slavery, and racial hierarchies. Thus, Tarantino situates food as a representational domain where identity conflicts, cultural codes, and historical tensions materialize. Another significant finding of the study is Tarantino's deliberate blurring of boundaries between violence and everyday routine in his food scenes. The café scene in *Reservoir Dogs* (1992), which begins as a banal debate over tipping, ultimately foreshadows the normalization of violence throughout the narrative. The sudden intrusion of brutality into the ordinariness of eating exemplifies Tarantino's signature contrast-based aesthetic. This approach generates a disturbing tension for viewers, prompting them to reconsider the intersections of consumption, ethics, and violence. Food in Tarantino's cinema is also positioned as an aesthetic object. The director transforms fast-food items, milkshakes, and traditional culinary elements into stylized fetishized objects through techniques such as slow motion, close-up framing, and striking color contrasts. This aestheticization can be interpreted as a cinematic reproduction of popular imagery within consumer culture. In conclusion, this study reveals that Tarantino constructs food scenes not only as narrative devices but as multilayered cinematic mechanisms producing meanings across the axes of power, identity, culture, violence, and aesthetics. Food operates as both a symbolic and socioculturally embedded representational field in Tarantino's cinema, playing a critical role in articulating interpersonal dynamics, social critique, and the director's

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distinctive stylistic vision. Accordingly, food scenes should be regarded as an integral and influential component of Tarantino's filmic language.

Keywords: Quentin Tarantino, Food, Power, Cultural Identity, Violence

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SÜRDÜRÜLEBİLİR KALKINMA HEDEFLERİ KAPSAMINDA TÜRKİYE’DE ÖZEL GEREKSİNİMLİ KADIN İSTİHDAMI VE GÜNCEL DURUM

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ÖZET

Bu çalışma, Türkiye’de engelli kadınların istihdamına ilişkin mevcut durumu, karşılaşılan temel sorunları ve politika önerilerini incelemektedir. Engelli kadınlar, hem cinsiyetleri hem de engellilik durumları nedeniyle “çifte dezavantaj” yaşamaktadır. Mevcut veriler, engelli kadınların iş gücüne katılım oranlarının genel kadın istihdamına kıyasla daha yüksek görünmesine rağmen, istihdamın niteliği, ücret seviyeleri ve çalışma koşullarında ciddi eşitsizlikler bulunduğunu göstermektedir. Eğitim olanaklarının sınırlılığı, erişilebilirlik sorunları, toplumsal cinsiyet rolleri ve işveren önyargıları engelli kadınların iş gücüne katılımını olumsuz etkilemektedir. Çalışmada, engelli kadın istihdamının artırılması için eğitim fırsatlarının güçlendirilmesi, erişilebilirlik altyapısının iyileştirilmesi, işveren farkındalığının artırılması, kota uygulamalarının etkin denetlenmesi ve güncel veri toplama mekanizmalarının geliştirilmesi önerilmektedir. Araştırma, Türkiye’nin sürdürülebilir kalkınma hedefleri ve toplumsal cinsiyet eşitliği politikaları açısından engelli kadınların iş gücüne katılımının stratejik önemini vurgulamaktadır.

Anahtar Kelimeler: Sürdürülebilirlik, BM hedefleri, Türkiye, Kadın, Engelli kadın, istihdam.

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HOW DO MULTIMODAL RESOURCES SUPPORT SCIENCE LEARNING IN LEBANON'S MULTILINGUAL CLASSROOMS?

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ABSTRACT

Science education has long emphasized using multiple modes of representation including verbal explanations, mathematical formulas, visual diagrams, and hands-on experimentation to communicate complex concepts. However, most research on multimodal teaching focuses on monolingual contexts. This study investigates how multimodal teaching strategies support meaning-making in multilingual secondary chemistry classrooms, where science is taught in a second language different from students' home language. In such contexts, students' limited proficiency in the language of instruction poses additional challenges to understanding scientific discourse, increasing their reliance on non-verbal and semiotic resources. Drawing on Bakhtin's theory of dialogism and utterances, alongside Lemke's multimodal meaning-making framework, this qualitative study explores how diverse modes are orchestrated in three Grade 11 chemistry classrooms. Data collection, currently underway, includes classroom observations and video recordings of six consecutive chemistry sessions, complemented by teacher and student interviews. Multimodal interaction analysis will be employed to identify verbal, visual, gestural, and symbolic utterances, examining their dialogic functions and interplay with language for meaning-making. This research contributes to understanding how teachers can effectively leverage multimodal resources to support science learning in linguistically diverse classrooms, with implications for pedagogy in multilingual educational contexts.

Keywords: multimodal teaching; multilingual classrooms; chemistry education; meaning-making; dialogism

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SİGARA İZMARİTİ KİRLİLİĞİNİN DEĞERLENDİRİLMESİ: BİR SAHİL ŞERİDİ ÖRNEĞİ

ASSESSMENT OF CIGARETTE BUTT POLLUTION: A COASTLINE EXAMPLE

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ÖZET

Günümüzde, özellikle nüfus hareketliliğinin yoğun olduğu kentlerde etrafa çöp atma davranışı sonucu gerçekleşen kirlilik atık yönetiminin önemli zorluklarından biridir. Boyutları küçük olduğu için insanlar tarafından çok önemsenmeyen bu atıklar çoğunlukla çikolata, bisküvi gibi yiyeceklerin ambalajları, plastik, cam, metal içecek şişeleri, naylon poşetler ve sigara izmaritleridir. Sigara izmaritleri, kentsel çevrede en fazla görülen çöplerden biridir ve yapılarında bulunan plastik fiberlerin dışında çok sayıda kirliletiçi madde içerdikleri için çevre üzerinde tehdit unsuru olan tehlikeli bir atıktır. Bu çalışmada Şubat-Ağustos 2024 tarihleri arasında sigara izmariti kirlilik seviyeleri İstanbul ili Pendik ilçesinin sahil kısmı için S1, S2, S3 olarak kodlanan üç farklı lokasyonda belirlenmiş sigara izmariti sayıları belirlenmiş ve elde edilen sonuçlar izmarit yoğunluğu ve sigara izmariti kirlilik indeksi ile değerlendirilmiştir. 7 aylık sayımların aylık ortalamasına göre sigara izmariti yoğunlukları S1, S2 ve S3 kısımları için sırasıyla 0,43; 0,45 ve 0,57 sigara izmariti/m² değerlerindedir. Aynı zaman dilimi için sigara izmariti kirlilik indeksi S1 kısmı için 10,32; S2 kısmı için 10,80 ve S3 kısmı için 13,68 olarak hesaplanmıştır. Sigara izmariti kirlilik indeksi sınıflandırmasına göre elde edilen sonuçların 10 değerinden yüksek olması çalışma sahasında üç kısımda da ciddi seviyede sigara izmariti kirliliği olduğunu ifade etmektedir.

Anahtar Kelimeler: Sigara izmariti kirliliği, sigara izmariti yoğunluğu, sigara izmariti kirlilik indeksi

ABSTRACT

Nowadays, pollution caused by garbage constitutes one of the biggest problems in waste management, especially in cities with high population density. These wastes, which are not taken seriously by people because of their small size, are mostly packaging of foods such as chocolate and biscuits, plastic, glass, metal beverage bottles, nylon bags and cigarette butts. Cigarette butts are one of the most common litter items in the urban environment and are a hazardous waste that poses a threat to the environment because they contain many pollutants in addition to the plastic fibers they contain. In this study, cigarette butt pollution levels were determined in three different locations coded as S1, S2, S3 for the coastal part of Pendik district of Istanbul province between February and August 2024 and the number of cigarette butts was determined and the results were evaluated with butt density and cigarette butt pollution index. According to the monthly average of 7-month counts, cigarette butt densities are 0.43, 0.45 and 0.57 cigarette butts/m² in S1, S2 and S3 areas, respectively. For the same time period, the cigarette butt pollution index was calculated as 10.32 for part S1, 10.80 for part S2 and 13.68 for part S3. According

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to the cigarette butt pollution index classification, the results obtained are higher than 10, indicating that there is severe cigarette butt pollution in all three parts of the study area.

Keywords: Cigarette butt pollution, cigarette butt density, cigarette butt pollution index

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KENTSEL MOBİLYALARIN TOPLUMSAL HAYAT İÇİN ÖNEMİ VE SÜRDÜRÜLEBİLİRLİK OLGUSUNA BAĞLI OLARAK İRDELENMESİ

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ÖZET

Kent halkının kentsel alanlarda ortaya çıkan gereksinimlerini karşılamak için tasarlanan kent mobilyalarının kent yaşamına uyumlu biçimde planlanması büyük önem taşımaktadır. Bu mobilyalar kamusal alan düzenine katkı sunmakta ve kent kimliğinin oluşumuna destek vermektedir. Kent mobilyalarının günümüzde üstlendiği işlevler iklim değişikliği ile mücadele, ekonomik kaynakların verimli biçimde kullanılması, doğal çevrenin gözetilmesi ve gelecek kuşaklara yaşanabilir bir çevre bırakılması gibi geniş hedeflerle ilişkilendirilmektedir. Bu nedenle kent mobilyaları fiziksel çevreyi bütünleyen basit elemanlar olmaktan çıkmış ve kentsel yaşamın niteliğini artıran önemli bileşenler arasında yer almıştır. Aynı zamanda estetik kaygılar ile kullanıcı deneyimini geliştiren çözümler üretmesi açısından da dikkat çekmektedir.

Sürdürülebilir kent mobilyalarının kent ortamına dahil edilmesi doğal varlıkların korunmasına katkı sunmaktadır. Üretim süreçlerinde enerji tasarrufu sağlanabilmekte ve kullanım evreleri boyunca çevresel yük azaltılabilmektedir. Yenilenebilir enerji kaynaklarıyla çalışan aydınlatma birimleri ile teknolojik bileşenlere sahip oturma düzenleri kentlerde çevreye duyarlı bir yaklaşımın yerleşmesine yardımcı olmaktadır. Bu uygulamalar kentte yaşayanların günlük yaşamını kolaylaştırmakta ve çevre bilincinin gelişmesine ortam hazırlamaktadır. Bu sayede kent halkının, sürdürülebilirlik anlayışını gündelik deneyimlerinin bir parçası haline getirebilmektedir. Ayrıca bu uygulamalar kent estetiğinin güçlenmesine de katkı sunmaktadır.

Bu bilgilerden hareketle bu çalışmada kentsel mobilyaların toplumsal hayat için önemine odaklanılmakta ve sürdürülebilirlik olgusuna bağlı olarak incelenmektedir. Çalışmanın birinci bölümünde kent mobilyalarının tarihsel süreç içinde nasıl geliştiği açıklanmaktadır. Bunun yanında dönemsel kent gereksinimlerine göre ne yönde biçimlendiği ayrıntılı biçimde ortaya konmaktadır. Üretim ile kullanım aşamalarının hangi teknik ve işlevsel süreçlerden geçtiği ifade edilmekte ve bu süreçlerin kent yaşamına olan etkileri değerlendirilmektedir. Bu anlatım sürdürülebilirlik yaklaşımının neden gerekli olduğunu kavramaya yardımcı bir çerçeve sunmaktadır. Devamında ise sürdürülebilirlik kavramının kent mobilyalarındaki yeri ele alınmakta, sürdürülebilir tasarım örnekleri açıklanmakta ve

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geri dönüşümlü malzemelerin çevresel katkıları değerlendirilmektedir. Ekolojik özelliklere sahip malzemelerin tasarım sürecine nasıl entegre edilebildiği belirtilmektedir. Ayrıca yenilenebilir enerjiyle uyumlu kent mobilyalarının sağladığı işlevsel ve çevresel yararlar açıklanmaktadır. Bu değerlendirmeler sürdürülebilir kent mobilyası yaklaşımının çağdaş kentlerin geleceği açısından zorunlu bir strateji niteliği taşıdığını göstermektedir. Bu sayede çevreyle uyumlu, yaşanabilir ve nitelikli kentsel mekanların oluşturulabilmesi mümkün hale gelmektedir.

Anahtar Kelimeler: Kent, Kentsel Mobilya, Sürdürülebilirlik, Yenilenebilir Enerji, Geri Dönüşüm

ABSTRACT

Designed to meet the needs of urban residents in urban areas, it is crucial that urban furniture be designed in a way that is compatible with urban life. These furniture contributes to the organization of public spaces and supports the formation of urban identity. The functions of urban furniture today are linked to broad objectives such as combating climate change, using economic resources efficiently, protecting the natural environment, and leaving a livable environment for future generations. Therefore, urban furniture is no longer simply a component that integrates the physical environment; it is a crucial component that enhances the quality of urban life. It also stands out for its aesthetic appeal and solutions that enhance the user experience.

Incorporating sustainable urban furniture into the urban environment contributes to the preservation of natural resources. Energy savings can be achieved during production processes and environmental impact can be reduced throughout the life cycle. Lighting units powered by renewable energy sources and seating arrangements with technological components contribute to the establishment of an environmentally friendly approach in cities. These practices simplify the daily lives of urban residents and foster environmental awareness. This allows urban residents to integrate sustainability into their daily experiences. These practices also contribute to the strengthening of urban aesthetics.

Based on this information, this study focuses on the importance of urban furniture for social life and examines it in relation to the concept of sustainability. The first section of the study explains how urban furniture has evolved throughout history. It also details how it has been shaped according to periodic urban needs. The technical and functional processes involved in its production and use are explained, and the impact of these processes on urban life is evaluated. This explanation provides a framework that helps understand the necessity of a sustainability approach. Subsequently, the concept of sustainability in urban furniture is discussed, examples of sustainable design are explained, and the environmental contributions of recycled materials are evaluated. It explains how materials with ecological properties can be integrated into the design process. Furthermore, the functional and environmental benefits provided by renewable energy-compatible urban furniture are explained. These assessments demonstrate that a sustainable urban furniture approach is an essential strategy for the future of contemporary cities. This makes it possible to create environmentally compatible, livable, and high-quality urban spaces.

Keywords: City, Urban Furniture, Sustainability, Renewable energy, Recycle

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İNÜLİNİN YOĞURT MODEL GIDA ÜZERİNDEKİ YAPISAL VE FİZİKOKİMYASAL ETKİLERİNİN İNCELENMESİ INVESTIGATION OF THE STRUCTURAL AND PHYSICOCHEMICAL EFFECTS OF INULIN ON A YOGURT MODEL FOOD

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ÖZET

Yoğurt, laktik asit bakterilerinin fermentasyonu sonucu elde edilen, besleyici değeri yüksek ve sağlıklı bir fermente süt ürünüdür. İnülin, çeşitli bitkilerde doğal olarak bulunan, sindirilemeyen ve bağırsakta faydalı bakterilerin çoğalmasını destekleyen prebiyotik ve çözünür bir diyet lifidir. İnülin gıda sektöründe prebiyotik, yağ ikamesi, tekstür geliştirici olarak özellikle fonksiyonel gıda üretiminde sıklıkla kullanılmaktadır. Bu çalışmada, hindiba (*Cichorium intybus L.*) bitkisinden elde edilen inülinin, yoğurt model gıda üzerindeki yapısal ve fizikokimyasal özellikleri belirlenmiştir. Hindiba bitkisinden elde edilen inülin ile üretilmiş yoğurt ile ticari inülin kullanılarak üretilmiş yoğurdun analiz sonuçları karşılaştırmalı olarak değerlendirilmiştir. Kontrol olarak ise inülin içermeyen yoğurt üretilerek analizi gerçekleştirilmiştir. Üretilen yoğurtlarda pH, viskozite, renk ve protein analizleri gerçekleştirilmiştir. Yapılan analizler sonucunda, pH değerleri ticari inülinli yoğurtta 4.53 ± 0.02 , hindiba bitkisinden elde edilen inülinli yoğurtta 4.55 ± 0.02 ve kontrol yoğurtta 4.54 ± 0.01 olarak belirlenmiştir. Yoğurtların pH değerleri arasında istatistiksel olarak bir fark bulunmamıştır ($p > 0.05$). Viskozite değerlerinde inülin ilavesinin viskoziteyi artırdığı gözlenmiştir. Ticari inülin ile hazırlanan yoğurt örneğinin viskozitesi 2560 ± 0.05 cP, hindiba bitkisinden elde edilen inülin ile hazırlanan örneğinin viskozitesi 2620 ± 0.05 cP ve kontrol yoğurt örneğinin viskozitesi ise 2140 ± 0.03 cP olarak belirlenmiştir. Viskozite değerleri arasındaki fark istatistiksel olarak anlamlı bulunmuştur ($p < 0.05$). Yoğurtların renk analizi sonuçları, L*, a*, b* cinsinden sırasıyla; ticari inülin ile üretilen yoğurt örneği için 93.39 ± 0.06 , -1.95 ± 0.01 , 9.10 ± 0.04 , hindiba bitkisinden elde edilen inülin ile üretilen yoğurt için 93.16 ± 0.03 , -1.03 ± 0.02 , 9.10 ± 0.02 ve kontrol yoğurt için 93.72 ± 0.03 , -1.90 ± 0.06 , 9.01 ± 0.04 olarak belirlenmiştir. Yalnızca hindiba bitkisinden elde edilen inülin ile üretilmiş yoğurt örneğinin b* değerinde istatistiksel olarak anlamlı bir fark bulunmuştur ($p < 0.05$). Protein miktarları ise içerikleri ticari inülin ile üretilmiş yoğurt, hindiba bitkisinden elde edilen inülin ile üretilmiş yoğurt ve kontrol için sırasıyla $\%3.02 \pm 0.01$, $\%3.01 \pm 0.01$ ve $\%3.00 \pm 0.05$ olarak belirlenmiş olup örnekler arasında istatistiksel olarak anlamlı bir fark bulunmamıştır ($p > 0.05$). Sonuç olarak, inülin ilavesi üretilen yoğurdun viskozitesini artırırken pH, renk ve protein analizlerinde anlamlı değişikliklere yol açmamıştır. Elde edilen bulgular, inülinin fonksiyonel yoğurt üretiminde yapısal ve teknolojik özellikleri olumlu katkı sağladığını göstermektedir.

Anahtar Kelimeler: hindiba (*Cichorium intybus L.*), inülin, yoğurt, fonksiyonel gıda

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ABSTRACT

Yogurt is a nutritious and healthy fermented dairy product obtained through the fermentation of lactic acid bacteria. Inulin is a prebiotic and soluble dietary fiber that naturally occurs in various plants, is non-digestible, and supports the promotes of beneficial bacteria in the gut. Inulin is widely used in the food industry as a prebiotic, fat replacer, and texture enhancer, particularly in the production of functional foods. In this study, the structural and physicochemical properties of inulin obtained from chicory (*Cichorium intybus L.*) on a model yogurt food system were determined. Yogurt samples produced with inulin extracted from chicory and those produced using commercial inulin were comparatively evaluated. The yogurt samples were analyzed for pH, viscosity, color, and protein content. As a result of the analyses, the pH values were determined as 4.53 ± 0.02 for yogurt with commercial inulin, 4.55 ± 0.02 for yogurt with chicory-derived inulin, and 4.54 ± 0.01 for the control yogurt. There was no statistically significant difference among the pH values of the yogurts ($p > 0.05$). In terms of viscosity, the adding inulin was found to increase it. The viscosity of the yogurt samples prepared with commercial inulin was assessed as 2560 ± 0.05 cP, the sample with chicory-derived inulin as 2620 ± 0.05 cP, and the control yogurt as 2140 ± 0.03 cP. The difference between the viscosity values was found to be statistically significant ($p < 0.05$). The color analysis results of the yogurts in terms of L, a, and b* values were as follows: yogurt with commercial inulin, 93.39 ± 0.06 , -1.95 ± 0.01 , 9.10 ± 0.04 ; yogurt with chicory-derived inulin, 93.16 ± 0.03 , -1.03 ± 0.02 , 9.10 ± 0.02 ; and control yogurt, 93.72 ± 0.03 , -1.90 ± 0.06 , 9.01 ± 0.04 . A statistically significant difference was found only in the b* value of the yogurt sample produced with chicory-derived inulin ($p < 0.05$). The protein contents of the yogurts produced with commercial inulin, chicory-derived inulin, and the control were determined to be $3.02 \pm 0.01\%$, $3.01 \pm 0.01\%$, and $3.00 \pm 0.05\%$, respectively, and no statistically significant difference was observed among the samples ($p > 0.05$). In summary, adding inulin made the resulting yogurt more viscous, but there were no significant changes in pH, color, or protein content. The results show that inulin has a beneficial effect on the structural and technological characteristics of functional yogurt.

Keywords: chicory (*Cichorium intybus L.*), inulin, yogurt, functional food

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SÜRDÜRÜLEBİLİR GIDA ÜRETİMİ VE GIDA ATIKLARI YÖNETİMİ

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ÖZET

Sürdürülebilir tarım-gıda, doğal kaynak kullanımının optimizasyonu, çevresel etkilerin azaltılması ve uzun vadeli verimliliğin hedeflenmesi yönüyle önem taşır. Sürdürülebilir tarım uygulamalarının; ürün rotasyonu, organik üretim, su verimliliği ve agroforestry gibi tekniklerle güçlendirilebileceği belirtilmektedir. Gıda güvenliği, iklim değişikliği ve enerji verimliliği arasındaki dengenin sağlanmasının sürdürülebilir üretim için temel oluşturduğu vurgulanmaktadır.

Gıda kayıpları; üretim, hasat, depolama, işleme ve perakende aşamalarında farklı düzeylerde ortaya çıkmakta ve ekonomik, sosyal ve çevresel etkiler yaratmaktadır. Tarım-gıda tedarik zincirinde kayıplar özellikle ilk aşamalarda yoğunlaşmakta ve sistem yaklaşımının gerekliliği önem arz etmektedir. Sürdürülebilir gıda üretimi ve atık yönetiminin; döngüsel ekonomi, biyoteknolojik yenilikler, enerji geri kazanımı, politika desteği ve tedarik zinciri entegrasyonu ile güçlendirilebileceğini göstermektedir.

Döngüsel ekonomi modeli, atık oluşumunu kaynağında azaltmayı, yan ürünlerin yeniden kullanılmasını ve endüstriyel simbiyoz fırsatlarının değerlendirilmesini içerir. Agro-gıda sistemlerinde döngüsel ekonomi kavramının; malzeme akışlarının kapatılması, biyokütle kullanımının artırılması ve çevresel etkinin azaltılması açısından kritik olduğu belirtilmektedir. Bunun yanı sıra sürdürülebilir gıda üretimi stratejilerinde teknolojik yeniliklerin, politika desteğinin ve toplumsal farkındalığın etkileşim halinde olması gerektiği ifade edilmektedir. Bu unsurların birlikte çalıştığı entegre sistemler, hem üretim verimliliğini hem de kaynak döngüsünü optimize etmektedir.

Bu derlemede, sürdürülebilir gıda üretimi ve gıda atıkları yönetimi konularının güncel literatüre dayanarak kapsamlı biçimde incelenmesi hedeflenmiştir.

ABSTRACT

Sustainable agri-food is important for optimizing natural resource use, reducing environmental impacts, and achieving long-term productivity. It is stated that sustainable agricultural practices can be strengthened through techniques such as crop rotation, organic production, water efficiency, and agroforestry. It is emphasized that achieving a balance between food security, climate change, and energy efficiency is the foundation for sustainable production.

Food losses occur at different levels across production, harvesting, storage, processing, and retail, creating economic, social, and environmental impacts. Losses in the agri-food supply chain are particularly concentrated in the early stages, making a systems approach crucial. Sustainable food production and waste management can be strengthened through the circular economy, biotechnological innovations, energy recovery, policy support, and supply chain integration.

The circular economy model involves reducing waste generation at the source, reusing by-products, and exploiting industrial symbiosis opportunities. The concept of a circular economy in agro-food systems

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is critical for closing material flows, increasing biomass utilization, and reducing environmental impact. Furthermore, it is stated that sustainable food production strategies require the interaction of technological innovations, policy support, and public awareness. Integrated systems where these elements work together optimize both production efficiency and resource cycling.

This review aims to comprehensively examine sustainable food production and food waste management based on current literature.

Keywords: Sustainable food production, food loss, food waste, circular economy, biotechnology, food waste management, sustainable agriculture, supply chain.

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THE USE OF *EUPHORBIA* BIOMORDANT IN NATURAL DYEING AND THE EFFECT OF MICROWAVE ENERGY

DOĞAL BOYAMACILIKTA *EUPHORBIA* BİYOMORDANININ KULLANIMI VE MİKRODALGA ENERJİSİNİN ETKİSİ

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ABSTRACT

Natural dyeing has been practised since ancient times. In recent years, with increasing environmental awareness and concerns about sustainability, there has been a global resurgence of natural dyeing, particularly in the textile industry. Natural dyes obtained from the roots, stems, and leaves of plants can produce a wide range of vibrant colors. In natural dyeing, mordant materials are used to ensure that the dyes bond more strongly to the fabric. As an alternative to traditional metal mordants, biomordants are often preferred because they are more ecological and sustainable. Recently, methods other than conventional dyeing have been investigated in natural dyeing. Microwave energy dyeing is a popular method due to its energy efficiency, short processing time, and color yield. In this study, Lyocell-polyester blended fabrics were mordanted with spurge (*Euphorbia*) using microwave energy at different times and concentrations. The mordanted fabrics were then dyed with *Rubia tinctorum* (root dye) using microwave energy for different durations. The conventional dyeing process was also applied and compared with the microwave method. The CIELAB color parameter values of the dyed fabrics were measured and compared. Principal component analysis (PCA) was performed to understand the relationships between the parameters. It was observed that the use of milkweed as a biomordant with microwave energy in sustainable textile dyeing could be a suitable and ecological alternative in terms of color values.

Keywords: Biomordant, *Euphorbia*, Sustainable textiles

ÖZET

Doğal boyamacılığın çok eski çağlardan beri var olduğu bilinmektedir. Son yıllarda insanların artan çevre bilinci ve sürdürülebilirlik kaygıları ile birlikte küresel çapta özellikle tekstil endüstrisinde doğal boyamacılığa geri dönüş başlamıştır. Bitkilerin köklerinden, gövdelerinden ve yaprak kısımlarından elde edilen doğal boyar maddeler çok çeşitli ve canlı renk skalaları elde edilebilmektedir. Doğal boyamacılıkta kumaşların boyar madde ile daha güçlü bağlanabilmesi için mordan malzemeler kullanılmaktadır. Geleneksel metal mordanlara alternatif olarak biyomordanlar daha ekolojik ve sürdürülebilir olduğu için sıklıkla tercih edilmektedir. Son yıllarda doğal boyamacılıkta konvansiyonel boyama dışında farklı yöntemler de araştırılmaktadır. Mikrodalga enerjisi ile boyama enerji verimliliği, kısa işlem süresi ve renk verimliliği sebebiyle oldukça popüler bir yöntemdir. Bu çalışmada Lyocell

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polyester karışımı kumaşlar sütleğen (*Euphorbia*) ile mikrodalga enerjisi kullanılarak farklı sürelerde ve konsantrasyonlarda mordanlanmıştır. Daha sonra mordanlanmış kumaşlar mikrodalga enerjisi ile farklı sürelerde *Rubia Tinctorium* (kök boya) kullanılarak boyanmıştır. Boyama prosesinde konvansiyonel boyama işlemi de uygulanmış ve mikrodalga ile karşılaştırılmıştır. Boyanmış kumaşların CIELAB renk parametre değerleri ölçülmüş ve karşılaştırılmıştır. Parametrelerin biribiri ile arasındaki ilişkileri anlamlandırmak amacıyla PCA (temel bileşen analizi) yapılmıştır. Sürdürülebilir tekstil boyamacılığında sütleğenin biyomordan olarak mikrodalga enerjisi ile kullanımının renk değerleri açısından uygun ve ekolojik bir alternatif olabileceği görülmüştür.

Anahtar Kelimeler: Biyomordan, *Euphorbia*, Sürdürülebilir tekstiller

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FROM PRINCIPLES TO ALGORITHMS: IMPLEMENTING AI IN PUBLIC PROCUREMENT SYSTEMS

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ABSTRACT

This paper investigates the emerging challenges and opportunities associated with the implementation of artificial intelligence (AI) in Albania's public procurement system—a field in which the country has been a regional frontrunner since the launch of its Electronic Procurement System in 2009. Building on an advanced digital and legal framework, most recently strengthened through Law No. 16/2024, which introduced substantial amendments to 54 articles of the Public Procurement Law, Albania is undertaking a structural transition toward a fully integrated, AI-enabled procurement ecosystem.

The study analyzes the potential of AI technologies to improve efficiency, transparency, and compliance across the entire procurement cycle, including the drafting of technical specifications, estimation of procurement values, evaluation of bids, contract management, and complaints handling. Three core phases of AI implementation are identified: (1) the preparatory phase, in which AI contributes to drafting technical specifications aligned with national and international standards and supports value estimation through interoperability with multiple state databases; (2) the procedural phase, where AI models—such as decision trees, neural networks, and large language models (LLMs)—facilitate bid submission, evaluation, and qualification; and (3) the monitoring phase, where AI enhances contract supervision through automation, predictive analytics, and the use of satellite and drone data for on-site verification.

The paper further addresses critical risks related to data quality, system interoperability, model training, and algorithmic bias, underscoring the continuing necessity of expert human oversight and the potential role of blockchain mechanisms in safeguarding data integrity. Finally, it examines the evolving legal and ethical implications of AI-mediated decision-making in public procurement, with particular attention to the rights of economic operators and the responsibilities of administrative oversight bodies in ensuring transparency, accountability, and due process.

Keywords: Public procurement, Artificial intelligence, Albania, Procurement law, Contract management, Data integrity, E-procurement systems.

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“KAPILARI AÇMAK” ESERİNİN ARAPÇA ÇEVİRİSİNDE GÖRÜLEN GRAMER HATALARI

GRAMMATICAL ERRORS OBSERVED IN THE ARABIC TRANSLATION OF “KAPILARI AÇMAK”

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ÖZET

Bu bildiride Türk edebiyatının ve Türk hikayeciliğinin önemli temsilcilerinden biri olan Mustafa Kutlu'nun “*Kapıları Açmak*” adlı eserinin Arapça tercümesinde görülen gramer hataları tespit edilmiş, bu hatalar konularına göre sınıflandırılmıştır. Çalışmada iki dil arasında görülen dilbilgisel farklılıklara değinilmiştir. Günümüzde çokça tanınmış biri olan Mustafa Kutlu'nun hayatından ve edebi kişiliğinden kısaca bahsedilmiştir. Kitabın çevirmenliğini üstlenen Muhammed İzzeddin Seyf hakkında bir veriye ulaşılamamıştır. Araştırma nitel bir çözümleme yöntemiyle gerçekleştirilmiş olup hataların nedeni ve cümleye etkisi açıklanmıştır. Zamir, mübteda haber, sayılar, fiil çekimi, malum meçhul fiil olarak kategorize edilmiştir. Her bir hata klasik ve modern kaynaklara dayandırılarak yorumlanmıştır. Elde edilen veriler ışığında Türkçenin sondan eklemeli, Arapçanın ise bükümlü bir dil olması, sayıların kullanımı konusunda Arapçada sayıların kendine has kurallarının olması, kelimelerin müzekker ve müennes olarak ayrılması ve tesniye kavramının bulunması ve bu kuralların Türk dilinde bulunmaması iki dil arasında yapılan çevirilerde anlam kaymasına ve eserin kalitesinin bozulmasına sebebiyet vermektedir. Bu durum dil yapısının sadece kelime ve cümleyi etkilemeyip aynı zamanda düşünce yapısını da etkileyebileceği söylenilebilir. Gramer bir dili diğer dillerden ayıran, özgün bir kimlik kazandıran sistematik bir yapıdır. Cümleyi sadece şekil ve biçim bakımından değil aynı zamanda anlam kaymasına ve yanlış anlaşılmalara sebep olabilecek hataların da önüne de geçmeye yardımcı olan bir araçtır. Nitekim Arapçada dilbilgisi terimsel ifadeyle nahiv ve sarf ilk olarak Kuran-ı Kerim'in doğru anlaşılması ve yanlış anlamaların önüne geçmek için oluşturulmaya başlanmıştır. Temelleri Ebu'l-Esved ed-Düelî tarafından atılmış, sonrasında Sibeveyh tarafından geliştirilerek kurallı ve sistematik bir hal almıştır. Buna bağlı olarak Arap grameri köklü ve derin yapıya sahip olması sebebiyle yapılan çevirilerde dilbilgisi hatalarının olmaması kaçınılmazdır. Türkçe- Arapça arasında yapılan çevirilerde her iki dilin yapısal farklılıkların göz önünde bulundurulması ve iki dile de hakimiyetin iyi olması gerekmektedir. Bu çalışma da bunların göz ardı edilmesi durumunda çevirilerde ortaya çıkan anlam kaymaları ve akış bozukluğunu örneklerle ortaya koyarak çevirmenlere ve dilbilimcilere bilimsel bir çalışma sunmayı, tutarlı çeviri yapılmasına katkı sağlamayı hedeflemektedir.

Anahtar Kelimeler: Arap Dili ve Edebiyatı, Çeviri, Mustafa Kutlu, Sarf, Nahiv

ABSTRACT

In this paper, the grammatical errors observed in the Arabic translation of “*Kapıları Açmak*,” a work by Mustafa Kutlu, one of the prominent representatives of Turkish literature and Turkish storytelling, have been identified and classified according to their subjects. The study also addresses the grammatical differences between the two languages. The life and literary personality of Mustafa Kutlu, who is a well-known figure today, have been briefly mentioned. No data have been found regarding Muhammed

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Izzeddin Seyf, who undertook the translation of the book. The research was carried out using a qualitative analytical method, and the causes of the errors and their effects on the sentence were explained. The errors were categorized as pronoun, subject–predicate, numbers, verb conjugation, and active–passive verb. Each error was interpreted with reference to classical and modern sources. In light of the data obtained, the fact that Turkish is an agglutinative language, whereas Arabic is an inflectional language, that Arabic has its own rules regarding the use of numbers, that words are divided into masculine and feminine, and that the concept of dual exists—while these rules do not exist in the Turkish language—causes semantic shift and deterioration of quality in translations between the two languages. It can be said that this situation affects not only the word and the sentence but also the structure of thought. Grammar is a systematic structure that distinguishes a language from others and gives it a unique identity. It is a tool that helps prevent not only formal and structural mistakes in the sentence but also errors that may cause semantic shift and misunderstandings. Indeed, in Arabic, grammar—referred to with the technical terms *nahw* and *sarf*—was initially formed to ensure the correct understanding of the Qur'an and to prevent misinterpretations. Its foundations were laid by Abū al-Aswad al-Du'ālī and later developed by Sībawayh into a rule-based and systematic form. Accordingly, due to the deep and rooted structure of Arabic grammar, the presence of grammatical errors in translations is inevitable. In translations between Turkish and Arabic, it is necessary to consider the structural differences of both languages and to have strong command of both. This study aims to provide a scientific work for translators and linguists by demonstrating through examples the semantic shifts and disruptions in flow that occur in translations when these aspects are overlooked, thereby contributing to more consistent translation practices.

Keywords: Arabic Language and Literature, Translation, Mustafa Kutlu, Morphology, Syntax

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NECİP FAZIL KISAKÜREK VE HASAN EL-BENNA'NIN GENÇLİĞE HİTABELERİNDE DİL VE ÜSLUP ÖZELLİKLERİ

LANGUAGE AND STYLE FEATURES IN THE ADDRESSES OF NECİP FAZIL KISAKÜREK AND HASAN AL-BANNA TO THE YOUTH

AYŞENUR DEMİRTAŞ

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ÖZET

Bu çalışma, Türk edebiyatında Necip Fazıl Kısakürek ve Arap edebiyatında Hasan el-Benna'nın gençliğe hitaben kaleme aldıkları metinleri dil ve üslup bakımından karşılaştırmalı olarak incelemektedir. Hitabetin yalnızca insanları ikna etmeye yönelik bir söz sanatı olmanın ötesinde, İslam düşüncesinde toplumun manevi inşasında işlevsel bir araç olduğu fikrinden hareket edilmiştir. Her iki düşünür de gençliği ahlaki, fikrî ve inanç temelli bir dirilişin öncüsü olarak görmekte; bu nedenle hitabelerinde gençliğe sorumluluk, bilinç ve manevi misyon yüklemektedir. Araştırma nitel yöntem çerçevesinde gerçekleştirilmiş; her iki yazarın hitabeleri dil yapısı, söz varlığı, cümle türleri, deyim ve atasözü kullanımı ile dil düzeyi açısından incelenmiştir. Hasan el-Benna'nın hitabesi sade, açık ve öğretici bir nitelik taşırken; Necip Fazıl Kısakürek'in hitabesi yoğun, derin anlam katmanları içeren ve yüksek edebi değere sahip bir üslup barındırmaktadır. El-Benna'nın dili coşkulu ve ikna edici bir özellik taşır; hitabelerinde sıkça Kur'an ayetleri, deyimler ve özlü ifadelerden yararlanarak dini ve ahlaki bir bilinç oluşturmaya amaçlar. Buna karşın Necip Fazıl, gençliğe manevi bir dava bilinci kazandırmak için sanatsal bir söylem tercih etmiş, dili hem anlaşılır hem de edebi yoğunluğu yüksek bir biçimde kullanmıştır. Söz varlığı bakımından El-Benna'nın hitabeleri yalnızca Arapça kökenli kelimelerden oluşurken, Necip Fazıl'ın metinlerinde Türkçe, Arapça ve Farsça kökenli sözcükler iç içe kullanılmıştır. Cümle türleri bakımından Necip Fazıl cümlelerini içerisinde yüklem olmayan eksilteli yapıda kullanarak cümlelerin sonundaki "gençlik" ifadesini vurgulamayı hedeflemiştir. Böylelikle ideal gençlik tanımını dile getirmiştir. Hasan el-Benna ise çeşitli türlerde cümleler kullanmıştır ayrıca cümle yapısı bakımından da hem kurallı hem devrik yapıda cümleler kurarak anlatımını zenginleştirmiştir. Her iki yazar da hitabet sanatını, dönemin sosyal ve kültürel koşullarına uygun biçimde, gençliği fikrî ve manevi açıdan yeniden inşa etmenin bir aracı olarak değerlendirmiştir. Bu yönüyle çalışma, manevi diriliş düşüncesinin iki farklı coğrafyada dil ve üslup yoluyla nasıl ifade edildiğini ortaya koymaktadır. Bu iki yazar dillerini yalnızca bir iletişim aracı değil fikri ve manevi bir inşa unsuru olarak kullanmıştır. Ve bu doğrultuda kendi coğrafyalarına ve toplumsal yapılarına uygun olarak gençliğe yönelik hitabe yazmışlardır.

Anahtar Kelimeler: Hasan el-Benna, Necip Fazıl Kısakürek, Gençlik, Hitabet, Dil ve Üslup, Manevi diriliş

ABSTRACT

This study offers a comparative analysis of the speeches addressed to youth by Necip Fazıl Kısakürek in Turkish literature and Hasan al-Bannā in Arabic literature, focusing on their linguistic and stylistic features. The research is based on the view that oratory, beyond being an art of persuasion, functions as an essential instrument in the spiritual formation of society within Islamic thought. Both thinkers regard youth as the vanguard of a moral, intellectual, and faith-based revival; therefore, they assign

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responsibility, awareness, and a spiritual mission to young people in their speeches. The study employs a qualitative research method, examining the linguistic structures, vocabulary, sentence types, use of idioms and proverbial expressions, and overall language level in both authors' texts. Hasan al-Bannā's speech is characterized by a simple, clear, and instructive style, while Necip Fazıl Kısakürek employs a dense, multilayered, and highly literary discourse. Al-Bannā's language is enthusiastic and persuasive, frequently drawing upon Qur'anic verses, idioms, and aphoristic expressions to cultivate moral and religious consciousness. In contrast, Kısakürek uses a more artistic and rhetorically rich language to instill a sense of spiritual mission and idealistic purpose in the youth. In terms of vocabulary, al-Bannā's text consists exclusively of Arabic-origin words, whereas Kısakürek's writing interweaves Turkish, Arabic, and Persian lexical elements. Regarding sentence structure, Kısakürek often uses elliptical constructions lacking explicit predicates, placing the term "gençlik" (youth) at the end to highlight his ideal definition of youth. Al-Bannā, however, employs various sentence types, including both standard and inverted structures, thereby enriching his expression. Both authors use oratory as a means of reconstructing the intellectual and spiritual identity of youth in accordance with the sociocultural realities of their periods. Overall, this study demonstrates how two prominent figures from different geographies articulate the concept of spiritual revival through distinctive linguistic and stylistic choices. For both writers, language functions not merely as a communicative tool but as an instrument of intellectual and spiritual formation shaped by their respective cultural and social contexts.

Keywords: Hasan al-Bannā, Necip Fazıl Kısakürek, Youth, Oratory, Language and Style, Spiritual Revival

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İBN ZEYDUN'UN “*Amā Fī Nesīmi R-Rīhi ‘Urfun Ma‘rūfun*” ADLI KASİDESİNDE DOĞA METAFORU THE NATURE METAPHOR IN IBN ZAYDŪN'S QAŞĪDA “*Amā Fī Nasīmi r- Rīhi ‘Urfun Ma‘rūfun*”

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ÖZET

Tabiat unsurlarını şiirinde ustalıkla kullanan İbn Zeydûn, Endülüs şiirinde öne çıkmış isimlerden biridir. Kurtuba’da doğan İbn Zeydûn, küçük yaşlardan itibaren şiir yeteneğiyle bilinmekte ve ilerleyen yıllarda Velid bin Zeyd yani şairlerin sözcüsü olan bu kişiyle yakın dostluk kurmaktadır; böylece İbn Zeydûn, dönemin yöneticilerinden özellikle de Tavaif meliklerinin dikkatini çekmekte ve Onların meclislerine girerek kısa sürede saygın biri haline gelmektedir. İbn Zeydûn, anlam bakımından geniş ve duygusal derinliği olan eserler kaleme alır. Endülüsün dört bir tarafından akan ırmakları, tabiatı canlandıran yağmurları, bereketli bahçeli, heybetli dağları şairlerin hayal dünyasını zenginleştirerek estetik bir bakış açısı kazandırıp duygularını doğa unsurlarıyla ifade etmeye katkı sağlamıştır. Tabiatın güzellikleri bu tür şiirlerde derin anlamları çağrıştırarak okuyucuya sunulmaktadır. İbn Zeydûn, “*Amā Fī Nesīmi R-Rīhi ‘Urfun Ma‘rūfun*” adlı kasidesinde doğa unsurlarına sıklıkla başvurarak sıradan bir manzaraya duygusal yoğunluk kazandırmış ve böylece iç dünyasını daha etkileyici bir şekilde ifade etmektedir. Çalışmanın içeriğini oluşturan bu kaside, doğa unsurları içeren beyitleri tematik ve sembolik açıdan değerlendirmeye giderek kasideye kattığı anlamları incelemektedir. İbn Zeydûn, rüzgâr esintisinde sevgilisinin hatırasını aramakta ve güneş ışığını, onun yanında sönük kaldığını ifade ederek doğanın eşsiz unsuruyla sevgilisini kıyaslayarak mecazlı bir üslup oluşturmaktadır. İbn Zeydûn, dağ ve deniz unsuruyla büyüklüğe işaret ederek hayranlığını dile getirmekte, yer ve gök unsurlarıyla övülen kişinin meziyetinin büyüklüğüne işaret ederek soyut bir anlatımla kişiye büyük bir değer kazandırmaktadır. “*Amā Fī Nesīmi R-Rīhi ‘Urfun Ma‘rūfun*” adlı kaside de Yağmur doğada arındırıcı besleyici bir rol üstlenmesi sebebiyle görünen bir manzaranın ötesine geçerek yağmurun rahmeti, bereketi bu kasidede ahlaki bir özellikte eş değer görülmektedir. Doğada canlılığı sağlayan gür su ifadesi ise sürekli kendini yenilemesi ve yoğunluğuyla ön plana çıkarak bolluğu tasvir etmektedir. Bunun yanında bulut şimşek gibi unsurlar savaşın meydana getirdiği yıkımı tasvir ederek etkileyici bir anlatım sergilemektedir. Bu çalışma, kasidede geçen doğa unsurlarının şairin fikir dünyasını ve duygularını ifade etmedeki rolünü ele almakta ve çağrışım yaptığı imgeleri inceleyerek İbn Zeydûn’u ve kasideyi daha iyi anlamaya katkı sağlamayı hedeflemektedir.

Anahtar Kelimeler: Arap Dili ve Edebiyatı, İbn Zeydûn, Endülüs Şiirinde Doğa, Sembolik Öge, Doğa Metaforu

ABSTRACT

Ibn Zaydûn, who skillfully employs natural elements in his poetry, is one of the leading figures of Andalusian literature. Born in Cordoba, he was known for his poetic talent from an early age and, in later years, formed a close friendship with Walid ibn Zayd, who was regarded as the spokesman of poets.

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Through this connection, Ibn Zaydūn attracted the attention of the rulers of the period—particularly the Ṭawā'if kings—and soon became a respected figure by entering their literary assemblies. Ibn Zaydūn composed works that are semantically rich and exhibit deep emotional resonance. The rivers flowing throughout al-Andalus, the rain that revitalized nature, the fertile gardens, and the majestic mountains enriched the imaginative world of poets, providing an aesthetic perspective and contributing to the expression of emotions through nature metaphors. The beauties of nature in such poetry evoke profound meanings and are presented to the reader accordingly. In his qaṣīda “*Amā Fī Nasīmi r-Rīhi 'Urfun Ma'rūfun*,” Ibn Zaydūn frequently resorts to natural elements, thus imbuing an ordinary landscape with emotional intensity and expressing his inner world in a more compelling manner. This study examines the couplets containing natural elements and evaluates them thematically and symbolically, analyzing the meanings they contribute to the qaṣīda. Ibn Zaydūn searches for the memory of his beloved in the breeze of the wind and states that the sunlight pales in comparison to her, thereby constructing a figurative style through his comparison of the beloved with the unparalleled elements of nature. By means of the motifs of mountains and seas, Ibn Zaydūn indicates grandeur and expresses admiration; furthermore, through the elements of earth and sky, he emphasizes the greatness of the praised individual's virtues, attributing significant value to that person through an abstract form of expression. In the qaṣīda “*Amā Fī Nasīmi r-Rīhi 'Urfun Ma'rūfun*,” rain, due to its purifying and nourishing role in nature, transcends a merely visible scene, and its mercy and abundance are regarded as equivalent to moral virtue. The expression “abundant water,” which sustains vitality in nature, highlights renewal and intensity, thereby depicting plenitude. In addition, elements such as clouds and lightning portray the devastation caused by war and present a striking narrative. This study investigates the role of natural elements in expressing the poet's intellectual and emotional world and, by examining the imagery they evoke, aims to contribute to a deeper understanding of both Ibn Zaydūn and the qaṣīda.

Keywords: Arabic Language and Literature, Ibn Zaydūn, Nature in Andalusian Poetry, Symbolic Elements, Nature Metaphor

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KİMYASAL BANYO ÇÖKTÜRME YÖNTEMİ İLE ÜRETİLEN İNCE FİLMLERİN BÜYÜME DAVRANIŞI VE FOTOKATALİTİK VERİMLİLİĞİ ÜZERİNE SENTEZ SICAKLIĞININ ETKİSİ

EFFECT OF DEPOSITION TEMPERATURE ON THE GROWTH BEHAVIOR AND PHOTOCATALYTIC EFFICIENCY OF CHEMICALLY DEPOSITED THIN FILMS

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ÖZET

Bu çalışmada, kimyasal banyo çöktürme (Chemical Bath Deposition, CBD) yöntemi kullanılarak farklı sentezleme sıcaklıklarında hazırlanan ince filmlerin yapısal, morfolojik ve optik özellikleri ile fotokatalitik davranışları arasındaki ilişkinin sistematik olarak incelenmesi amaçlanmaktadır. Sentez sıcaklığı, çöktürme kinetiğini, kristal büyümesini, katman oluşum hızını ve yüzey morfolojisini doğrudan etkileyen kritik bir parametre olup, özellikle fotokatalitik performans açısından belirleyici rol oynamaktadır. Bu nedenle çalışmanın temel yaklaşımı, banyo sıcaklığının film oluşumu üzerindeki etkilerini karşılaştırmalı olarak değerlendirmeye dayanmaktadır.

İnce filmler, kontrollü deney koşulları altında belirlenen farklı sıcaklık aralıklarında üretilmiş ve her bir sıcaklık için film yapısının oluşum mekanizmasını yönlendiren kimyasal etkileşimler göz önünde bulundurulmuştur. Hazırlanan filmlerin yapısal özelliklerinin incelenmesi amacıyla X-ışını difraksiyonu (XRD), yüzey morfolojisinin değerlendirilmesi için taramalı elektron mikroskobu (SEM) ve optik özelliklerinin belirlenmesi için UV-Vis spektroskopisi kullanılacaktır. Bu karakterizasyon teknikleri, sıcaklık değişiminin kristal faz, tane boyutu, yüzey düzenliliği ve bant aralığı üzerindeki etkilerinin çok boyutlu olarak anlaşılmasına olanak sağlayacaktır.

Ayrıca ince filmlerin fotokatalitik aktiviteleri, görünür ışık altında gerçekleştirilecek fotodegradasyon deneyleriyle değerlendirilecektir. Bu değerlendirme, sentez sıcaklığının fotokatalitik mekanizma üzerindeki rolünü anlamak ve aktif fotokatalizör üretimi için optimum sıcaklık aralığını belirlemek açısından önem taşımaktadır. Çalışma, sıcaklık kontrollü ince film sentezinin fotokataliz uygulamalarındaki belirleyici etkisini ortaya koymayı hedeflemektedir.

Anahtar Kelimeler: Kimyasal banyo çöktürme, sentez sıcaklığı, ince film morfolojisi, optik özellikler, fotokatalitik aktivite

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ABSTRACT

In this study, the relationship between the structural, morphological, and optical properties—and the photocatalytic behavior—of thin films prepared at different synthesis temperatures using the Chemical Bath Deposition (CBD) method is systematically investigated. Deposition temperature is a critical parameter that directly influences precipitation kinetics, crystal growth, layer formation rate, and surface morphology, and it plays a decisive role particularly in photocatalytic performance. Therefore, the main objective of this work is to comparatively evaluate the effects of bath temperature on thin-film formation.

Thin films were produced at varying temperature ranges under controlled experimental conditions, and the chemical interactions governing the film formation mechanism at each temperature were taken into consideration. X-ray diffraction (XRD) was used to examine the structural properties of the films, scanning electron microscopy (SEM) was employed to evaluate surface morphology, and UV–Vis spectroscopy was used to determine optical properties. These characterization techniques enable a multidimensional understanding of the effects of temperature on crystal phase, grain size, surface uniformity, and band gap.

Additionally, the photocatalytic activities of the thin films will be assessed through photodegradation experiments conducted under visible light irradiation. This evaluation is crucial for understanding the role of synthesis temperature in the photocatalytic mechanism and for determining the optimum temperature range for producing active photocatalysts. Overall, the study aims to reveal the critical influence of temperature-controlled thin film synthesis on photocatalysis applications.

Keywords: Chemical bath deposition, synthesis temperature, thin film morphology, optical properties, photocatalytic activity

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SOL-JEL YÖNTEMİYLE KATKILANDIRILMIŞ METAL OKSİT YAPILARININ FOTOKATALİTİK UYGULAMALARA YÖNELİK SENTEZİ VE KARAKTERİZASYONU SOL-GEL SYNTHESIS AND CHARACTERIZATION OF DOPED METAL OXIDE STRUCTURES FOR PHOTOCATALYTIC APPLICATIONS

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ÖZET

Bu çalışmada, sol-jel yöntemi kullanılarak nadir toprak elementi katkısıyla modifiye edilen metal oksit tabanlı bir yarı iletken malzemenin fotokatalitik uygulamalara yönelik sentezlenmesi ve karakterizasyonu amaçlanmaktadır. Sol-jel yöntemi, düşük sıcaklıkta kontrollü bileşim hazırlama, homojen karışım elde etme ve katkı elementlerinin yapıya etkin şekilde entegre edilebilmesi gibi avantajları sayesinde fotokataliz odaklı fonksiyonel malzeme üretiminde sıklıkla tercih edilmektedir. Bu kapsamda, metal tuzları ile katkı kaynağı uygun çözücüler içinde çözündürülerek sol fazı hazırlanmış, kompleksleştirici ajan eklenerek jelasyon süreci kontrollü şekilde gerçekleştirilmiştir.

Oluşan jel, belirli sıcaklıklarda kurutularak çözücü artıklarından arındırılmış ve ardından kristal yapının oluşumunu sağlamak üzere kalsinasyon işlemine tabi tutulmuştur. Kalsinasyon sıcaklığı ve süresi, hem kristal faz gelişimi hem de katkı elementinin yapıya dahil olma mekanizması açısından çalışma kapsamında önemli bir değişken olarak ele alınmıştır. Elde edilen toz veya ince film örnekleri, kristal faz yapısının belirlenmesi amacıyla X-ışını difraksiyonu (XRD), yüzey morfolojisinin değerlendirilmesi için taramalı elektron mikroskopu (SEM) ve optik soğurma özelliklerinin incelenmesi için UV-Vis spektroskopisi ile karakterize edilecektir.

Hazırlanan katkılı yapıların fotokatalitik performansı, organik kirleticilerin ışık altında bozunmasına dayanan model reaksiyonlar kullanılarak değerlendirilecektir. Bu çalışma, katkılандırılmış metal oksitlerin sol-jel temelli sentez süreçlerini anlamayı ve bu yapıların fotokatalitik uygulamalardaki potansiyelini araştırmayı hedeflemektedir.

Anahtar Kelimeler: sol-jel sentezi, katkılандırılmış metal oksitler, nadir toprak elementi, optik özellikler, fotokatalitik uygulamalar

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ABSTRACT

In this study, the synthesis and characterization of a metal oxide-based semiconductor material doped with a rare-earth element using the sol-gel method is aimed for photocatalytic applications. The sol-gel technique is widely preferred in the fabrication of functional materials for photocatalysis due to its advantages such as low-temperature controlled composition preparation, homogeneous mixing, and effective incorporation of dopant elements into the structure. In this context, metal salts and dopant precursors were dissolved in suitable solvents to prepare the sol phase, and the gelation process was carried out in a controlled manner by adding a complexing agent.

The resulting gel was dried at specific temperatures to remove residual solvents and subsequently subjected to calcination to enable the formation of the crystalline structure. Calcination temperature and duration were considered key variables in this study, as they influence both crystal phase development and the mechanism by which the dopant is incorporated into the lattice. The obtained powder or thin-film samples will be characterized by X-ray diffraction (XRD) to determine their crystal structure, scanning electron microscopy (SEM) to evaluate surface morphology, and UV-Vis spectroscopy to examine their optical absorption properties.

The photocatalytic performance of the doped structures will be assessed using model reactions based on the degradation of organic pollutants under light irradiation. This study aims to understand the sol-gel-based synthesis processes of doped metal oxides and to explore their potential in photocatalytic applications.

Keywords: sol-gel synthesis, doped metal oxides, rare-earth element, optical properties, photocatalytic applications

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İNŞİRAH SURESİNİN MEANİ İLMİ AÇISINDAN İNCELENMESİ AN ANALYSIS OF SŪRAT AL-INSHIRĀH FROM THE PERSPECTIVE OF THE SCIENCE OF MA'ĀNĪ

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ÖZET

Bu çalışma, Kur'anı Kerim'in belagat ilmi açısından zenginliğini ispatlamak amacıyla en kısa ancak anlam bakımından en zengin surelerden biri olan inşirah suresini meani ilmi açısından incelemektedir. Meani ilmi sözün muhatabın durumuna ve maksada uygun şekilde kullanımını, cümlelerin bağlama göre düzenlenmesini ele alır. Bu yönüyle Kur'anı Kerim de ayetlerin manasını kavramada yardımcı olur. İnşirah suresi Mekke'de nazil olmuş inşirah suresi, Rasullullah'ın yaşadığı sıkıntıları ve zorlukları aktararak ona verilen teselli ve ümitleri tmeleine alır. Sure kısa olmasına rağmen içerisinde çok derin anlamlara sahiptir ve meani konularından birisi olan az sözle bir çok şey ifade eden icaz sanatının da güçlü bir örneğidir. Çalışma da önce surenin nüzul sebebi incelenmiş, ardından cümlelerin yapı, anlam ve bağlam ilişkileri meani ilminin temel başlıkları olan haber, inşa, takdim, kasr, icaz, itnab, hazf, vasl, muktezayı hal konuları altında tek tek değerlendirilmiştir. Rasullullah'a verilen nimetler inşa ve haber cümleleriyle hatırlatılmış, ayrıca talebi inşa formunda gelen emir kipleriyle gerçekleştirilen yönlendirmeler yapılmıştır. Ayette verilmeyen ancak anlamca hissedilen ifadeler icaz ve hazf sanatlarıyla ayetlere derinlik kazandırdığı gösterilmektedir. Taktim sanatı özellikle zamirler de ve mefuller de yer değişiklikleriyle vurguyu artırma da etkili şekilde kullanılmıştır. 'Zorlukla birlikte kolaylık vardır' ayeti içinde hem icaz hem de tekrar edilmesiyle itnab sanatının bir arada bulunduğu en güzel örneklerdendir. Kasr sanatı ile Peygambere verilen önem, bazı yerler de sadece ona tahsis edilen durumlar gösterilmektedir. İnşirah suresinde, zorlukla birlikte kolaylık bulunduğunu bildiren ayet hem Rasullullah'a hem de tüm müslümanlara yönelik ümit ve teselli içeren evrensel bir mesajdır. Çalışma da Meani ilmi başlıkları altında sınırlı kalınarak İnşirah suresinin incelemesi yapılmış, ayetler de görülen ve gizli kalmış manaları açığa çıkarmaya çalışılmıştır. En başta Kur'anı Kerim olmak üzere, Arapça ve Türkçe Belagat ve Tefsir kitaplarından ve bu alanda yapılan çalışmalardan faydalanılmıştır. İnşirah surenin meani ilmi açısından tahlili, Kur'anın mucizeliğini, anlam derinliğini, ifade güçlüğünü açıkça ortaya koymaktadır. Bu yönüyle meani ilmi inşirah suresinin kısa olsa dahi kuran düzeninin inceliklerini anlama da önemli katkı sunar.

Anahtar Kelimeler: Arap Dili ve Edebiyatı, Kur'anı Kerim, İnşirah Sûresi, Meânî, Belâgat, Teselli.

ABSTRACT

This study examines Sûrat al-Inshirâh within the framework of the science of *ma'ânî* with the aim of demonstrating the rhetorical richness of the Qur'an, one of the shortest yet most meaningfully profound chapters. The science of *ma'ânî* addresses the use of speech in accordance with the state of the addressee and the intended meaning, as well as the arrangement of sentences in relation to context. In this respect, it contributes to understanding the meanings of Qur'anic verses. Revealed in Mecca, Sûrat al-Inshirâh is based on recounting the hardships and difficulties experienced by the Messenger of Allah and the consolations and hopes granted to him. Although the chapter is brief, it contains very deep meanings

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and strongly exemplifies *ījāz*, one of the subjects of *ma‘ānī*, which expresses many meanings with few words. The study first examines the reason for revelation of the chapter, then analyzes the structure, meaning, and contextual relations of the sentences under the main headings of the science of *ma‘ānī*: declarative (*khābar*), performative (*inshā’*), fronting (*taqdīm*), restriction (*qaṣr*), brevity (*ījāz*), amplification (*itnāb*), ellipsis (*ḥadhf*), conjunction (*waṣl*), and *muqtadā al-ḥāl*. The blessings given to the Messenger are recalled through declarative and performative sentences, and directives expressed through imperative forms, which belong to performative speech, are highlighted. It is shown that the expressions not explicitly stated but implicitly understood add depth to the verses through *ījāz* and *ḥadhf*. The art of *taqdīm* is effectively used to increase emphasis, particularly through shifts involving pronouns and objects. The verse “Indeed, with hardship there is ease” represents one of the finest examples in which both *ījāz* and *itnāb*—arising from repetition—coexist. Through *qaṣr*, the significance attributed to the Prophet and the situations that are exclusively assigned to him are emphasized. The verse informing that ease accompanies hardship delivers a universal message of hope and consolation to both the Messenger and all Muslims. In this study, the analysis of Sūrat al-Inshirāḥ is limited to the main topics of the science of *ma‘ānī*, aiming to reveal both the explicit and implicit meanings in the verses. The Qur’an, as the primary source, along with Arabic and Turkish works on rhetoric and exegesis, as well as relevant academic studies, have been utilized. The analysis of Sūrat al-Inshirāḥ from the perspective of *ma‘ānī* clearly demonstrates the Qur’an’s miraculous nature, depth of meaning, and expressive power. In this respect, *ma‘ānī* provides significant contribution to understanding the subtleties of Qur’anic structure, even in a short chapter such as Sūrat al-Inshirāḥ.

Keywords: Arabic Language and Literature, Qur’an, Sūrat al-Inshirāḥ, Ma‘ānī, Rhetoric, Consolation.

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SÜRDÜRÜLEBİLİR TEKSTİL UYGULAMALARINDA GELENEKSEL DANTELİN İŞLEVSEL DÖNÜŞÜMÜ

THE FUNCTIONAL TRANSFORMATION OF TRADITIONAL LACE IN SUSTAINABLE TEXTILE APPLICATIONS

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ÖZET

Dantel; ipliklerin birbiriyle bağlanarak ya da örülerek oluşturduğu motiflerin birleşimiyle ortaya çıkan bir el sanatı ürünüdür. Tekstil sanatı içerisinde kendine özgü doku ve estetik değerler ile geçmişten günümüze farklı teknik ve desen özellikleriyle varlığını sürdürmüş bir zanaat ve sanat dalı olarak görülmektedir. Dantel motifleri, yapıldığı yörenin kültürel birikimleri geçmiş ve gelenekleri hakkında bizlere önemli bilgiler vermektedir. Danteller yıllardır çeyizlerin önemli bir parçası olmuştur. Fakat modern çağa gelince insanlar evlerinde konfor aradıkları için danteller dolap içlerinde saklanmak zorunda kalmıştır. Bu çalışmada, el emeği dantelleri sandıklardan çıkararak geleneksel değerlerin korunması ve farkındalığı amaçlanmıştır. Gelenegin sürekliliği analiz edilerek kültürel birikimin gelecek nesillere aktarılması hedeflenmektedir. Çalışmanın araştırma kısmında dantel ögesinin tanıtımına ve tarihçesine örnekleriyle birlikte sanatın farklı alanlarına yansımaya ve tekstil sanatındaki etkileşimine yer verilmiştir. Nitel araştırma yönteminin kullanıldığı araştırmanın literatüre katkı sağlamasının yanında daha sonra yapılacak olarak çalışmalara örnek teşkil etmesi amaçlanmıştır. Bu amaç doğrultusunda konu ile ilgili yazılı ve görsel kaynaklara elektronik ortamda ulaşılmıştır. Araştırma kapsamında yapılan literatür tarmasının ardından uygulamaya geçilmiştir. Uygulama kısmında ise sürdürülebilir yaklaşımla mevcut danteller kullanılmakta olan kadın üst giysi üzerine applike edilmiştir. Renk olarak beyaz ve tonları tercih edilen giysiler farklı desenlerdeki dantellerle yorumlanarak çağdaş bir görünüm elde edilecektir. Bu sayede yavaş moda katkı sağlanacaktır. Bluz, ceket ve tişört gibi kadın üst giyimi dantel sayesinde daha şık hale gelmesiyle birlikte ürünlerin kullanım ömrü uzatılmış ve atıl durumda olan dantellere işlev kazandırılmıştır. Unutulmaya yüz tutmuş danteller tekstil sanatı aracılığıyla bizleri geçmişten anılar bırakmanın yanı sıra yaşanan döneme götürmektedir. Çağdaş yorumla üretilen giysi örnekleri yeni bakış kazandırılarak kültürel değerlerimizi hatırlatmakta önemli bir araç niteliğindedir. Yeniden yorumlanan giysiler bizlerin geçmişle bağını kuvvetlendirmektedir. Çalışma kapsamında dantel, ögesinin tekstil sanatında yeniden nasıl yorumlandığı ve geleneksel bir ögenin çağdaş bir malzemeye nasıl bütünleştirildiği incelenmiş olup, dantelin form ve desen açısından giysi ile etkileşimi detaylı olarak değerlendirilmiştir. Geçmişin izlerini silmeden günümüze taşımak ve yeni nesillerinde geçmiş ile tanışmalarını tarih ve kültürlerini tanımaları adına, el sanatlarının kendini güncel tutması daha fonksiyonel ürünlere dönüşmesi sağlanmıştır. Yaşanılan bu dönüşüm sayesinde dantel el sanatı ürünleri giysi formunda yeniden kullanıma devam etmiştir. Bu durum dantelin yeniden canlanması adına önemli bir gelişmedir.

Anahtar Kelimeler: Dantel, sürdürülebilirlik, yavaş moda.

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ABSTRACT

Lace is a handicraft product created by combining motifs formed by intertwining or weaving threads. It is regarded as a craft and art form that has maintained its existence from the past to the present with its unique texture and aesthetic values within the textile arts, featuring different techniques and pattern characteristics. Lace motifs provide us with important information about the cultural heritage, history, and traditions of the region where they are made. Lace has been an important part of trousseaus for years. However, in the modern era, as people sought comfort in their homes, lace was forced to be stored in closets. This study aims to preserve and raise awareness of traditional values by taking handmade lace out of chests. By analyzing the continuity of tradition, the goal is to pass on cultural heritage to future generations. The research section of the study introduces lace, its history, examples of its reflection in different fields of art, and its interaction in textile art. Using qualitative research methods, the study aims to contribute to the literature and serve as an example for future studies. To this end, written and visual sources related to the subject were accessed electronically. Following a literature review conducted as part of the research, the application phase commenced. In the application phase, existing lace was applied to women's tops using a sustainable approach. Garments in white and its shades were interpreted with lace in different patterns to achieve a contemporary look. This will contribute to slow fashion. Women's tops such as blouses, jackets, and T-shirts are made more stylish with lace, extending the life of the products and giving functionality to discarded lace. Lace, which was on the verge of being forgotten, takes us back to the past through textile art, leaving us with memories. Contemporary interpretations of clothing examples serve as an important tool for reminding us of our cultural values by offering a fresh perspective. Reinterpreted garments strengthen our connection to the past. Within the scope of this study, lace was examined in terms of how it was reinterpreted in textile art and how a traditional element was integrated with contemporary materials. The interaction between lace and clothing in terms of form and pattern was evaluated in detail. In order to carry the traces of the past into the present without erasing them and to enable new generations to become acquainted with the past and learn about their history and culture, handicrafts have been kept up to date and transformed into more functional products. Thanks to this transformation, lace handicraft products continue to be used in the form of clothing. This is an important development for the revival of lace.

Keywords: Lace, sustainability, slow fashion.

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K-BALANS SAYILAR VE BALANS POLİNOMLARIN TEMEL ÖZELLİKLERİ K-BALANCING NUMBERS AND BASIC PROPERTIES OF BALANCING POLYNOMIALS

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ÖZET

Balans sayılar, sayılar teorisinde özel bir konuma sahip olan ve aritmetik dizilerdeki denge koşullarını incelemek amacıyla tanımlanan bir tamsayı dizisidir. Her bir balans sayısı, belirli bir n noktasının solunda ve sağında yer alan ardışık sayıların toplamalarının eşit olmasını sağlayan karakteristik bir özellik gösterir. Literatürde balans sayılardan sonra kobalans, almost balans, t-balans, gap balans gibi çeşitli sayı dizileri tanımlanmış ve bunlarla ilgili teorem ve sonuçlar verilmiştir. Bu sayılarla ilgili rekürans bağıntıları elde edilmiştir. Bu bağıntılar kullanılarak, sayıların üreteç fonksiyonları ve Binet formülleri bulunmuştur. Ayrıca verilen bu sayılar için Catalan, Cassini, d'Ocagne ve Vajda gibi özdeşlikler hesaplanmıştır. Balans sayıların genellemeleri üzerine K. Liptai ve arkadaşları, A. Özkoç ve T. Szakaacs'ın çalışmaları vardır. Bu çalışmada A. Özkoç'un verdiği bir balans sayı genellemesi olan k -balans sayıların tanım, teorem ve özellikleri incelenecektir. Bu tanımda $k=1$ için aslında balans sayılar elde edilmektedir. Daha sonra k -balans sayıların doğal bir uzantısı olan ve P. Kumar Ray tarafından tanımlanan balans polinomlarının özellikleri verilecektir. Balans polinomlarla ilgili teorem ve sonuçlar ayrıntılı bir şekilde açıklanıp, balans polinomlar için Kumar Ray tarafından yapılan türev ve integral tanımı incelenecektir. Bu tanımlar kullanılarak elde edilen sonuçlar verilecektir.

Anahtar Kelimeler: Balans Polinomları, k -Balans Sayıları, Balans Polinomların Türevleri.

ABSTRACT

Balancing numbers are sequences of integers that occupy a special position in number theory and were defined for the purpose of examining the conditions for balance in arithmetic sequences. Each balancing number exhibits a characteristic property that ensures that the sums of consecutive numbers to the left and right of a given point n are equal. Various number sequences, such as cobalancing, almost balancing, t-balancing, and gap balancing have been defined in the literature, and related theorems and results have been given. Recurrence relations for these numbers have been obtained. Using these relations, generating functions and Binet formulas for these numbers have been found. Furthermore, identities such as Catalan, Cassini, d'Ocagne, and Vajda have been calculated for these given numbers. Generalizations of balancing numbers have been studied by K. Liptai et al., A. Özkoç, and T. Szakaacs. This study examines the definition, theorem, and properties of k -balancing numbers, a generalization of balancing numbers proposed by A. Özkoç. This definition actually yields the balancing numbers for $k = 1$. Next, we will present the properties of balancing polynomials, a natural extension of k -balancing numbers defined by P. Kumar Ray. Theorems and results related to balancing polynomials will be

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explained in detail, and Kumar Ray's definition of derivative and integral for balancing polynomials will be examined. Results obtained using these definitions will be presented.

Keywords: Balancing Polynomials, k-Balancing Numbers, Derivatives of Balancing Polynomial.

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A BIBLIOMETRIC ANALYSIS OF GENE EDITING RESEARCH IN CHICKENS

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ÖZET

Gen düzenleme teknolojileri, son yıllarda kanatlı genetiğinde bilimsel ilgiyi hızla üzerine çeken stratejik araştırma alanlarından biri hâline gelmiştir. CRISPR, TALEN ve ZFN gibi hedefe yönelik genom müdahale sistemleri; tavuklarda hastalık direncinin artırılması, üretim performansının iyileştirilmesi, biyogüvenlik uygulamalarının geliştirilmesi, yeni nesil aşı platformlarının oluşturulması ve transgenik hatların elde edilmesi gibi birçok biyoteknolojik fırsatı beraberinde getirmektedir. Bu çalışma, tavuklarda genom düzenleme üzerine yürütülen araştırmaların küresel düzeydeki görünümünü, bilimsel etkileşimlerini ve mevcut eğilimlerini değerlendirmek amacıyla kapsamlı bir bibliyometrik inceleme sunmaktadır.

Araştırmada, Web of Science (WoS) veri tabanı 1990–2025 yılları arasındaki yayınları kapsayacak şekilde; "gene editing", "genome editing", CRISPR, TALEN ve ZFN terimleri ile chicken, broiler, layer ve "Gallus gallus" anahtar kelimeleri kullanılarak taranmıştır. Elde edilen sonuçlardan yalnızca Article, Review Article ve Proceeding Paper türündeki çalışmalar seçilmiş ve toplam 1329 kayıt analize dahil edilmiştir. Bibliyometrik analizler, R yazılımındaki bibliometrix paketi ve Biblioshiny arayüzü aracılığıyla gerçekleştirilmiş; yıllık yayın artışları, en etkili araştırmacılar ve kurumlar, ülke bazlı katkılar, uluslararası ortaklık yapıları, atıf örüntüleri ve anahtar kelime ağları gibi göstergeler detaylı biçimde değerlendirilmiştir. Bulgular, özellikle 2013 sonrasında CRISPR yönteminin yaygınlaşmasıyla birlikte tavuk genom düzenleme araştırmalarında belirgin bir ivme kazanıldığını; hastalık direnci, gen fonksiyonlarının çözülmesi, viral dirençli hatların geliştirilmesi ve embriyonik modifikasyon tekniklerinin ön plana çıktığını göstermektedir.

Sonuç olarak, bu çalışma tavuklarda gen düzenleme literatürünün bilimsel yapısını bütüncül bir bakışla ortaya koymakta ve geleceğe yönelik araştırma önceliklerine, yenilikçi biyoteknolojik uygulamalara ve kümes hayvanı genetiğinde uluslararası işbirliği fırsatları sunmaktadır.

Anahtar Kelimeler: gen düzenleme; CRISPR; TALEN; ZFN; tavuk; bibliyometrik analiz

ABSTRACT

In recent years, gene editing technologies have emerged as a rapidly expanding and highly influential research field within poultry genetics. Targeted genome manipulation systems such as CRISPR, TALEN and ZFN have opened the door to a wide range of biotechnological applications in chickens, including improved disease resistance, enhanced productivity, biosecurity innovations, vaccine development and the creation of transgenic lines. This study presents a comprehensive bibliometric analysis aimed at

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revealing the global research landscape, scientific output and evolving trends in gene editing studies conducted in chickens.

For this purpose, the Web of Science (WoS) database was searched for publications from 1990 to 2025 using the keywords "gene editing", "genome editing", CRISPR, TALEN and ZFN combined with chicken, broiler, layer and "Gallus gallus". Articles, review articles and proceeding papers were selected, yielding a total of 1,329 records for analysis. Using the bibliometrix R package and the Biblioshiny interface, the dataset was examined through annual publication growth, leading authors and institutions, country-level contributions, international collaboration networks, citation patterns and keyword co-occurrence structures. The findings demonstrate a marked increase in research activity after 2013, coinciding with the widespread adoption of CRISPR technology. Themes such as disease resistance, functional gene characterization, development of antiviral chicken lines and advances in embryonic manipulation were identified as prominent research fronts.

Overall, this study provides an integrative view of the intellectual structure and scientific progress of gene editing research in chickens, offering valuable insights for future research directions, biotechnological innovation and collaborative opportunities in poultry genetics.

Keywords: gene editing; CRISPR; TALEN; ZFN; chicken; bibliometric analysis

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A BIBLIOMETRIC ANALYSIS OF GENOMIC BREEDING RESEARCH IN SHEEP

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ÖZET

Koyunculukta uygulanan modern genomik ıslah teknikleri, hem genetik ilerlemenin hızlandırılmasında hem de üretim performansının iyileştirilmesinde günümüzde kritik bir rol oynamaktadır. Genomik seleksiyon, markör destekli seleksiyon, genom çapında ilişkilendirme analizleri (GWAS) ve QTL haritalama gibi moleküler biyoteknolojik yaklaşımlar, koyun populasyonlarındaki genetik çeşitliliğin daha kesin biçimde tahmin edilmesini sağlayarak ıslah programlarının verimliliğini önemli ölçüde artırmaktadır. Bu çalışma, koyunlarda genomik ıslah yöntemleri üzerine gerçekleştirilen bilimsel yayınların küresel ölçekteki gelişimini ve araştırma eğilimlerini incelemek üzere kapsamlı bir bibliyometrik değerlendirme sunmaktadır.

Çalışmada, Web of Science (WoS) ve Scopus veri tabanlarında 1994–2025 yılları arasında yayımlanan çalışmalar “genomic selection”, “marker-assisted selection”, GWAS, “genome-wide association” ve “QTL mapping” terimleri ile sheep, ovine ve “Ovis aries” anahtar kelimeleri kullanılarak taranmıştır. Elde edilen veri setinden Article, Review Article ve Proceeding Paper türleri seçilmiş ve toplam 893 yayın analiz kapsamına alınmıştır. Bibliyometrik analizler, R yazılımı kullanılarak bibliometrix paketi ve Biblioshiny arayüzü aracılığıyla gerçekleştirilmiş; yıllar içindeki yayın artışları, öne çıkan araştırmacılar, kurum ve ülke katkıları, işbirliği ağlarının yapısı, atıf ilişkileri, anahtar kelime kümelenmeleri ve tematik eğilimler ayrıntılı biçimde incelenmiştir. Sonuçlar; genomik seleksiyon, GWAS ve QTL çalışmalarında istikrarlı bir artış olduğunu; genetik varyasyonun tanımlanması, moleküler markörlerin belirlenmesi ve ıslah stratejilerinin geliştirilmesinin en yoğun işlenen araştırma alanlarını oluşturduğunu ortaya koymaktadır.

Genel olarak bu çalışma, koyun genomik ıslahına yönelik bilimsel literatürün yapısını kapsamlı biçimde ortaya çıkararak, geleceğe yönelik araştırma yaklaşımlarına, disiplinler arası işbirliklerine ve modern ıslah programlarının tasarımına katkı sunabilecek önemli bilgiler sağlamaktadır.

Anahtar Kelimeler: koyun; genomik seleksiyon; GWAS; QTL haritalama; bibliyometrik analiz;

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ABSTRACT

Modern genomic breeding approaches have become increasingly important in sheep production due to their ability to accelerate genetic improvement and enhance overall efficiency. Molecular techniques such as genomic selection, marker-assisted selection, genome-wide association studies (GWAS) and QTL mapping allow more accurate identification of genetic variation, thereby strengthening the effectiveness of breeding programs. This study presents an extensive bibliometric assessment of global research trends related to genomic breeding methods in sheep.

Publications from 1994 to 2025 were retrieved from the Web of Science (WoS) and Scopus databases using the terms “genomic selection”, “marker-assisted selection”, GWAS, “genome-wide association” and “QTL mapping”, combined with sheep, ovine and “Ovis aries”. Articles, review articles and proceeding papers were retained, resulting in a dataset of 893 documents. The bibliometric analyses were conducted using the bibliometrix package and the Biblioshiny interface in R, encompassing publication growth patterns, leading authors, institutional and national contributions, collaboration structures, citation relationships, keyword co-occurrence networks and thematic evolution. The results indicate a steady rise in studies involving genomic selection, GWAS and QTL mapping, with major research emphases including characterization of genetic diversity, identification of molecular markers and refinement of breeding strategies.

In conclusion, this study provides a detailed overview of the scientific landscape surrounding genomic breeding research in sheep, offering key insights that may guide future investigations, interdisciplinary collaborations and the advancement of modern breeding strategies.

Keywords: sheep; genomic selection; GWAS; QTL mapping; bibliometric analysis; genomic breeding

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BÖLGESEL MALİ YOĞUNLAŞMA VE MERKEZ-ÇEVRE İLİŞKİSİ: MOTORLU TAŞIT TEŞVİKLERİ VE ÖTV GELİRLERİ ARASINDAKİ MEKANSAL ETKİLEŞİM REGIONAL FISCAL CONCENTRATION AND CENTER-PERIPHERY RELATIONSHIP: SPATIAL INTERACTION BETWEEN MOTOR VEHICLE INCENTIVES AND SCT REVENUES

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ÖZET

Çalışmada mekânsal dağılımın açıklanması ve mekânsal örüntünün ortaya koyulması amacıyla ampirik değerlendirme sunulmaktadır. Bu çalışmanın amacı motorlu taşıtlar sektöründe yatırım teşvik belgesi (YTB) kapsamında yapılan yatırım miktarı ve kişi başı özel tüketim vergisi (ÖTV) tahakkuk oranı arasındaki mekânsal etkileşimi ortaya koymaktır. Nitekim Myrdal kümülatif nedensellik kuramı kapsamındaki sermaye ve üretim çekim gücü motorlu taşıt sektöründe YTB kapsamında yapılan yatırım miktarı ile temsil edilirken gelir düzeyi ve tüketim kapasitesi de kişi başı ÖTV tahakkuk miktarı ile temsil edilmektedir. Çalışmanın kapsamını Türkiye ölçeğinde 81 il düzeyi oluşturmaktadır; verileri ise Sanayi ve Teknoloji Bakanlığı tarafından yayınlanan 2001-2023 dönemi yatırım teşvik veri setinden, Hazine ve Maliye Bakanlığı tarafından yayınlanan genel yönetim bütçe istatistikleri kapsamındaki genel bütçe gelirlerinin iller itibarıyla tahakkuk ve tahsilat (2004-2025) veri setinden elde edilen ÖTV veri setinden ve Türkiye İstatistik Kurumu Başkanlığı tarafından yayınlanan iller itibarıyla nüfus istatistiklerinden oluşmaktadır. Ekonomik ve mali merkezler bağlamında merkez ile çevre etkileşimi değerlendirildiğinde belirgin düzeyde merkez çevre kutuplaşmaması bulunmamasına rağmen merkez ve çevre iller niteliğinde az sayıda da olsa il bulunduğu görülmektedir. Açıklayıcı mekansal veri analizi sonucunda ulaşılan bulgular Myrdal Kümülatif Nedensellik kuramı bağlamında ele alındığında mekansal ilişki göstergeleri (LISA) motorlu taşıtlar sektöründe YTB kapsamında yapılan yatırım miktarı için sermaye yoğunlaşmasını, kişi başına tahakkuk eden ÖTV miktarının gelir ve tüketim kapasitesinin merkezileşmesini, yatırım ve ÖTV miktarı birlikte ise kümülatif nedenselliği göstermektedir. Bu kapsamda mekansal dağılım ve açıklayıcı mekansal veri analizi ile merkezlerde yatırım ve mali yoğunlaşmanın birlikte arttığı, çevre illerin sürece dâhil olamadığı ve mekânsal eşitsizliğin kendini yeniden ürettiği sonucuna ulaşılmaktadır.

Anahtar Kelimeler: Motorlu Taşıtlar, Yatırım Teşvik Belgesi, Özel Tüketim Vergisi, Mekansal Etkileşim.

ABSTRACT

In the study, empirical evaluation is presented in order to explain the spatial distribution and to reveal the spatial pattern. The aim of this study is to reveal the spatial interaction between the amount of investment made within the scope of the investment incentive certificate (YTB) in the motor vehicles sector and the accrual rate of special consumption tax (SCT) per capita. As a matter of fact, the capital

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and production attraction within the scope of the Myrdal cumulative causality theory are represented by the amount of investment made in the motor vehicle sector within the scope of YTB, while the income level and consumption capacity are represented by the amount of SCT accrual per capita. The scope of the study consists of 81 provincial levels in Turkey; data consists of the Investment Incentive dataset for the period 2001-2023 published by the Ministry of Industry and Technology, the SCT dataset obtained from the accrual and collection of general budget revenues by provinces (2004-2025) dataset within the scope of the general government budget statistics published by the Ministry of Treasury and Finance, and the population statistics by provinces published by the Turkish Statistical Institute. When the interaction between the center and the periphery is evaluated in the context of economic and financial centers, it is seen that although there is no significant center-periphery polarization, there are a small number of provinces in the form of central and peripheral provinces. When the findings obtained as a result of the explanatory spatial data analysis are considered in the context of the Myrdal Cumulative Causality theory, spatial relationship indicators (LISA) show capital concentration for the amount of investment made within the scope of YTB in the motor vehicles sector, the centralization of income and consumption capacity of the amount of SCT accrued per capita, and the cumulative causality of the amount of investment and SCT together. In this context, with spatial distribution and explanatory spatial data analysis, it is concluded that investment and fiscal concentration increase together in the centers, the surrounding provinces cannot be involved in the process and spatial inequality reproduces itself.

Keywords: Motor Vehicles, Investment Incentive Certificate, Special Consumption Tax, Spatial Interaction.

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BERNADOTTE PLANI'NIN DİPLOMATİK KAPSAMI, BAŞARISIZLIK NEDENLERİ VE TÜRKİYE'NİN ROLÜ

THE DIPLOMATIC SCOPE OF THE BERNADOTTE PLAN, THE REASONS FOR ITS FAILURE AND TURKEY'S ROLE

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ÖZET

1948 yılında Birleşmiş Milletler tarafından Filistin sorununa kalıcı bir çözüme ulaşmak amacıyla görevlendirilen Kont Folke Bernadotte tarafından sunulan barış planları, çözüm arayışlarının erken dönemdeki en önemli çabalarından biridir. Planlar, Kudüs'ün statüsü, mülteci hakları, sınırlar ve taraflar arasındaki siyasi denge gibi hassas konulara odaklanmış, ancak tarafların çıkarlarıyla örtüşmediği için hem Arap hem de Yahudi liderliği tarafından kabul görmemiştir. Bu bildiride, Bernadotte Planı'nın tarihsel arka planı, diplomatik kapsamı, ilk ve ikinci planların ayrıntıları, tarafların verdiği tepkiler, ABD ve Birleşik Krallık başta olmak üzere uluslararası aktörlerin pozisyonları ile birlikte ele alınmıştır. Ayrıca, Bernadotte'un suikasta uğraması ve bu olayın planların kaderi üzerindeki etkisi incelenmiştir. Planların ardından kurulan Filistin Uzlaştırma Komisyonu'nun yapısı ve bu komisyon içinde Türkiye'nin oynadığı diplomatik rol, çok taraflı çıkarlar ve uluslararası dengeler bağlamında değerlendirilmiştir. Bernadotte Planı, uygulanabilirlik ve siyasi destek yönünden başarıya ulaşamasa da Filistin meselesinin barışçı yollarla çözülmesi çabaları için tarihi bir dönüm noktası olmuş, diplomatik bellek açısından kalıcı etkiler yaratmıştır.

Anahtar Kelimeler: Bernadotte Planı, Filistin sorunu, Kudüs'ün statüsü, 1948 Arap-İsrail Savaşı.

ABSTRACT

The peace proposals submitted in 1948 by Count Folke Bernadotte, appointed by the United Nations as mediator in Palestine, represent one of the earliest and most significant efforts to reach a lasting settlement of the Palestine question. His plans focused on highly sensitive issues such as the status of Jerusalem, refugee rights, borders, and the political balance between the parties. However, because the proposals did not align with the core interests and red lines of either side, they were rejected by both Arab and Jewish leaderships. This paper examines the historical background and diplomatic scope of the Bernadotte Mission, the content of the first and second plans, and the reactions of the parties involved, together with the positions of key international actors, particularly the United States and the United Kingdom. It also analyses the assassination of Bernadotte and its impact on the fate of the plans. Furthermore, the study discusses the establishment of the Palestine Conciliation Commission in the aftermath of the mission, its institutional structure, and the diplomatic role played by Türkiye within this framework, in light of multi-layered interests and international power balances. Although the Bernadotte Plan failed in terms of political feasibility and implementation, it marked an important turning point in early international efforts to solve the Palestine question by peaceful means and left a lasting imprint on diplomatic memory.

Keywords: Bernadotte Plan, Palestine question, Status of Jerusalem, 1948 Arab-Israeli War.

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MESAJ BOYNU SENDROMU OLAN GENÇ BİREYLERDE HEDEF ODAKLI
EGZERSİZLERİN SERVİKAL AĞRI ŞİDDETİ, DERİN SERVİKAL FLEKSÖR KAS
ENDURANSI, BOYUN FARKINDALIĞI VE UYKULULUK ÜZERİNDEKİ ETKİLERİ: İLK
SONUÇLAR

EFFECTS OF TARGETED EXERCISES ON CERVICAL PAIN INTENSITY, ENDURANCE
OF THE DEEP CERVICAL FLEXOR MUSCLES, NECK PROPRIOCEPTION, AND
SLEEPINESS IN YOUNG INDIVIDUALS WITH TEXT-NECK SYNDROME:
PRELIMINARY RESULTS

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ÖZET

Mesaj boynu sendromu, akıllı telefonların yaygın kullanımına bağlı ileri baş-boyun postürünün neden olduğu aşırı kullanım bozukluğudur. Bu sendromda, derin servikal fleksör kas enduransı, kas gücü ve propriosepsiyon azalır; anormal hareket paternleri gelişir. Bu durum kronik servikal ağrı ile ilişkilidir ve ağrı, gece uyanmalarını, uyku başlangıcını ve uyku kalitesini bozarak gündüz yorgunluğunu artırır.

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Bu çalışma, mesaj boynu olan bireylerde farklı tedavi yöntemlerinin etkinliğini belirlemek için planlanan araştırmanın ilk sonuçlarıdır. 18-30 yaş arası (ortalama yaş: 21.9±2,02 yıl) toplam 10 kişinin dahil edildiği egzersiz grubuna, 4 hafta boyunca haftada 3 gün, 30-45 dakikalık postür, denge ve endurans egzersizlerinden oluşan progresif program uygulanmıştır. Katılımcıların sosyo- demografik verileri kaydedildikten sonra tedavi öncesi ve sonrası boyun ağrı şiddeti (VAS), kas enduransı (servikal derin fleksör kas endurans testi), boyun farkındalığı (Fremantle Boyun Farkındalık Anketi), ve uykululuk durumu (Epworth Uykululuk Ölçeği) değerlendirilmiştir. Sonuçlar, hedefe odaklı egzersiz uygulamasının tedavi sonrası tedavi öncesine göre ağrı şiddeti, servikal bölge derin fleksör kas enduransı ve boyun farkındalığında anlamlı düzeyde düzelme sağladığını ($p<0,05$); ancak uykululuk düzeyinde elde edilen sonuçların anlamlı olmadığını ($p>0,05$) göstermiştir. Elde ettiğimiz sonuçlar, mesaj boynu olan genç bireylerde hedefe odaklı egzersiz programının ağrı, endurans ve propriosepsiyon ile ilişkili farkındalık üzerinde etkili bir yaklaşım olduğunu göstermiştir. Uykululuk düzeyinde bir düzelme sağlanamamasının nedeni olarak, bu durumun sadece mesaj boynunu ile ilişkili semptomlardan değil; aynı zamanda kişinin geç yatmayı tercih etmesi ya da geç yatmaya mecbur olması veya ruhsal durum gibi psiko-sosyal faktörlerle de ilişkili olabileceği düşünülmüştür.

Anahtar Kelimeler: Mesaj boynu sendromu, boyun ağrısı, postür, egzersiz, uykululuk

Text neck syndrome, neck pain, posture, exercise, sleepiness

ABSTRACT

Text neck syndrome is an overuse disorder caused by the forward head–neck posture associated with excessive smartphone use. In this syndrome, the endurance of the deep cervical flexor muscles, muscle strength, and proprioception decrease, and abnormal movement patterns develop. These impairments are associated with chronic cervical pain, which disrupts nighttime sleep continuity and initiation as well as overall sleep quality, ultimately increasing daytime fatigue. This study presents the preliminary results of a research project designed to investigate the effectiveness of different treatment approaches for individuals with text neck syndrome. A total of 10 participants aged 18–30 years (mean age: 21.9 ± 2.02 years) were assigned to the study and completed a progressive exercise program consisting of balance, endurance, and proprioception training, performed three days per week for four weeks, with each session lasting 30–45 minutes. After recording participants' sociodemographic characteristics, cervical pain intensity (VAS), muscle endurance (deep cervical flexor endurance test), neck proprioceptive awareness (Fremantle Neck Awareness Questionnaire), and sleepiness (Epworth Sleepiness Scale) were assessed before and after the intervention. The results indicated that the targeted exercise program led to significant improvements in pain intensity, deep cervical flexor endurance, and neck awareness compared with baseline ($p<0.05$). However, the change in sleepiness levels was not statistically significant ($p>0.05$). Overall, the findings demonstrate that a targeted exercise program is an effective approach for improving pain, endurance, and proprioceptive awareness in young individuals with text neck syndrome. The lack of improvement in sleepiness may be explained by psychosocial factors such as a personal preference for staying up late, external obligations requiring late bedtimes, or the participants' emotional state that extend beyond the symptoms of text neck itself.

Keywords: Text neck syndrome, neck pain, posture, exercise, sleepiness

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ÜNİVERSİTE ÖĞRENCİLERİNDE CİNSİYET VE AKADEMİK BAŞARI DÜZEYİNE GÖRE OSTEOPOROZ BİLGİ VE FARKINDALIK DÜZEYLERİNİN KARŞILAŞTIRILMASI

A COMPARATIVE ASSESSMENT OF OSTEOPOROSIS KNOWLEDGE AND AWARENESS AMONG UNIVERSITY STUDENTS BY GENDER AND ACADEMIC ACHIEVEMENT

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ÖZET

Osteoporoz (OP), düşük kemik kütlesi ve kemik dokusunun mikroyapısındaki bozulma sonucu kemik kırılabilirliğinin ve kırık riskinin artmasıyla karakterize bir hastalıktır. Osteoporoz farkındalığı, hastalıkla ilgili bilgi, bilinç ve duyarlılık oluşturma sürecini ifade eder. Bu farkındalık, bireylerin osteoporozun ne olduğunu, kimleri etkilediğini, nasıl önlenebileceğini ve erken tanının önemini öğrenmelerini sağlar. Fizyoterapistlerin osteoporozla ilgili farkındalık ve bilgi düzeylerinin yüksek olması hem koruyucu sağlık hizmetlerinin geliştirilmesi hem de yaşam kalitesi odaklı rehabilitasyon programlarının uygulanabilirliği açısından önemlidir. Bu çalışmada, Pamukkale Üniversitesi Fizyoterapi ve Rehabilitasyon Fakültesi 3. ve 4. sınıf öğrencilerinin osteoporoz bilgi ve farkındalık düzeyleri değerlendirilmiştir. Çalışmaya katılmayı kabul eden 168 öğrenci (52 erkek, 116 kadın; ort. yaş: 21,75 yıl) dahil edilmiştir. Katılımcıların demografik verileri toplandıktan sonra, bilgi düzeyleri Osteoporoz Bilgi Testi (OBT), farkındalık düzeyleri ise Osteoporoz Farkındalık Ölçeği (OFÖ) ile değerlendirilmiştir. Veriler normal dağılmadığı için grup karşılaştırmalarında Mann-Whitney U testi kullanılmıştır. OFÖ toplam puanı ve alt ölçek puanları (Risk Faktörleri, Egzersiz ve Osteoporoz Özellikleri) kadın öğrencilerde erkek öğrencilere göre anlamlı olarak daha yüksek bulunmuştur ($p<0.05$). Bilgi düzeyi açısından ise cinsiyetler arasında anlamlı fark saptanmamıştır ($p>0.05$). Transkript notu 2.79'un üzerinde olan öğrencilerin "Osteoporoz Özellikleri" alt ölçek puanları düşük olanlara göre anlamlı düzeyde yüksek saptanmıştır ($p<0.05$). Kız öğrencilerde farkındalık düzeyinin daha yüksek olması, erken yaşlarda osteoporozla ilgili korunma davranışlarına yönelik ilgilerinin daha fazla olmasından kaynaklanabileceğini düşündürmektedir. İncelenen parametreler açısından cinsiyetler arası bilgi düzeyinde ve akademik başarı düzeyinde (bir alt ölçek dışında) fark bulunmamasının nedeni tüm katılımcıların sağlık alanında eğitim alıyor olmalarından kaynaklanabilir.

Anahtar Kelimeler: Osteoporoz, öğrenci, sağlık bilgisi, farkındalık, kadın

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ABSTRACT

Osteoporosis (OP) is a disease characterized by decreased bone mass and deterioration of bone microarchitecture, resulting in increased bone fragility and susceptibility to fractures. Osteoporosis awareness encompasses the process of developing knowledge, consciousness, and sensitivity regarding the disease. Such awareness enables individuals to understand the nature of osteoporosis, the populations at risk, preventive strategies, and the significance of early diagnosis. The present study aimed to assess the knowledge and awareness levels of osteoporosis among third- and fourth-year students at Pamukkale University Faculty of Physiotherapy and Rehabilitation. A total of 168 students (52 males, 116 females; mean age $21.75 \pm \text{SD}$ years) who consented to participate were included. Participants' demographic information was first collected, after which their knowledge levels were evaluated using the Osteoporosis Knowledge Test (OKT) and their awareness levels were assessed with the Osteoporosis Awareness Scale (OAS). As the data did not conform to a normal distribution, group comparisons were performed using the Mann–Whitney U test. Female students demonstrated significantly higher total OAS scores and subscale scores for Risk Factors, Exercise, and Osteoporosis Characteristics ($p < 0.05$). Additionally, students with a grade point average (GPA) above 2.79 scored significantly higher on the “Osteoporosis Characteristics” subscale ($p < 0.05$). No significant differences in knowledge levels were observed between genders, which may be attributable to all participants being enrolled in a health-related program. The higher awareness levels among female students may reflect greater interest in osteoporosis knowledge and engagement in preventive behaviors at an early age.

Keywords: Osteoporosis, student, health knowledge, awareness, female

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TAHA HÜSEYN'İN “ZİKRA EBİ'L ALA EL- MAARRİ” ESERİ ÜZERİNDE MAARRİ
YORUMU

THE INTERPRETATION OF AL-MA'ARRİ IN TAHA HUSSEIN'S “ZİKRĀ ABĪ AL- 'ALĀ'
AL-MA'ARRĪ”

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ÖZET

Arap edebiyatının klasik dönemleri, tarih boyunca pek çok düşünür ve şairin yeniden yorumlanmasına konu olmuştur. Yirminci yüzyılın başlarında ortaya çıkan Arap modernizmi, geçmişin büyük isimlerine çağdaş bir gözle bakma eğilimini güçlendirmiştir. Bu çerçevede Tâhâ Hüseyin (1889–1973), klasik şahsiyetleri modern düşüncenin süzgecinden geçiren en önemli isimlerden biridir.

Arap edebiyatının en etkili düşünür ve şairlerinden Ebû'l-Alâ el-Maarrî, özgür akılcılığı, din ve toplum eleştirisi ile klasik edebiyat geleneğinde kendine özgü bir yer edinmiştir. Onun bu kapsamlı mirası, modern Arap edebiyatında da yeniden değerlendirilme ihtiyacı doğurmuş ve bu bağlamda Taha Hüseyin'in “Zikrâ Ebî al-'Alâ el-Ma'arrî” adlı eseri önemli bir inceleme örneği haline gelmiştir. Eser, yalnızca bir biyografi olmaktan çıkarak Maarri'nin fikir dünyasını sosyal, kültürel ve dinî bağlamlarıyla birlikte ele alan özgün bir değerlendirme niteliği taşır.

Bu çalışmada Taha Hüseyin'in Maarri'ye dair geliştirdiği entelektüel yaklaşım, modern eleştiri bakış açısıyla incelenmektedir. Hüseyin, Maarri'yi klasik geleneğin sınırlarının ötesine geçen, akıl, sorgulama ve bilginin sesi olarak yorumlar. Görme engelli olan Hüseyin'in, hayatının önemli bir kısmını kör olarak geçiren Maarri ile kurduğu düşünsel ve duygusal yakınlık, eserin analizci yönünü güçlendirmektedir.

Çalışmada, Tâhâ Hüseyin'in “Zikrâ Ebî al-'Alâ el-Ma'arrî” adlı eserinde Maarri'nin fikir dünyasını çözümleme biçimi, hem içerik hem de yöntem açısından incelenmektedir. Hüseyin'in yaklaşımı, Maarri'nin düşüncelerini sadece tarihsel bir figürün görüşleri olarak değil, insanın varoluşsal sorgulamasına ve aklın özgürleşmesine dair evrensel bir söylem olarak okumaya dayanır. Bu doğrultuda çalışma, Hüseyin'in metinde kullandığı eleştirel dil, felsefî duyarlık ve psikolojik çözümlemeler aracılığıyla Maarri'nin düşünsel mirasını nasıl yeniden anlamlandırdığını tartışmayı amaçlamaktadır. Böylece araştırma, klasik bir şahsiyetin modern eleştiriyle kesişim noktasında, iki dönemin entelektüel ufkunu karşılaştırmalı bir bakışla değerlendirmeyi hedefler.

Anahtar Kelimeler: Arap Dili ve Edebiyatı, Klasik ve Modern Edebiyat, Taha Hüseyin, Ebû'l-Alâ el-Ma'arrî, Zikrâ Ebî al-'Alâ, , Modern eleştiri, Felsefî şüphecilik

ABSTRACT

The classical periods of Arabic literature have, throughout history, been the subject of reinterpretation by many thinkers and poets. In the early 20th century, the emergence of Arab modernism strengthened the tendency to approach the great figures of the past from a contemporary perspective. Within this

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framework, Taha Hussein (1889–1973) stands out as one of the most prominent figures who re-evaluated classical personalities through the lens of modern thought.

Among the most influential thinkers and poets of Arabic literature, Abū al-‘Alā’ al-Ma‘arrī occupies a unique position within the classical literary tradition due to his rationalism and his critiques of religion and society. His profound intellectual legacy inspired modern Arab writers to revisit his ideas, and in this context, Taha Hussein’s work “*Zikrā Abī al-‘Alā’ al-Ma‘arrī*” became a significant example of such an analysis. The book transcends the limits of biography, offering an original and comprehensive interpretation of al-Ma‘arrī’s intellectual world within its social, cultural, and religious contexts.

This study examines Taha Hussein’s intellectual approach to al-Ma‘arrī from a modern critical perspective. Hussein interprets al-Ma‘arrī as a voice of reason, inquiry, and knowledge—one who transcends the boundaries of classical tradition. As a blind scholar himself, Hussein establishes a profound intellectual and emotional connection with al-Ma‘arrī, who also spent most of his life in blindness, which enriches the analytical depth of the work.

The study focuses on the way Taha Hussein analyzes al-Ma‘arrī’s intellectual world in “*Zikrā Abī al-‘Alā’ al-Ma‘arrī*”, both in content and in method. Hussein’s approach reads al-Ma‘arrī’s ideas not merely as the reflections of a historical figure, but as a universal discourse on human existential inquiry and the liberation of reason. Accordingly, the research aims to explore how Hussein, through his critical language, philosophical sensitivity, and psychological analysis, reinterprets al-Ma‘arrī’s intellectual heritage. Thus, the study seeks to evaluate the intersection of a classical figure with modern criticism, offering a comparative perspective on the intellectual horizons of both eras.

Keywords: Arabic Language and Literature, Taha Hussein, Abū al-‘Alā’ al-Ma‘arrī, *Zikrā Abī al-‘Alā’*, modern criticism, critical reason, philosophical skepticism

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**METİLEN MAVİSİNİN SPESİFİK İZOLASYONU İÇİN KİTOSAN BAZLI AKRİLİK
ASİT/AKRİLAMİT/2-ETİL HEKZİL AKRİLAT SEMİ-IPN HİDROJELLERİNİN SENTEZİ
VE KARAKTERİZASYONU**

**SYNTHESIS AND CHARACTERIZATION OF CHITOSAN-BASED ACRYLIC
ACID/ACRYLAMIDE/2-ETHYL HEXYL ACRYLATE SEMI-IPN HYDROGELS FOR
SPECIFIC ISOLATION OF METHYLENE BLUE**

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ÖZET

Bu çalışmada, kitosan bazlı akrilik asit (AA) / akrilamit (AAM) / 2-etil hekzil akrilat (EHA) semi IPN hidrojenleri sentezlendi. Semi IPN hidrojenlerin sentezi çözelti polimerizasyonu tekniğiyle gerçekleştirildi. Polimerizasyonda, başlatıcı olarak amonyum persülfat (APS), çapraz bağlayıcı olarak da metilenbis akrilamit (MBAAM) kullanıldı. Monomerlerin başlangıç miktarları değiştirilerek farklı bileşimde hidrojenler sentezlenmeye çalışıldı. Sentezlenen hidrojenlerin şişme davranışları takip edilerek şişme kapasitelerinin belirlenmesine çalışıldı. Bu davranış ve kapasitelerine etki eden parametreler araştırıldı. Farklı miktarlarda çapraz bağlayıcı kullanılarak sentezlenen hidrojenlerin şişme davranışları incelendiğinde, çapraz bağlayıcı konsantrasyonu arttıkça şişme hızı ve kapasitesinin azaldığı gözlemlendi. Çapraz bağlayıcı konsantrasyonu 3,25 mM iken şişme kapasitesi 150 g su/g jel iken çapraz bağlayıcı miktarı 6,50 mM'a yükseltildiğinde 127 g su/g jel seviyelerine düşmektedir. Hidrofobik bir monomer olan EHA'nın şişme davranışlarına etkisinin araştırıldığı çalışmaların sonuçları, EHA'nın yapıya girmesiyle şişme hızı artarken şişme kapasitesinin düştüğünü ortaya koydu. EHA kullanılmadan sentezlenen jelin şişme kapasitesi 127 g su/g jel iken, EHA kullanıldığında 107 g su/g jel seviyesine düşmektedir. Farklı miktarlarda başlatıcı kullanılarak da hidrojenler sentezlendi. Başlatıcı miktarı arttıkça şişme hızı artıyor, kapasitesi ise azalıyor. Başlatıcı konsantrasyonu 5,0 mM olduğunda elde edilen şişme kapasitesi 107 g su/g jel iken başlatıcı miktarı 10,0 mM'a çıkarıldığında kapasite 206 g su/g jel olarak belirlendi. Akrilik asidin bir kısmı nötrale edilerek de hidrojenler sentezlendi. Şişme davranışları, sodyum hidroksit kullanılmasıyla da şişme hızını artırdığı ancak, şişme kapasitesini düşürdüğünü gösterdi. Sodyum hidroksit eklenmesi akrilik asidin nötrleşmesine neden olmaktadır. Bu durumda hidrojenlerin üzerinde negatif yükler oluşuyor ve yüklerin birbirini itmesi sonucu yumak hıza açılıyor ve jel hızlı bir şekilde şişmektedir. Tüm bu sonuçlar, hızlı şişen bir jelin sentezlenmesi isteniyorsa EHA ve sodyum hidroksit kullanılarak, düşük miktarda çapraz bağlayıcı kullanılarak ve başlatıcı miktarı yüksek tutularak bir hidrojel sentezlenmesinin etkili olabileceğini ortaya koymaktadır. Şişme kapasitesi yüksek bir jel elde edilmek isteniyorsa, yine az miktarda çapraz bağlayıcı kullanılarak, 2-etil hekzil akrilat ve sodyum hidroksit kullanılmadan ve başlatıcı miktarı düşük tutularak bir hidrojel sentezlenmesinin etkili olabileceğini göstermektedir.

Anahtar Kelimeler: Akrilik asit, kitosan, akrilamit, 2-etil hekzil akrilat, semi IPN, hidrojel.

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ABSTRACT

In this study, chitosan-based acrylic acid (AA) / acrylamide (AAm) / 2-ethyl hexyl acrylate (EHA) semi IPN hydrogels were synthesized. The synthesis of semi IPN hydrogels was carried out by solution polymerization technique. Ammonium persulfate (APS) was used as the initiator and methylenebis acrylamide (MBAAm) was used as the crosslinker. Hydrogels with different compositions were attempted to be synthesized by varying the initial amounts of monomers. The swelling behaviors of the synthesized hydrogels were followed to determine their swelling capacities. The parameters affecting this behavior and capacities were investigated. When the swelling behaviors of the hydrogels synthesized using different amounts of crosslinker were examined, it was observed that the swelling rate and capacity decreased as the crosslinker concentration increased. When the crosslinker concentration was 3,25 mM, the swelling capacity was 150 g water/g gel, while when the crosslinker amount was increased to 6,50 mM, it decreased to 127 g water/g gel. The results of studies investigating the effect of EHA, a hydrophobic monomer, on swelling behavior revealed that the incorporation of EHA into the structure increased the swelling rate while the swelling capacity decreased. The swelling capacity of the gel synthesized without EHA was 127 g water/g gel, while it decreased to 107 g water/g gel when EHA was used. Hydrogels were also synthesized using different amounts of initiators. As the amount of initiator increased, the swelling rate increased, while the capacity decreased. When the initiator concentration was 5,0 mM, the swelling capacity was 107 g water/g gel, while when the initiator amount was increased to 10,0 mM, the capacity was determined to be 206 g water/g gel. Hydrogels were also synthesized by neutralizing some of the acrylic acid. Swelling behaviors showed that using sodium hydroxide increased the swelling rate but decreased the swelling capacity. The addition of sodium hydroxide neutralizes the acrylic acid. In this case, negative charges form on the hydrogels, and as a result of the repulsion of these charges, the coil opens rapidly, causing the gel to swell rapidly. All these results suggest that if a fast-swelling gel is desired, using EHA and sodium hydroxide, a low amount of crosslinker, and a high amount of initiator can be effective. If a gel with a high swelling capacity is desired, using a low amount of crosslinker, omitting 2-ethylhexyl acrylate and sodium hydroxide, and a low amount of initiator can be effective.

Keywords: Acrylic acid, chitosan, acrylamide, 2-ethyl hexyl acrylate, semi-IPN, hydrogel

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MOBİL TEKNOLOJİNİN BEDELİ THE COST OF MOBILE TECHNOLOGY

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ÖZET

Günümüz dünyasındaki teknolojik gelişmeler, insanların yaşam tarzlarını nerede ise tamamen değiştirmiş ve dönüştürmüştür. Bu dönüşümün en çarpıcı yönlerinden biri, mobil iletişim teknolojilerinin günlük yaşamdaki merkezi rolüdür. Özellikle cep telefonları, ilk zamanlarındaki bir iletişim aracı olma işlevini aşarak eğlence, bilgi erişimi, sosyal etkileşim, sağlık takibi ve dijital kimlik yönetimi gibi çeşitli amaçlar için kullanılan çok işlevli cihazlar haline gelmiştir. Başlangıçta sadece cep telefonu kullanımı ile sınırlı olan EM alan maruziyeti, günümüzde kablosuz telefon aksesuarları, ve evlerden okullara, işyerlerinden kamusal alanlara insanın olduğu her yerde bulunan kablosuz iletişim (Wi-Fi) ağları sayesinde, kaçınmamızın mümkün olmadığı bir seviyeye ulaşmıştır. Bu cihazların tümü, nihayetinde elektromanyetik enerji tabanlı iletişim teknolojisi (radyofrekans) kullanan kablosuz iletişim cihazlarıdır ve her biri birer elektromanyetik enerji kaynağıdır. Bu teknolojilerin yüksek erişilebilirlik ve işlevselliği nedeniyle yaşam kalitesini iyileştirdiğine inanılırken, artan bilimsel kanıtlar, elektromanyetik (EM) enerjinin uzun süreli ve yoğun kullanımının canlı organizmalarda çeşitli fizyolojik ve biyolojik etkilere yol açabileceğini göstermektedir. Yapılan pek çok çalışma, bu teknolojiyi kullanırken maruz kalınan EM enerjinin, insanların bütün organ ve doku sistemlerinde hem dolaylı hem de direkt olarak pek çok etkisinin olduğunu ortaya koymaktadır. Cep telefonlarının insanın biyolojik sistemleri üzerindeki etkileri, çok boyutlu incelemeyi gerekli kılmaktadır. Cep telefonu kaynaklı elektromanyetik alanlara maruziyetin; uyku düzeni bozuklukları, göz sağlığı sorunları, kas-iskelet sistemi üzerindeki etkileri, stres düzeyinde artış, psikofizyolojik değişiklikler gibi genel başlıklar altında değerlendirilebilecek etkilerinin yanı sıra; hücresel seviyede etkileri de bulunmaktadır. Hücresel seviyedeki etkiler, genetik etkiye yol açabilecek üreme hücreleri üzerine etkilerinin yanı sıra, DNA hasarları, nörohormonal salgı mekanizmaları, enerji metabolizmaları ve nörotransmitterler üzerine etkiler gibi pek çok başlık altında incelenebilir. Bu etkilerin tam olarak belirlenebilmesi için, insanlar üzerinde deneysel bir çalışma planlanması ve yapılabilmesi mümkün değildir. Ancak hayvanlar üzerinde yapılan pek çok çalışma EM enerjiye maruz kalmanın mitokondriyal seviyeye kadar etkiler göstererek sonraki kuşaklara bile aktarılabilir pek çok defektlere yol açabileceğini göstermiştir. Artık herkesin sahip olduğu bu cihazların etkileri, sınırlı sayıda kullanıcıyı etkileyecek seviyeyi çoktan aşmış, sadece bireysel sağlık düzeyinde kalmayıp toplumun her kesiminde, bütün yaş grupları üzerinde önemli sonuçlar doğurabilecek seviyeye gelmiştir. Bu yönden bakıldığında, aslında bu durum bir halk sağlığı problemi olarak da karşımıza çıkmaktadır. Günümüzde vazgeçmemizin mümkün olmadığı bu

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teknolojileri kullanırken, bütün bu etki ve yan etkilerini bilerek EM alan maruziyetimizi en az seviyeye indirecek davranış biçimlerini bilmemiz ve buna göre tedbirlerimizi almamız gerektiği aşıkardır.

Anahtar Kelimeler: Elektromanyetik alan, fizyolojik etki, hücre düzeyünde hasar.

ABSTRACT

Technological developments in today's world have almost completely changed and transformed people's lifestyles. One of the most striking aspects of this transformation is the central role of mobile communication technologies in daily life. Cell phones, in particular, have transcended their original function as a communication tool and have become multifunctional devices used for a variety of purposes, including entertainment, information access, social interaction, health monitoring, and digital identity management. Originally limited to cell phone use, EM field exposure has now reached a level we cannot avoid, thanks to wireless phone accessories and ubiquitous wireless communication (Wi-Fi) networks, from homes to schools, workplaces to public spaces. All of these devices are ultimately wireless communication devices that use electromagnetic energy-based communication technology (radiofrequency), and also they are sources of electromagnetic energy. While these technologies are believed to improve quality of life due to their high accessibility and functionality, increasing scientific evidence indicates that prolonged and intensive use of electromagnetic (EM) energy can lead to various physiological and biological effects in living organisms. Numerous studies reveal that the electromagnetic field (EMF) energy people are exposed to while using this technology has numerous effects, both direct and indirect, on all organ and tissue systems. The effects of cell phones on human biological systems necessitate multi-dimensional analysis. Exposure to electromagnetic fields from cell phones can be evaluated under general headings such as sleep disturbances, eye health problems, effects on the musculoskeletal system, increased stress levels, and psychophysiological changes. These effects also have effects at the cellular level. Cellular effects can be examined under many headings, including effects on reproductive cells, which can lead to genetic effects, as well as DNA damage, neurohormonal secretion mechanisms, energy metabolism, and neurotransmitters. It is impossible to plan and conduct experimental studies on humans to fully determine these effects. However, numerous animal studies have shown that exposure to electromagnetic energy can cause numerous defects down to the mitochondrial level, potentially inheriting them from future generations. The effects of these devices, now widely available, have long gone beyond affecting a limited number of users and have reached a level where they can have significant consequences not only on individual health but also on all segments of society, across all age groups. From this perspective, this situation actually poses a public health problem. It's clear that while using these technologies, which are now practically indispensable, we must be aware of all these potential effects and side effects, and be aware of how to minimize our exposure to electromagnetic fields and take precautions accordingly..

Keywords: Electromagnetic fields, physiological effects, damage at the cellular level.

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LİSE ÖĞRENCİLERİNİN SİBER MAĞDURİYET DÜZEYLERİ İLE BENLİK SAYGISI ARASINDAKİ İLİŞKİDE BEDEN BEĞENME ARACI ROLÜ THE ROLE OF BODY APPRECIATION AS A MEDIATOR IN THE RELATIONSHIP BETWEEN HIGH SCHOOL STUDENTS' LEVELS OF CYBER VICTIMIZATION AND SELF-ESTEEM

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ÖZET

Siber mağduriyet; hakaret, tehdit, küçük düşürme, kişisel bilgilerin izinsiz paylaşılması veya dijital ortamdan dışlanma gibi davranışları kapsayan çok boyutlu bir olgudur. Ergenlik döneminde beden imajına ilişkin değerlendirmeler sosyal medyanın etkisiyle daha görünür hale gelmiş ve siber zorbalık, akran ilişkileri ve psikolojik iyi oluş üzerinde önemli bir risk faktörü olarak ortaya çıkmıştır. Sosyal Karşılaştırma Teorisi (Festinger, 1954), dijital ortamlarda bireylerin kendilerini idealize edilen beden imgeleriyle karşılaştırdıklarını ve bu süreçte maruz kaldıkları olumsuz geri bildirimlerin beden algısı ile benlik saygısını olumsuz etkileyebileceğini ileri sürmektedir. Bu kuramsal çerçeveden hareketle yürütülen çalışmada, siber mağduriyetin beden beğenmeyi azaltarak benlik saygısını düşürdüğü hipotezi test edilmiştir. Araştırmanın örneklemini Türkiye'nin Çankırı ilindeki liselerde öğrenim gören 262 öğrenci oluşturmaktadır. Veri toplama aracı olarak Rosenberg Benlik Saygısı Ölçeği, Siber Mağduriyet Ölçeği ve Beden Beğenme Ölçeği kullanılmıştır. Google Forms aracılığıyla çevrimiçi olarak uygulanan ölçekler kartopu örnekleme yöntemiyle katılımcılara ulaştırılmıştır. Veriler Yapısal Eşitlik Modellemesi ile analiz edilmiştir. Araştırmada yer alan tüm değişkenlerin birbirleriyle anlamlı ilişkilere sahip olduğu görülmektedir. Beden beğenme ile benlik saygısı arasında pozitif yönde ilişkili olduğu saptanmıştır. Siber mağduriyet hem benlik saygısı hem de beden beğenme ile negatif yönde ilişkilidir. Bulgular, siber mağduriyetin beden beğenme üzerinde negatif, beden beğenmenin benlik saygısı üzerinde pozitif yönde anlamlı etkisi olduğunu göstermiştir. Ayrıca siber mağduriyetin benlik saygısını hem doğrudan hem de beden beğenme aracılığıyla dolaylı olarak yordadığı; dolayısıyla beden beğenmenin kısmi aracı role sahip olduğu bulunmuştur. Siber mağduriyetin beden beğenme aracılığıyla benlik saygısı üzerindeki dolaylı etkisi anlamlıdır. Araştırma kapsamında yürütülen tüm analizlerin bulguları doğrultusunda; lise öğrencilerinin beden beğenme düzeylerinin onların siber mağduriyet ile benlik saygısı arasında kısmi aracı rol oynadığı söylenebilmektedir. siber mağduriyetin benlik saygısı üzerindeki doğrudan etkinin anlamlı bulunması, zorbalığın yalnızca beden imajı üzerinden değil, aynı zamanda sosyal değerlik, kişilerarası kabul, öz yeterlik algısı gibi daha geniş psikososyal alanları etkilediğini düşündürmektedir. Ergenlerin kendilerine ilişkin değerlendirmeleri, akran ilişkilerinden büyük ölçüde etkilendiği için, dijital ortamdaki küçük düşürülme veya dışlanma deneyimleri benlik saygısında belirgin düşüslere neden olabilmektedir. Genel olarak bulgular, siber mağduriyetin ergenlerin benlik yapılanmasını çok boyutlu şekilde tehdit eden bir süreç olduğunu; beden beğenmenin bu ilişkide önemli fakat tek başına

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açıklayıcı olmayan bir mekanizma olduğunu göstermektedir. Bu sonuçlar, okul temelli önleme programlarında yalnızca siber zorbalığa odaklanmanın yeterli olmayacağını; beden imajı, sosyal karşılaştırma süreçleri ve benlik gelişimini hedefleyen bütüncül müdahalelerin gerekliliğini ortaya koymaktadır.

Anahtar Kelimeler: beden imajı, benlik algısı, siber zorbalık

ABSTRACT

Cyber victimization is a multidimensional phenomenon that includes behaviors such as insults, threats, humiliation, unauthorized sharing of personal information, and exclusion in digital environments. In adolescence, evaluations related to body image have become more visible with the influence of social media, and cyberbullying has emerged as a significant risk factor affecting peer relationships and psychological well-being. According to Social Comparison Theory (Festinger, 1954), individuals compare themselves to idealized body images in digital spaces, and the negative feedback they encounter in these settings can adversely affect both body perception and self-esteem. Grounded in this theoretical framework, the present study tested the hypothesis that cyber victimization decreases self-esteem by reducing body appreciation. The sample of the study consisted of 262 high school students enrolled in schools located in the province of Çankırı, Türkiye. The Rosenberg Self-Esteem Scale, Cyber Victimization Scale, and Body Appreciation Scale were used as data collection tools. The scales were administered online via Google Forms, and participants were reached through snowball sampling. Data were analyzed using Structural Equation Modeling. The findings indicated that all study variables were significantly related to one another. Body appreciation was positively associated with self-esteem, while cyber victimization was negatively associated with both body appreciation and self-esteem. Results further revealed that cyber victimization had a significant negative effect on body appreciation, and body appreciation had a significant positive effect on self-esteem. Additionally, cyber victimization predicted self-esteem both directly and indirectly through body appreciation, demonstrating a partial mediating role of body appreciation. The indirect effect of cyber victimization on self-esteem through body appreciation was also found to be significant. These findings suggest that body appreciation partially explains the relationship between cyber victimization and self-esteem among high school students. The significance of the direct effect of cyber victimization on self-esteem indicates that victimization impacts not only body image but also broader psychosocial domains such as social worth, interpersonal acceptance, and perceived self-efficacy. Given that adolescents' self-evaluations are strongly influenced by peer interactions, experiences of humiliation or exclusion in digital contexts may lead to notable declines in self-esteem. Overall, the findings indicate that cyber victimization is a multidimensional threat to adolescents' self-concept and that body appreciation is an important—yet not sufficient—mechanism explaining this relationship. These results highlight the need for comprehensive school-based prevention programs targeting not only cyberbullying but also body image, social comparison processes, and self-development.

Keywords: body image, self-concept, cyberbullying

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BATMAN İLİNİN EKONOMİK DİNAMİKLERİ: MEVCUT YAPI, POTANSİYELLER VE GELECEK PERSPEKTİFLERİ

THE ECONOMIC DYNAMICS OF BATMAN PROVINCE: CURRENT STRUCTURE, POTENTIAL AND FUTURE PERSPECTIVES

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ÖZET

Bu bildiri, FBA-2025-11863 kodlu Lisans Öğrencisi Katılımlı Araştırma Projesi'nin bir çıktısı olarak Batman'ın ekonomik yapısını mevcut durumu, gelişim potansiyeli ve gelecek perspektifleri çerçevesinde analiz etmeyi amaçlamaktadır. Kent ekonomisi tarihsel olarak petrol endüstrisi merkezli şekillenmiş olup bu durum, beraberinde hızlı bir kentleşme süreci getirmiştir. Petrole dayalı ekonominin yarattığı kırılgan yapı ve yüksek katma değerli sanayilerin gelişmemesi, kentin 2017 SEGE verilerine göre 81 il arasında 72. sırada yer almasına neden olmuştur. Çalışmada, bu yapıyı bütüncül bir yaklaşımla analiz etmek için karma bir metodoloji benimsenmiştir. Makroekonomik veri analizi kapsamında TÜİK, Batman Ticaret ve Sanayi Odası ve Dicle Kalkınma Ajansı (DİKA) verileri kullanılmış; sektörel rekabet gücü analizinde Sosyal Güvenlik Kurumu verileriyle Yer Seçimi Katsayısı (LQ) Analizi uygulanmış ve stratejik değerlendirme için bir GZFT analizi yapılmıştır. Elde edilen bulgular, Batman ekonomisinde tarım (Dicle Nehri havzası potansiyeli), sanayi (petrol rafinerisi ve küçük ölçekli imalat) ve hizmet (ticaret ve kamu) olmak üzere üç temel sektörel yapı olduğunu ortaya koymuştur. LQ analizi, Batman'ın tarım ürünleri işleme ve enerjiye dayalı imalat sektörlerinde bölgesel uzmanlaşma ve rekabet avantajı potansiyeli taşıdığını göstermiştir. GZFT analizi ise kentin genç nüfus ve enerji altyapısı gibi güçlü yönlerinin yanı sıra, nitelikli işgücü eksikliği ve AR-GE yatırımlarının yetersizliği gibi zayıf yönlerini tespit etmiştir. Sonuç olarak, tarımda markalaşma, enerji yoğun sanayilerde yatırım teşvikleri ve lojistik merkezlerinin geliştirilmesi önerilmekte; Batman'ın sürdürülebilir kalkınmasının petrol gelirlerinin alternatif sektörlerle yönlendirilmesi ve sektörel çeşitlendirme ile mümkün olacağı

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değerlendirilmektedir. Bu çalışmanın, bölge için geliştirilecek kalkınma politikalarına bilimsel bir altlık oluşturması beklenmektedir.

Anahtar Kelimeler: Ekonomik Yapı, Sektörel Analiz, Batman.

ABSTRACT

This paper aims to analyse Batman's economic structure in terms of its current situation, development potential and future prospects as an output of the Undergraduate Student Participation Research Project with code FBA-2025-11863. The city's economy has historically been shaped around the petroleum industry, which has brought with it a rapid urbanisation process. The fragile structure created by the oil-based economy and the failure to develop high value-added industries have resulted in the city ranking 72nd out of 81 provinces according to 2017 SEGE data. In this study, a mixed methodology was adopted to analyse this structure using a holistic approach. Within the scope of macroeconomic data analysis, data from TÜİK, the Batman Chamber of Commerce and Industry, and the Dicle Development Agency (DİKA) were used; in the sectoral competitiveness analysis, Social Security Institution data and Location Quotient (LQ) Analysis were applied, and a SWOT analysis was conducted for strategic evaluation. The findings revealed that the Batman economy has three main sectoral structures: agriculture (Dicle River basin potential), industry (oil refinery and small-scale manufacturing), and services (trade and public). The LQ analysis showed that Batman has the potential for regional specialisation and competitive advantage in the agricultural product processing and energy-based manufacturing sectors. The SWOT analysis identified the city's strengths, such as its young population and energy infrastructure, as well as its weaknesses, such as the lack of skilled labour and insufficient R&D investment. Consequently, branding in agriculture, investment incentives in energy-intensive industries, and the development of logistics centres are recommended; it is assessed that Batman's sustainable development is possible through the redirection of oil revenues to alternative sectors and sectoral diversification. This study is expected to provide a scientific basis for the development policies to be formulated for the region.

Keywords: Economic Structure, Sectoral Analysis, Batman.

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AMELİYATHANE ATIK YÖNETİMİNDE HEMŞİRENİN ROLÜ: SIFIR ATIK HEDEFİNE GİDEN YOL

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ÖZET

Amaç:

Ameliyathaneler, hastanelerdeki toplam atığın %20–30’unu oluşturarak çevresel sürdürülebilirlik açısından kritik bir alan haline gelmiştir. Bu derlemenin amacı, ameliyathane hemşirelerinin atık yönetimindeki rolünü ve “sıfır atık” yaklaşımının perioperatif süreçlere entegrasyonunu incelemektir.

Gereç

ve

Yöntem:

2020–2025 yılları arasında yayımlanan ulusal ve uluslararası kılavuzlar (WHO, AORN, Practice Greenhealth) ve güncel araştırmalar taranmıştır. Literatür, ameliyathane atık türleri, ayrıştırma uygulamaları, hemşirelik eğitimi, çevresel farkındalık ve sürdürülebilirlik başlıkları altında değerlendirilmiştir.

Bulgular/Öngörü:

Çalışmalar, ameliyathane atıklarının büyük bir kısmının geri dönüştürülebilir nitelikte olduğunu, ancak ayrıştırma hataları ve yetersiz eğitim nedeniyle tehlikeli atık olarak bertaraf edildiğini göstermektedir. Eğitimli hemşirelerin çevre dostu uygulamalara uyumu anlamlı biçimde artmaktadır. “Sıfır atık” hedefi için hemşirelerin liderliğinde yürütülecek çok disiplinli yaklaşımlar (atık ayrıştırma protokolleri, yeniden kullanılabilir ekipman seçimi, gaz emisyonu azaltımı) önerilmektedir.

Sonuç:

Ameliyathane hemşireleri, sürdürülebilir sağlık sistemlerine geçişte kilit bir role sahiptir. Eğitim, politika oluşturma, izleme ve raporlama süreçlerine aktif katılım, sıfır atık hedefinin başarılmasında kritik önemdedir. Hemşirelik eğitim programlarına çevre yönetimi ve sürdürülebilirlik modüllerinin entegrasyonu önerilmektedir.

Anahtar Kelimeler: Ameliyathane hemşireliği, sıfır atık, sürdürülebilirlik, atık yönetimi, çevresel sorumluluk

ABSTRACT

Aim:

Operating rooms constitute 20–30% of total hospital waste, making them a critical area in terms of environmental sustainability. The aim of this review is to examine the role of operating room nurses in waste management and the integration of the “zero-waste” approach into perioperative processes.

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Materials

and

Methods:

National and international guidelines (WHO, AORN, Practice Greenhealth) and current studies published between 2020 and 2025 were reviewed. The literature was evaluated under the themes of operating room waste types, segregation practices, nursing education, environmental awareness, and sustainability.

Results/Insights:

Studies indicate that a large proportion of operating room waste is recyclable; however, due to segregation errors and insufficient training, these materials are often disposed of as hazardous waste. Compliance with environmentally friendly practices significantly increases among trained nurses. Multidisciplinary approaches led by nurses such as waste-segregation protocols, the selection of reusable equipment, and reduction of gas emissions are recommended to achieve zero-waste goals.

Conclusion:

Operating room nurses play a pivotal role in the transition to sustainable healthcare systems. Active involvement in education, policy development, monitoring, and reporting processes is critical to the success of zero-waste initiatives. The integration of environmental management and sustainability modules into nursing education programs is recommended.

Keywords: Operating room nursing, zero waste, sustainability, waste management, environmental responsibility

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SOSYAL DESTEK TÜRLERİ: İŞİTME ENGELLİ ELİT GÜREŞÇİLER ÜZERİNE BİR ARAŞTIRMA

TYPES OF SOCIAL SUPPORT: A STUDY ON ELITE DEAF WRESTLERS

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ÖZET

Bu araştırmanın amacı, elit düzeyde güreş yapan işitme engelli sporcuların spor yaşamlarında aldıkları sosyal destek türlerini belirlemek ve bu destek türlerine ilişkin kişisel deneyimlerini nitel bir yaklaşımla derinlemesine incelemektir. Araştırma, fenomenolojik desen temelinde yürütülmüş nitel bir çalışmadır. Çalışma grubunu, Türkiye'yi 2025 yılında Japonya'nın Tokyo kentinde düzenlenecek Deaflympics (İşitme Engelliler Olimpiyat Oyunları)'nda temsil etmeye hak kazanmış 12 elit düzey güreşçi (6 serbest stil, 6 grekoromen) oluşturmaktadır. Katılımcılar amaçlı örnekleme yöntemiyle seçilmiş olup, veriler araştırmacı tarafından geliştirilen yarı yapılandırılmış görüşme formu aracılığıyla toplanmıştır. Görüşmeler, işaret dili tercümanı eşliğinde ya da yazılı iletişim yoluyla gerçekleştirilmiş ve ortalama 30-40 dakika sürmüştür. Elde edilen veriler, betimsel ve içerik analizi teknikleriyle çözümlenmiş; analiz süreci MAXQDA 2020 nitel veri analizi yazılımı kullanılarak yürütülmüştür. Kodlama süreci iki araştırmacı tarafından bağımsız olarak yürütülmüş ve kodlayıcılar arası güvenilirlik, Cohen's Kappa katsayısı (κ) ile hesaplanmıştır. Analiz sonucunda elde edilen $\kappa = .91$ değeri, kodlama sürecinde yüksek düzeyde uyum olduğunu göstermektedir.

Araştırma bulguları, işitme engelli elit güreşçilerin spor yaşamlarında çok boyutlu sosyal destek türlerinden yararlandıklarını ortaya koymuştur. Katılımcı ifadeleri doğrultusunda destek türleri; duygusal ve psikolojik destek (moral verme, motive edici konuşmalar, psikolog desteği), bilgilendirici destek (taktik, teknik bilgi, yönlendirme), değerlendirici destek (geri bildirim, performans değerlendirmesi), araçsal destek (ulaşım, konaklama, ekipman), maddi destek (burs, ekipman veya ulaşım giderlerinin karşılanması), sağlık desteği (masör ve bakım hizmetleri), iletişim desteği (işaret dili tercümanı), kurumsal destek (kulüp, federasyon, bakanlık), takım/sosyal destek (takım arkadaşlarının desteği) ve ödül/teşvik desteği (devlet sporcusu unvanı, ödüller) olmak üzere on ana tema altında sınıflandırılmıştır. Sonuç olarak, işitme engelli elit güreşçilerin yalnızca bireysel çevrelerinden değil; aynı zamanda teknik ekip, kurumsal yapılar ve devlet mekanizmaları aracılığıyla da kapsamlı bir sosyal destek ağına sahip oldukları görülmüştür.

Anahtar Kelimeler: İşitme Engelli Sporcular, Sosyal Destek Türleri, Güreş, Fenomenoloji

ABSTRACT

The purpose of this study is to identify the types of social support received by elite-level deaf wrestlers throughout their sporting careers and to examine their personal experiences regarding these support types in depth through a qualitative approach. The research was designed as a phenomenological qualitative study. The study group consisted of 12 elite wrestlers (6 freestyle and 6 Greco-Roman) who qualified to represent Türkiye at the Deaflympics (Olympic Games for the Deaf) to be held in Tokyo, Japan, in 2025. The participants were selected using a purposeful sampling method, and the data were

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collected through a semi-structured interview form developed by the researcher. The interviews were conducted with the assistance of a sign language interpreter or through written communication and lasted approximately 30–40 minutes. The obtained data were analyzed using descriptive and content analysis techniques, and the analytical process was carried out using MAXQDA 2020 qualitative data analysis software. The coding process was conducted independently by two researchers, and inter-coder reliability was calculated using Cohen's Kappa coefficient (κ). The analysis yielded a value of $\kappa = .91$, indicating a high level of agreement between the coders.

The research findings revealed that elite deaf wrestlers benefit from multidimensional types of social support throughout their sporting careers. Based on participants' statements, the types of support were classified under ten main themes: emotional and psychological support (encouragement, motivational talks, psychological assistance), informational support (technical and tactical guidance), evaluative support (feedback and performance assessment), instrumental support (transportation, accommodation, equipment), financial support (scholarships, coverage of equipment or travel expenses), health support (massage and physical care services), communication support (sign language interpreter), institutional support (clubs, federations, ministry), team/social support (assistance from teammates), and reward/incentive support (state athlete title, awards). As a result, it was found that elite deaf wrestlers possess a comprehensive network of social support extending not only from their individual circles but also from technical staff, institutional structures, and state mechanisms.

Keywords: Deaf Athletes, Types Of Social Support, Wrestling, Phenomenology

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BATMAN KENT MERKEZİ İŞ ALANININ (MİA) DEĞERLENDİRİLMESİ EVALUATION OF THE BATMAN CENTRAL BUSINESS DISTRICT (CBD)

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ÖZET

Bu bildiri, FBA-2025-11864 kodlu Lisans Öğrencisi Katılımlı Araştırma Projesi'nin bir çıktısı olarak, Batman kent merkezi iş alanının (MİA) tarihsel gelişimini, mekânsal örgütlenmesini ve sosyo-ekonomik dinamiklerini ortaya koymayı amaçlamaktadır. Petrol sanayisi, yoğun iç göç hareketleri ve plansız kentleşme süreçleri tarafından şekillenen Batman MİA'sı, kentin ekonomik ve mekânsal kimliğinin en belirgin yansıması olması bakımından kritik bir öneme sahiptir. Bu doğrultuda çalışma, MİA'nın oluşumu, dönüşümü ve güncel sorunlarının bütüncül biçimde değerlendirilmesini hedeflemiştir. Araştırmada karma bir metodoloji benimsenmiş; literatür taraması, saha gözlemleri, mekânsal analizler, Lynch'in kent imgesi yaklaşımı ve Güçlü Yönler – Zayıf Yönler – Fırsatlar – Tehditler (GZFT) Analizi birlikte kullanılmıştır. Literatür taraması, MİA'nın tarihsel gelişimini kuramsal çerçeveye oturturken; saha gözlemleri ve mekânsal analizler MİA'nın güncel işlevsel yapısını ve fiziksel karakterini ortaya koymuştur. Lynch analizi, MİA'nın algısal öğelerini, odak noktalarını ve mekânsal sınırlarını belirlemiş; GZFT Analizi ise alanın içsel dinamikleri ile çevresel koşullarını sistematik biçimde değerlendirmeyi mümkün kılmıştır. Bulgular, Batman MİA'sının demiryolu ve petrol yatırımlarıyla başlayan gelişim sürecinin 1950'lerden itibaren hızlandığını ve kentin 1990'da il statüsü kazanmasıyla birlikte ticaret akslarının Diyarbakır Caddesi ve Turgut Özal Bulvarı yönünde genişlediğini göstermektedir. Bu süreç, MİA'da parçalı, doğrusal ve dağınık bir mekânsal yapının ortaya çıkmasına yol açmıştır. Mekânsal analizler, zemin katlarda yoğun ticaret birimlerinin bulunduğunu, buna karşın üst katlarda konut kullanımının baskın olduğunu ortaya koymaktadır. Bu durum, kullanım çeşitliliğini sınırlandırarak MİA'nın işlevsel kapasitesini zayıflatmaktadır. Lynch analizi, demiryolu hattı ve İluh Deresi'nin MİA'nın mekânsal devamlılığını sınırlandıran başlıca unsurlar olduğunu doğrulamıştır. GZFT Analizi ise güçlü ulaşım bağlantıları ve aktif ticaret akslarını avantaj olarak belirlerken; sosyal alan eksikliği, yeşil alan azlığı ve otopark yetersizliğini temel zayıflıklar olarak ortaya koymuştur. Bu çalışma, Batman kent merkezi iş alanının mekânsal ve işlevsel sorunlarını sistematik bir çerçevede ortaya koyarak, kentin sürdürülebilir kentsel gelişimine yönelik politika ve tasarım önerilerinin oluşturulmasına bilimsel bir zemin sağlamayı amaçlamaktadır.

Anahtar Kelimeler: Merkezi iş alanı (MİA), MİA mekansal yapı, Batman.

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ABSTRACT

This paper, as an output of the Undergraduate Student Research Project with code FBA-2025-11864, aims to reveal the historical development, spatial organisation, and socio-economic dynamics of the Batman city centre business area (MIA). Shaped by the petroleum industry, intense internal migration movements, and unplanned urbanisation processes, the Batman CBD is of critical importance as it is the most prominent reflection of the city's economic and spatial identity. In this regard, the study aims to comprehensively evaluate the formation, transformation, and current issues of the CBD. A mixed methodology was adopted in the research; literature review, field observations, spatial analyses, Lynch's city image approach, and Strengths-Weaknesses-Opportunities-Threats (SWOT) Analysis were used together. The literature review contextualised the historical development of the MIA within a theoretical framework, while field observations and spatial analyses revealed the current functional structure and physical character of the MIA. The Lynch analysis identified the perceptual elements, focal points, and spatial boundaries of the MIA, while the SWOT Analysis enabled a systematic evaluation of the area's internal dynamics and environmental conditions. The findings show that the development process of Batman MIA, which began with railway and oil investments, accelerated from the 1950s onwards and that with the city gaining provincial status in 1990, the trade axes expanded towards Diyarbakır Caddesi and Turgut Özal Bulvarı. This process led to the emergence of a fragmented, linear and scattered spatial structure in the MIA. Spatial analyses reveal that the ground floors are densely populated with commercial units, while residential use dominates the upper floors. This situation limits the diversity of use and weakens the functional capacity of the MIA. Lynch analysis confirmed that the railway line and the İluh Creek are the main elements limiting the spatial continuity of the MIA. SWOT analysis identified strong transport links and active commercial axes as advantages, while highlighting the lack of social spaces, scarcity of green areas, and insufficient parking as fundamental weaknesses. This study aims to provide a scientific basis for the formulation of policy and design proposals for the sustainable urban development of the city by systematically identifying the spatial and functional problems of the Batman city centre business area.

Keywords: Central business district (CBD), CBD spatial structure, Batman.

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ALZHEİMER HASTALIĞINDA KOKU ALMA BOZUKLUĞU: PATOFİZYOLOJİK MEKANİZMALAR VE KLİNİK YANSIMALAR

OLFACTORY DYSFUNCTION IN ALZHEIMER'S DISEASE: PATHOPHYSIOLOGICAL MECHANISMS AND CLINICAL IMPLICATIONS

Ümit ATASEVER¹

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ÖZET

Alzheimer hastalığında koku alma işlevinin bozulması, hastalığın bilişsel belirtilerinden çok daha önce ortaya çıkabilen bir erken uyarı sinyali olarak giderek daha fazla dikkat çekmektedir. Olfaktör sistemin limbik ve kortikal bölgelerle olan doğrudan bağlantıları, bu duysal alanı Alzheimer hastalığının erken nöropatolojik süreçlerine karşı son derece hassas hâle getirmektedir. Koku alma sürecinde görev yapan olfaktör reseptör nöronlarından olfaktör bulbusa ve oradan da piriform korteks, amigdala ve orbitofrontal korteks gibi yapılara uzanan ağ, yaşam boyu yenilenebilen dinamik bir yapı sergileyerek hem çevresel etkilere hem de patolojik süreçlere açık bir alan oluşturmaktadır. Son yıllarda elde edilen bulgular, amyloid precursor protein işlenmesindeki bozulmalar, amyloid-beta birikimi, beta-sekretaz aktivitesinin artması, olfaktör duyu nöronlarında hücresel dejenerasyon ve nöroinflamasyonun olfaktör sistemde erken dönemde görüldüğünü göstermektedir. Bu süreçlere ek olarak çevresel toksinlerin oluşturduğu oksidatif stres ve inflamatuvar yükün olfaktör epitelyumu daha da kırılabilir hâle getirmesi, koku alma bozukluğunu hem periferik hem merkezi düzeyde ilerleyen bir patolojinin göstergesi konumuna getirmektedir. Klinik çalışmalar ise koku tanıma ve kimliklendirme performansındaki azalmanın hafif bilişsel bozukluk döneminde başladığını, bu azalmanın Alzheimer demansına dönüşüm riskini öngörmede güçlü bir belirteç olabileceğini ve olfaktör disfonksiyonun hastalığın nörobiyolojik gidişatını yansıtan önemli bilgiler sunduğunu göstermektedir. Erken koku bozukluğunun Alzheimer hastalığının prelinik dönemine işaret etmesi ve koku testlerinin bilişsel değerlendirmelerle birlikte kullanıldığında tanısal doğruluğu artırması, olfaktör işlevin erken tanı ve hastalık ilerleyişinin takibinde kullanılabilecek önemli bir araç olduğunu ortaya koymaktadır. Bu derleme, olfaktör sistemin anatomik ve fizyolojik özelliklerini, Alzheimer hastalığında ortaya çıkan patofizyolojik değişiklikleri ve koku bozukluğunun klinik önemini bütüncül bir yaklaşımla ele alarak, koku işlevinin hem tanısal hem prognostik açıdan taşıdığı potansiyeli vurgulamaktadır.

Anahtar Kelimeler: Alzheimer hastalığı, koku alma bozukluğu, olfaktör sistemi, hafif bilişsel bozukluk, biyobelirteç.

ABSTRACT

Alzheimer's disease is increasingly recognized as a disorder in which pathological changes begin decades before the onset of measurable cognitive decline, and among the earliest and most consistent clinical indicators of this process is olfactory dysfunction. The olfactory system, which is intimately connected to limbic and cortical regions involved in memory, emotion, and executive processes, represents a uniquely vulnerable network that often exhibits structural and functional alterations in the initial stages of neurodegeneration. Odor detection, discrimination, and identification rely on the integrity of the olfactory epithelium, olfactory bulb, piriform cortex, amygdala, entorhinal cortex, and

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orbitofrontal cortex—regions that are among the first to accumulate pathological changes such as amyloid precursor protein dysregulation, amyloid-beta deposition, beta-secretase overactivity, synaptic loss, and neuroinflammatory responses. Experimental studies further demonstrate that olfactory sensory neurons undergo early degeneration, heightened oxidative stress, and impaired turnover, suggesting a dynamic interplay between peripheral vulnerability and central pathological propagation. Clinically, olfactory impairment is frequently documented during the stage of mild cognitive impairment, and consistent evidence indicates that reductions in odor identification and recognition carry predictive value for progression to Alzheimer's dementia. When combined with cognitive screening tools, olfactory assessments improve diagnostic accuracy and contribute additional insight into disease staging. The convergence of neuropathological, experimental, and clinical findings underscores that olfactory dysfunction is not merely an accompanying symptom but a meaningful biological marker that reflects early alterations within the Alzheimer disease continuum. This review synthesizes current knowledge on the anatomy and physiology of the olfactory system, the pathological mechanisms underlying olfactory impairment in Alzheimer's disease, and the clinical significance of these sensory changes. Collectively, the evidence highlights the potential of olfactory evaluation as a complementary approach for identifying preclinical and early-stage disease, supporting risk stratification, and informing future diagnostic strategies.

Keywords: Alzheimer's disease, olfactory dysfunction, olfactory system, mild cognitive impairment, biomarker.

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ALZHEİMER HASTALIĞINDA BDNF'NİN TANISAL VE TERAPÖTİK ROLÜ: GÜNCEL KANITLAR VE SINIRLILIKLAR

DIAGNOSTIC AND THERAPEUTIC ROLE OF BDNF IN ALZHEIMER'S DISEASE: CURRENT EVIDENCE AND LIMITATIONS

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ÖZET

Alzheimer hastalığı, dünya genelinde hızla artan yaşlı nüfusla birlikte daha da önem kazanan ilerleyici bir nörodejeneratif hastalıktır ve hem bireysel hem de toplumsal düzeyde ciddi klinik ve ekonomik sonuçlara yol açmaktadır. Hastalığın temel patofizyolojik mekanizması, amiloid-beta ve tau proteinlerinin beyinde oluşturduğu yapısal ve işlevsel bozukluklar üzerinden şekillenmektedir. Bununla birlikte son yıllarda yapılan çalışmalar, bu klasik nöropatolojik süreçlerin ötesine geçerek sinaptik plastisite, nöronal bütünlük ve kognitif performans açısından kritik rol oynayan nörotrofik faktörlerin Alzheimer hastalığındaki yerini daha kapsamlı biçimde incelemeye başlamıştır. Beyin türevli nörotrofik faktör, nöronal sağkalım, aksonal büyüme, sinaptik yeniden yapılanma ve öğrenme-bellek süreçleri üzerinde belirleyici bir etkiye sahip temel bir molekül olarak dikkat çekmektedir. Bu nedenle Alzheimer hastalığında bu molekülün düzeylerindeki veya işleyişindeki değişimlerin, hastalığın erken tanısından klinik gidişatın izlenmesine ve hedefe yönelik tedavi yaklaşımlarının geliştirilmesine kadar geniş bir çerçevede önemli bilgiler sunabileceği düşünülmektedir. Bu çalışma, Alzheimer hastalığında beyin türevli nörotrofik faktörün tanısal ve terapötik açıdan taşıdığı potansiyeli güncel literatür ışığında bütüncül bir bakış açısıyla değerlendirmeyi amaçlamaktadır. Bu amaç doğrultusunda son yıllarda yapılan deneysel ve klinik araştırmalar incelenmiş; beyin türevli nörotrofik faktörün merkezi ve periferik düzeylerdeki değişimleri, nöropatolojik süreçlerle olan ilişkisi, biyobelirteç olarak kullanımındaki avantaj ve sınırlılıklar ile tedavi hedefi olarak ele alındığında karşılaşılan temel zorluklar tartışılmıştır. Bulgular, beyin türevli nörotrofik faktör düzeylerindeki azalmanın Alzheimer hastalığındaki sinaptik kayıpları, bilişsel gerilemeyi ve yapısal beyin değişikliklerini anlamada önemli bir biyolojik gösterge sunduğunu ortaya koyarken; ölçüm tekniklerindeki farklılıklar, izoform ayrımının yapılamaması ve biyoyararlanım sınırlılıkları gibi faktörlerin bu belirtinin klinik uygulamaya geçişini zorlaştırdığını göstermektedir. Bu nedenle beyin türevli nörotrofik faktörün Alzheimer hastalığında güvenilir bir biyobelirteç veya etkili bir terapötik hedef olarak kullanılabilmesi için daha kapsamlı, standardize ve uzun dönemli araştırmalara ihtiyaç duyulmaktadır.

Anahtar Kelimeler: Alzheimer's disease, brain-derived neurotrophic factor, TrkB signaling pathway, biomarker, neuroprotection.

ABSTRACT

Alzheimer's disease is a progressive neurodegenerative disorder with increasing global prevalence, largely due to the rising aging population, and represents a major public health concern with profound clinical and socioeconomic consequences. Although its core pathological mechanisms have traditionally been defined by the accumulation of amyloid-beta plaques and tau protein tangles, recent research has expanded the understanding of disease biology by emphasizing the importance of neurotrophic factors

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in maintaining neuronal integrity, synaptic plasticity, and cognitive functions. Among these molecules, brain-derived neurotrophic factor plays a central role in neuronal survival, axonal growth, synaptic remodeling, and the regulation of learning and memory processes. Alterations in its expression or signaling may therefore offer insight into early neurodegenerative changes and provide a bridge between molecular pathology and clinical presentation. This review aims to evaluate the diagnostic and therapeutic potential of brain-derived neurotrophic factor in Alzheimer's disease by synthesizing recent findings from both experimental and clinical studies. Specifically, research examining changes in central and peripheral brain-derived neurotrophic factor levels, its association with structural and functional brain alterations, and its relevance for disease staging and progression was analyzed. Current literature indicates that reduced levels of this neurotrophic molecule may reflect synaptic loss, cognitive decline, and neuronal degeneration in Alzheimer's disease. However, methodological inconsistencies among studies, lack of isoform-specific measurements, and biological variability present significant limitations to its clinical applicability. Similarly, although therapeutic strategies targeting brain-derived neurotrophic factor signaling show promise in preclinical models, challenges related to biological stability, transport across the blood-brain barrier, and long-term safety hinder their translation into clinical practice. Consequently, while brain-derived neurotrophic factor remains a compelling focus of ongoing research, further standardized and longitudinal investigations are essential to clarify its reliability as a biomarker and its viability as a therapeutic target in Alzheimer's disease.

Keywords: Alzheimer's disease, brain-derived neurotrophic factor, TrkB signaling pathway, biomarker, neuroprotection.

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GLOBAL BELİRSİZLİK ile SEKTÖR GETİRİLERİ ARASINDAKİ BAĞLANTILILIK THE CONNECTEDNESS of GLOBAL UNCERTAINTY over SECTORAL RETURNS

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ÖZET

Tüm Dünya’da sosyal, politik veya ekonomik nedenlerle belirsizlikler oluşabilmektedir. Bu belirsizlikler hem yatırımcıları hem de işletmeleri farklı şekillerde etkileyerek hem sektör hem de finans piyasaların getirilerini etkileyebilecek güçtedir. Yapılan bu çalışma söz konusu belirsizliklerin Borsa İstanbul’da işlem gören işletmelerin getirileri ile bağlantılılığı sektörel bazda incelemektedir. Çalışmanın amacı global belirsizlik ile sektör getirileri arasındaki bağlantılılığı ortaya koyarak yatırımcılara, işletmelere ve finans piyasalarına yatırım kararlarında yardımcı olabilecek bir kriter oluşturabilmektir. Çünkü, bu sayede değişen global dünya ve yarattığı belirsizliğe bağlı olarak getirilerin ne şekilde değişeceği tahmin edilecektir. Global belirsizlikler için Davis (2016) çalışmasında oluşturduğu *Global Ekonomik Politika Belirsizlik İndeksi* (Global Economic Policy Uncertainty Index-GEPU) kullanılmıştır. Bu endeks Dünya’nın farklı bölgelerinden 18 ülkenin kendi ülkeleri için hazırlamış oldukları ekonomik politika endekslerinin gayri safi milli hasıllarına ağırlıklı ortalamalarından oluşmaktadır. İndeks içerisinde yer alan ülkeler şunlardır; Avustralya, Brezilya, Kanada, Şili, Çin, Fransa, Almanya, Yunanistan, Hindistan, İrlanda, İtalya, Japonya, Rusya, Güney Kore, İspanya, İsveç, Birleşik Krallık ve Amerika. Aylık sıklıkta hesaplanmış olan bu endeks birçok çalışmada tercih edilen bir belirsizlik endeksi haline gelmiştir. Çalışmanın diğer değişkenleri olan sektör verileri için ise Sınai, Hizmet, Elektrik, Bankacılık, Bilişim ve Teknoloji sektörleri belirlenmiştir. Bu sektörleri yansıtmaları için Borsa İstanbul tarafından ilgili sektörler için oluşturulmuş olan endekslerin aylık verileri analiz sürecinde kullanılmıştır. Sektörlerin aylık getirileri bir önceki ay ile olan fiyat farkının yine bir önceki ay fiyatına oranlanması ile tespit edilmiştir. Veri setinin yapısını tespit etmek amacı ile korelasyon, çoklu bağlantılılık sorunu ve durağanlık test edilmiştir. Bu sınamaların sonuçlarına göre değişkenler arasında yüksek korelasyon ve çoklu bağlantılılık sorunu bulunmamaktadır. Durağanlık için ADF birim kök testinin yanı sıra veri setinin aralığı nedeniyle yapısal kırılmayı da dikkate alan Zivot- Andrews birim kök testi uygulanmıştır. Her iki testin sonuçlarına göre GEPU dışında tüm değişkenler düzeyde, GEPU ise birinci farkta durağan olup TVP-VAR analizine bu şekilde devam edilmiştir. Veri seti 2015 yılının Ocak ayında başlayıp 2025 yılının Mayıs ayında son bulmaktadır. Böylece her bir değişken için 125 aylık gözlem olup toplam veri seti 875 gözlemden oluşmaktadır. TVP-VAR sonuçlarına göre küresel düzeyde yaşanan belirsizlikler ile Türkiye’deki sektörler arasında bağlantılılık ilişkisi vardır. GEPU’nun yanı sıra Elektrik ve Sınai sektörleri diğer sektörlerle riskleri aktarmakta olup Teknoloji ve Bilişim sektörleri en çok risk alıcı sektörler olarak tespit edilmiştir. Elektrik ve Sınai sektörlerinin etkisi global belirsizlikten fazladır. Değişkenler arasındaki tüm değişkenlere bakıldığında en güçlü etkinin Elektrik ile Hizmet sektörü arasında olduğu görülmektedir. Elektrik sektörünün en çok risk aktardığı sektör Hizmet sektörü olup Hizmet sektörü ayrıca Sınai ve Bilişim sektörleri ile global belirsizlikten etkilenmektedir. Teknoloji sektörü tüm sektörlerden ve global belirsizlikten etkilenmektedir. Bu sonuçlara göre global belirsizlikten çok sektörlerin birbirlerini etkileyerek risk aktarımında bulunduğu ve böylece getirileri etkiledikleri tespit edilmiştir.

Anahtar Kelimeler: Küresel belirsizlik, sektör getirileri, TVP-VAR, bağlantılılık, risk aktarımı

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ABSTRACT

Uncertainties can arise all over the world due to social, political or economic reasons. These uncertainties affect both investors and businesses in different ways, and have the power to affect the returns of both sectors and financial markets. This study examines the connection between these uncertainties and the returns of companies traded on Borsa Istanbul on a sectoral basis. The aim of the study is to establish a criterion that can assist investors, businesses and financial markets in their investment decisions by revealing the connection between global uncertainty and sectoral returns. Thereby, that will allow us to predict how returns will change with global uncertainty. The Global Economic Policy Uncertainty Index (GEPU), developed by Davis (2016), is employed for the global uncertainties in this study. That index consists of the gross national product-weighted averages of the economic policy indices prepared by 18 countries from different regions of the world for their own countries. The countries included in the index are as follows; Australia, Brazil, Canada, Chile, China, France, Germany, Greece, India, Ireland, Italy, Japan, Russia, South Korea, Spain, Sweden, the United Kingdom, and the United States. The index, calculated monthly, has become a preferred uncertainty index in many studies. The sectors for the analysis are as follows; Technology, Industrial, Services, Electricity, Banking, and Information Technology. Monthly data from the indices created by Borsa Istanbul for these sectors were used in the analysis to reflect these sectors. Monthly returns for each sector were determined by dividing the difference between the previous month's prices by the previous month's difference. Correlation, multicollinearity, and stationarity were tested to determine the structure of the data set. According to the results of these tests, there was no high correlation or multicollinearity among the variables. For stationarity, the Zivot-Andrews unit root test, which also takes into account structural breaks due to the range of the data set, was applied in addition to the ADF unit root test. According to the results of both tests, all variables except GEPU are stationary at the level, and GEPU is stationary in the first difference. The TVP-VAR analysis was applied with those variables. The data set begins in January 2015 and ends in May 2025. Thus, there are 125 monthly observations for each variable, and the total data set consists of 875 observations. According to the TVP-VAR results, there are some connections between global uncertainties and sectors in Turkey. In addition to GEPU, the Electrical and Industrial sectors transmit risks to other sectors, and the Technology and Information Technologies sectors are identified as the most risk-taking sectors. The Electrical and Industrial sectors have a greater impact than global uncertainty. The strongest impact among the variables is between the Electrical and Services sectors. The Electrical sector transmits the most risk to the Services sector, and the Services sector, along with the Industrial and Information Technologies sectors, is also affected by global uncertainty. The Technology sector is affected by all sectors and global uncertainty. According to these results, it has been determined that sectors, rather than global uncertainty, impact each other by transferring risk which affecting returns.

Keywords: Global uncertainty, Sectoral returns, TVP-VAR, connectedness, risk transmission

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KÜLTÜREL İLETİŞİM VE ÇEVİRİ YANLIŞLARI CULTURAL COMMUNICATION AND TRANSLATION ERRORS

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ÖZET

Dilbilimsel, fonolojik (beden dili de dahil olmak üzere) ve kültürel eşdeğerlik çeviri için hayattır. Bu eşdeğerlik ilişkisinin kaliteli ve etkin kurulması kültürel iletişimi sağlayabilmektedir. Keza, bu ilişkinin sağlıklı kurulamaması çeviri yanlışlarına, iletişimsizliğe kapıyı aralamaktadır. Oluşabilen anlam kaymaları bazen yanlış anlamalara, hatta çatışma ve krizlere yol açabilmektedir, savaşların sonucunu bile değiştirebilmektedir. II. Dünya Savaşı sırasında Japon komutanların sözlerinin İngilizceye yanlış aktarılması/çevrilmesi Hiroşima ve Nagazaki şehirlerinin atom bombası ile bombalanması sonucunu getirmiştir. Bu da savaşın son noktasını acı şekilde koymuştur. Reklamcılık alanı örneklem olarak çeviri yanlışları kaynaklı reklam kampanyası başarısızlıkları hatta ürün veya hizmete antipati gibi sonuçlarıyla bize bu konuda örnekler sunabilmektedir. 1963 yılında Pepsi Cola'nın yürüttüğü kampanyanın Çin'de kısa sürmesi Amerikan kültürü ile Çin kültürü arasında eşdeğerlik ilişkisinin tam kurul(a)maması ile bağlantılıdır. Bu çalışmanın amacı kültürel iletişimin çeviri mekanizmasıyla sağlıklı kurulmasının yollarını sorgulamaktır. Bu çerçevede çözülmeye çalışılan sorunsal çeviri yanlışlarının öncelikle saptanması ve bunların nasıl giderilebileceği, dolayısıyla kültürel iletişimin nasıl sağlıklı ve etkin kurulabileceği üzerine düşünce ve çözüm üretmektir. Eugene Nida, Sapir-Whorf, Lawrence Venuti gibi kuramcıların bakış açılarından hareketle kültürel göreliliğin esas alınması, çeviride yerileştirme ve yabancılaştırma stratejilerinin etkili hatta birlikte kullanılması, iletişim ve etkileşimde dilin derin yapısının dikkate alınması, hatta derin yapının esas alınması... önerilebilir. Bu çalışmada veri toplama aracı olarak doküman analizi, veri analizi yöntemi olarak da meta sentez ve yazarlar arasında kurulan diyalogik diyalog kullanılmıştır. Dolayısıyla, bu çalışma nitel bir araştırmadır. Çalışmanın bulguları arasında çeviri için kaynak ve hedef dil ve kültürün çok iyi tanınması gerektiği, çeviride kelimelerin değil anlam ve bağlamın esas alınmasının temel olduğu, çevirinin teknik bir işlem değil, etkisi Sırat köprüsününkine benzer bir kültürel aktarım olduğu şeklindedir. Sonuç olarak, çeviri hatalarının kelime düzeyinde olmanın çok ötesinde kültürel ve sosyolojik karmaşık ve etkileşimli bir yapıda olması söz konusudur. Bu sorunun dinamikleri arasında iki kültüre mükemmel düzeyde vâkıf olamama başı çekmektedir, zira çeviri iki kültürü birbirine bağlayan araftır.

Anahtar Kelimeler: Kültürel İletişim, Çeviri Yanlışları, Kültürel Farklılıklar

ABSTRACT

Linguistic, phonological (including body language), and cultural equivalence are vital for translation. Establishing this equivalence relationship efficiently and effectively can ensure cultural communication.

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Similarly, failure to establish this relationship effectively opens the door to translation errors and miscommunication. Semantic shifts can sometimes lead to misunderstandings, even conflicts and crises, and can even alter the outcome of wars. During World War II, the incorrect transfer/translation of Japanese commanders' words into English led to the atomic bombings of Hiroshima and Nagasaki, which brought the war to a tragic end. The field of advertising offers examples of advertising campaign failures due to translation errors, and even consequences such as antipathy towards a product or service. The short-lived Pepsi-Cola campaign in China in 1963 is linked to the failure to fully establish the equivalence relationship between American and Chinese cultures. The purpose of this study is to investigate ways to establish healthy cultural communication through the translation mechanism. Within this framework, the aim is to identify problematic translation errors and generate ideas and solutions on how to eliminate them, thus establishing healthy and effective cultural communication. Drawing on the perspectives of theorists such as Eugene Nida, Sapir-Whorf, and Lawrence Venuti, it is suggested that cultural relativity be the basis, that localization and foreignization strategies be effectively used in translation, even in combination, and that the deep structure of language be considered in communication and interaction, even taking deep structure as a basis. This study used document analysis as the data collection tool, meta-synthesis, and dialogic dialogue between authors as data analysis methods. Therefore, this study is qualitative research. Among the findings of the study are that a thorough understanding of the source and target languages and cultures is essential for translation, that meaning and context, not words, are fundamental in translation, and that translation is not a technical process but a cultural transmission whose effect resembles that of the Sirat Bridge. Consequently, translation errors go far beyond the literal level; they possess a culturally and sociologically complex and interactive nature. Among the dynamics of this problem, the lack of perfect understanding of two cultures is at the forefront, as translation is the purgatory that connects two cultures..

Keywords: Cultural Communication, Translation Errors, Cultural Differences.

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HADRIANOPOLIS'TEKİ SU KÜLTÜNÜN DİNİ YAPILARDAKİ YANSIMALARI REFLECTIONS OF THE WATER CULT IN HADRIANOPOLIS ON RELIGIOUS STRUCTURES

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ÖZET

Hadrianopolis, Karabük ilinin Eskipazar ilçe merkezinin yaklaşık 3 km batısında yer almaktadır. Antik çağda Paphlagonia bölgesinin güneybatısına konumlanan kent, Budaklar Köyü sınırları içerisinde, vadinin güneye bakan yamacı üzerine inşa edilmiştir. Günümüze kadar yürütülen kazı çalışmaları kapsamında, kent sınırları içinde üç kilise, iki hamam, iki nekropol, vaftizhane, konut, Kare Planlı Yapı, Konut Kompleksi ve Yazıboy Kaya Yerleşkesi olmak üzere toplam on iki yapı kalıntısı tespit edilmiştir. Kentte tespit edilen kilise yapıları (Dört Nehir, Chora, Kuzeybatı Nekropol) ile vaftizhane, suyun yalnızca ritüel ya da arınma amacıyla değil, aynı zamanda kutsallığın mekânda aktarım biçimini belirleyen sembolik bir unsur olarak değerlendirildiğini de göstermektedir. Su kaynaklarına yakın konumlandırılmış dini yapı toplulukları, kentin planlamasında suyun kutsal ve yönlendirici bir öge olarak işlev gördüğünü ortaya koymaktadır. Arkeolojik bulgular, Hadrianopolis'te su kültürünün Hristiyanlık öncesi dönemlerde arınmak ve şifalanmak amacıyla kullanıldığını bunlara ek olarak da canlandırıcı ve bereketi de sembol ettiği düşünülmektedir. Kiliselerde yer alan mozaiklerde su detayları vaftiz havuzları ile hayvan, meyve ve ağaç betimleri su kültürü ile ilişkilendirilebilir. Özellikle vaftizhanedeki haç planlı havuz, suyun maddi varlığını manevi dönüşüm kavramı ile ilişkilendiren bir ritüelistik mekân anlayışının somut ifadesidir. Hadrianopolis örneği, antik kentlerde su kültürünün yalnızca ritüel ve teolojik işlevlerini değil, aynı zamanda mekânsal yerleşim ve toplumsal etkileşim üzerindeki etkilerini bir arada değerlendirmek açısından önemli bir model sunmaktadır. Kentteki kilise ve vaftizhane yapıları, suyun kutsal bir unsur olarak hem mimari düzeni hem de dini ritüellerin gerçekleştirilme biçimini biçimlendirdiğini göstermektedir. Bu bağlamda Hadrianopolis, antik kentlerde su kültürünün çok katmanlı işlevlerini anlamak ve yorumlamak için değerli bir referans noktası oluşturmaktadır.

Anahtar Kelimeler: Paphlagonia, Hadrianopolis, Su Kültü, Ritüel, Arınma, Şifalanma.

ABSTRACT

Hadrianopolis is located approximately 3 km west of the Eskipazar district of Karabük. Situated in the southwestern part of the Paphlagonia in ancient times, the city was built on the southern slope of the valley within the boundaries of Budaklar Village. Excavations carried out to date have uncovered a total of twelve architectural remains within the city limits, including three churches, two baths, two necropolises, a baptistery, a residence, a square structure, a residence complex and a rock-cut settlement. The churches identified in the city (Four Rivers, Chora, Northwest Necropolis) and the baptistery also indicate that water was considered not only for ritual or purification purposes, but also as a symbolic element that determined the form of transmission of sacredness. Religious structures located near water sources reveal that water functioned as a sacred and guiding element in the city's planning.

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Archaeological finds suggest that the cult of water in Hadrianopolis was used for purification and healing in pre-Christian times and was also thought to symbolize revitalization and fertility. Water details on the mosaics in churches, baptismal pools and depictions of animals, fruits, and trees can be associated with the cult of water. In particular, the cross-shaped pool in the baptistery is a concrete expression of a ritualistic understanding that links the material presence of water with the concept of spiritual transformation. The example of Hadrianopolis provides an important model for evaluating not only the ritual and theological functions of the water cult in ancient cities, but also its effects on spatial settlement and social interaction. The church and baptistery structures in the city demonstrate that water, as a sacred element, shaped both the architectural layout and the manner in which religious rituals were performed. In this context, Hadrianopolis constitutes a valuable reference point for understanding and interpreting the multi functions of the cult of water in ancient cities.

Key Words: Paphlagonia, Hadrianopolis, Water Cult, Rituel, Purification, Healing

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HADRIANOPOLİS'TEN DEKORATİF KAPI ÇİVİLERİ

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ÖZET

Batı Karadeniz Bölgesi'nde, Karabük ili Eskipazar ilçesi sınırları içerisinde yer alan Hadrianopolis Antik Kenti'nde yürütülen arkeolojik kazılar ve araştırmalar, bölgenin Prehistorik dönemden başlayarak Roma ve Erken Bizans dönemlerine uzanan tarihsel süreçlerine ışık tutmaktadır. Paphlagonia Hadrianopolisi, Roma ve Bizans dönemlerinde hem Anadolu'nun hem de Paphlagonia bölgesinin önemli kentlerinden biri hâline gelmiştir. Çivilerin ele geçtiği Kuzeybatı Nekropol Kilisesi, kentin çekirdek yerleşim alanına yakın bir konumda yer almaktadır. Çiviler kilisenin narteks bölümün hemen önünde ortaya çıkmıştır. Çivilerin ele geçtiği nokta, çivilerin neye ait olabilecekleri konusunda ipucu vermektedir. Çiviler büyük ihtimalle narteks kapısında kullanılan hem fonksiyonel hem de dekoratif amaçlı kullanılan objelerdir. Çivinin saplama bölümü demirden, baş kısmı ise bronzdan yapılmıştır. Bu nitelikli parçalar üzerinde yapılan incelemelerde malzeme özellikleri, üretim teknikleri, tipolojik sınıflandırma ve olası kullanım alanlarına ilişkin değerlendirmeler yapılmıştır. Söz konusu metal buluntular aracılığıyla kilisenin giriş açıklığının yapısal ve dekoratif özelliklerinin anlaşılması amaçlanmıştır.

Anahtar Kelimeler: Hadrianopolis, Kuzeybatı Nekropol Kilisesi, Çivi, Demir, Bronz.

ABSTRACT

Archaeological excavations and research conducted at the ancient city of Hadrianopolis, located within the boundaries of Eskipazar district in Karabük province in the Western Black Sea Region, shed light on the historical processes of the region from the Prehistoric period to the Roman and Early Byzantine periods. Paphlagonian Hadrianopolis became one of the important cities of both Anatolia and the Paphlagonia during the Roman and Byzantine periods. The Northwest Necropolis Church, where the nails were discovered, is located close to the center of the city. The nails were discovered just in front of the church's narthex. The location where the nails were found provides clues as to what they may have belonged to. The nails were most likely objects used for both functional and decorative purposes on the narthex door. The shaft of the nail is made of iron, while the head is made of bronze. Studies conducted on these high-quality pieces evaluated material, production techniques, typological and possible areas of use. The aim was to understand the structural and decorative features of the church's entrance through these metal finds.

Keywords: Hadrianopolis, North-West Necropolis Church, Nail, Iron, Bronze.

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ORTAOKUL DERS KİTAPLARINDA YER ALAN KÖK DEĞERLERİN ÖĞRETİMİNDE YAŞANAN SORUNLARA İLİŞKİN ÖĞRETMEN GÖRÜŞLERİ NELERDİR? WHAT ARE TEACHERS' OPINIONS ON THE PROBLEMS ENCOUNTERED IN TEACHING CORE VALUES IN SECONDARY SCHOOL TEXTBOOKS?

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ÖZET

Ortaokul ders kitaplarında yer alan kök değerlerin öğretiminde, yapılan araştırmalar doğrultusunda Türkiye'deki eğitim sisteminin kök değerlerin kazandırılmasında belirli güçlüklerle karşı karşıya olduğunu ortaya koymaktadır. Kök değerlerin kazandırılmasında yaşanan zorlukların nedenlerinin ve çözüm yollarının ortaya çıkarılmasında öğretmen görüşlerinin son derece önemli olduğu düşünülmektedir. Bu değerlerin ders kitapları aracılığıyla öğrencilere kazandırılması, özellikle ortaokul döneminde karakter gelişiminin yönlendirilmesi açısından kritik bir işlev üstlenmektedir. Bu çerçevede araştırmanın amacı ortaokul ders kitaplarında yer alan kök değerlerin öğretimi sürecinde karşılaşılan sorunlara ilişkin öğretmen görüşlerini incelemek; öğretmenlerin bu değerlerin içerikteki yeri, uygulanabilirliği ve öğrenci kazanımlarına yansımaları konusundaki değerlendirmelerini ortaya koyarak, kök değerlerin eğitim ortamındaki etkinliğini ve öğretim sürecindeki aksaklıkları belirlemektir. Bu çalışma nitel araştırma yöntemlerinden durum çalışması deseniyle yapılmıştır. Çalışma grubunu, 2024-2025 eğitim-öğretim yılı itibarıyla Şanlıurfa'nın Halfeti ilçesinde görev yapmakta olan ortaokul öğretmenleri oluşturmaktadır. Veriler yarı yapılandırılmış görüşme formu kullanılarak yüz yüze görüşmeler ile toplanmıştır. Yapılan analiz sonucunda öğrencilerin değerlerin genellikle soyut düzeyde kalması ve öğrencilerin yaşantısal bağ kurmakta zorlanmaları nedeniyle içselleştiremedikleri; değerlerin somutlaştırmadan soyut olarak aktarıldığı, kök değerlerin aktarımında kullanılan dilin, anlatım tarzının ve görsel unsurların pedagojik olarak yetersiz olduğu sonucuna ulaşılmıştır. Diğer sonuç ve öneriler sözlü sunumda sunulacaktır.

Anahtar Kelimeler: Ortaokul, kök değerler, nitel yöntem

ABSTRACT

System faces specific challenges in instilling these values. Teachers' perspectives are considered crucial in uncovering the reasons for these difficulties and their solutions. Instilling these values in students through textbooks plays a critical role in fostering character development, particularly during middle school. Within this framework, the purpose of this study is to examine teachers' perspectives on the challenges encountered in teaching core values in middle school textbooks. It also aims to reveal teachers' assessments of the place of these values in the content, their applicability, and their impact on

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student outcomes, thereby identifying the effectiveness of core values in the educational environment and identifying potential shortcomings in the teaching process. This study employed a case study design, a qualitative research method. The study group consisted of middle school teachers working in the Halfeti district of Şanlıurfa as of the 2024-2025 academic year. 10 teachers participated in the study. Data were collected through face-to-face interviews using a semi-structured interview form. The data were analyzed using content and descriptive analysis methods. The analysis concluded that students often failed to internalize values because they remained abstract and had difficulty establishing experiential connections; that values were conveyed abstractly without being concretized; and that the language, narrative style, and visual elements used to convey core values were pedagogically inadequate. Other conclusions and recommendations will be presented in an oral presentation.

Key Words: Core values, qualitative method, secondary school,

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SÜRDÜRÜLEBİLİR TARIMSAL ÜRETİMDE YAPAY ZEKÂ VE AKILLI TARIM TEKNOLOJİLERİNİN ARTAN ÖNEMİ

SUSTAINABLE THE GROWING IMPORTANCE OF ARTIFICIAL INTELLIGENCE AND SMART AGRICULTURAL TECHNOLOGIES IN AGRICULTURAL PRODUCTION

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ÖZET

İklim değişikliğinin tarımsal üretim üzerindeki etkileri, artan sıcaklık değerleri, düzensiz yağış rejimleri, uzun süreli kuraklık ve ekstrem hava olaylarının sıklığındaki yükseliş nedeniyle giderek artmaktadır. Bu olumsuzluklar, tarımsal üretimde belirsizlik yaratmakta aynı zamanda verimlilik azalışı, toprak yapısının bozulması ve su kaynaklarının yönetimindeki zorluklar gibi sonuçların yaşanmasına neden olmaktadır. Özellikle iklime duyarlı bölgelerde ekonomik kayıpların artması ve gıda güvensizliğinin derinleşmesi, geleneksel üretim modellerinin sürdürülebilirliğini ciddi şekilde sınırlandırmaktadır. Bu bağlamda iklim değişikliğinin üretim üzerindeki baskıları, tarım sektöründe yeni ve daha dayanıklı çözümlere duyulan ihtiyacı artırmaktadır.

Bu sorunlara yanıt olarak yapay zekâ ve akıllı tarım teknolojileri, sürdürülebilir tarımsal üretim için stratejik bir dönüşüm aracı olarak önem kazanmaktadır. Sensör teknolojileri, uzaktan algılama yöntemleri, drone görüntüleme sistemleri ve büyük veri analitiği sayesinde toprak nemi, bitki sağlığı, zararlı yoğunluğu ve çevresel koşullar gerçek zamanlı olarak izlenebilmekte; böylece sulama, gübreleme ve hastalık yönetimi gibi kritik süreçler optimize edilebilmektedir. Makine öğrenmesi temelli karar destek sistemleri ise hava durumu, toprak özellikleri, bitki gelişimi ve piyasa verilerini bütünleştirerek üreticilere daha isabetli, veri temelli üretim stratejileri geliştirme olanağı sunmaktadır. Bu teknolojilerin yaygınlaşması, hem verimliliğin artmasına hem de tarımsal sürdürülebilirliğin güçlendirilmesine önemli katkılar sağlamaktadır.

Anahtar Kelimeler: İklim değişikliği, tarımsal teknoloji, yapay zekâ, tarımsal üretim

ABSTRACT

The effects of climate change on agricultural production are increasingly significant due to rising temperatures, irregular rainfall patterns, prolonged droughts, and an increase in the frequency of extreme weather events. These adverse conditions create uncertainty in agricultural production and lead to consequences such as decreased productivity, soil degradation, and difficulties in water resource management. Increased economic losses and deepening food insecurity, particularly in climate-sensitive regions, are seriously limiting the sustainability of traditional production models. In this context, the pressures of climate change on production are increasing the need for new and more resilient solutions in the agricultural sector.

In response to these problems, artificial intelligence and smart farming technologies are gaining importance as strategic transformation tools for sustainable agricultural production. Thanks to sensor technologies, remote sensing methods, drone imaging systems, and big data analytics, soil moisture, plant health, pest density, and environmental conditions can be monitored in real time, thereby

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optimising critical processes such as irrigation, fertilisation, and disease management. Machine learning-based decision support systems integrate weather, soil properties, plant development, and market data, enabling producers to develop more accurate, data-driven production strategies. The widespread use of these technologies significantly contributes to both increased productivity and strengthened agricultural sustainability.

Keywords: Climate change, agricultural technology, artificial intelligence, agricultural production

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ISIL İŞLEM GÖRMEMİŞ ARTVIN SOMON BALIĞI İLE HAZIRLANAN DÖRT FARKLI REÇETENİN DUYUSAL DEĞERLENDİRMESİ SENSORY EVALUATION OF FOUR DIFFERENT RECIPES PREPARED WITH ARTVIN SALMON WITHOUT HEAT TREATMENT

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ÖZET

Artvin somon balığı, Çoruh Nehri'nin ekolojik özellikleri nedeniyle kendine özgü duyuşsal ve biyokimyasal karakteristikler gösteren önemli bir su ürünü olarak öne çıkmaktadır. Bu çalışmada, Artvin Çoruh Nehri'nde yetiştirilen somon balıkları kullanılarak ısıt işlemler uygulanmadan hazırlanan dört farklı ürün reçetesinin (suşi, füme somon, füme somon mus, gravlaks somon) duyuşsal özellikleri değerlendirilmiştir. Duyusal analiz, 12 panelistin katılımıyla yürütölmüş olup, ürünler dış görünüş, koku, yağlılık, sertlik, sululuk, aroma ve genel kabul edilebilirlik açısından 7 noktalı hedonik ölçek kullanılarak puanlanmıştır. Dış görünüş açısından en yüksek beğeni puanını füme somon mus örneğı almış (4.4), bunu füme somon (3.8) izlemiştir. Koku özelliğı bakımından suşi en yüksek puana sahip olmuş (4.0) ve suşi ile füme somon örnekleri arasında istatistiksel olarak anlamlı bir fark belirlenmemiştir ($P>0.05$). Yağlılık bakımından ürünler arasında istatistiksel açıdan bir fark gözlenmemiştir ($P>0.05$). Tüm reçetelerde ısıt işlemler görmemiş balığın kullanılmış olması, ürünlerin yağlılık algısının birbirine yakın olmasına neden olmuş olabilir. Ayrıca, tüketicilerin bazı gıda ürünlerinde sululuğı yağlılıkla ilişkilendirebildiğı bilinmekte olup, bu çalışmada da yağlılık ile sululuk arasında düşük düzeyde pozitif bir korelasyon ($r = 0.376$) tespit edilmiştir. Aroma değerlendirmesinde en yüksek puanı füme somon mus örneğı almış (4.58) ve bu örnek ile diğler üç reçete arasında istatistiksel açıdan anlamlı fark bulunmuştur ($P<0.05$). Benzer şekilde, genel kabul edilebilirlik puanlarında da füme somon mus örneğı ilk sırada yer almakta olup, diğler reçetelere kıyasla anlamlı düzeyde daha yüksek beğeni elde etmiştir ($P<0.05$). Dış görünüş ile genel kabul edilebilirlik arasında yüksek pozitif korelasyon ($r = 0.636$) belirlenmiş, buna göre panelistlerin genel değerlendirmelerinde dış görünüşün önemli bir belirleyici olduğı düşünülmektedir. Bu çalışma, Artvin Çoruh Nehri'nde yetiştirilen somon balığının ısıt işlemler uygulanmaksızın tüketilme ve beğenilme potansiyelini ortaya koymakta ve bu ürönlere yönelik yeni gastronomik uygulamalara ışık tutmaktadır.

Anahtar Kelimeler: Artvin, Somon, Balık, Duyusal

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ABSTRACT

Artvin salmon, influenced by the ecological characteristics of the Çoruh River, stands out as an important aquatic product with distinctive sensory and biochemical properties. In this study, the sensory attributes of four product formulations (sushi, smoked salmon, smoked salmon mousse, gravlax salmon) prepared without heat treatment using salmon raised in the Artvin Çoruh River were evaluated. Sensory analysis was conducted with the participation of 12 panelists. The products were scored using a 7-point hedonic scale based on appearance, odor, fattiness, firmness, juiciness, aroma, and overall acceptability. Regarding appearance, smoked salmon mousse received the highest liking score (4.4), followed by smoked salmon (3.8). In terms of odor, sample sushi received the highest score (4.0), and no statistically significant difference ($P>0.05$) was observed between samples sushi and smoked salmon. It was not found a statistically significant difference for fattiness ($P>0.05$). The use of non-heat-treated salmon in all formulations may have contributed to the similarity in perceived fattiness among the products. Additionally, consumers are known to associate juiciness with fattiness in some food products; in this study, a low positive correlation ($r = 0.376$) was found between these two attributes. For aroma, smoked salmon mousse achieved the highest score (4.58), showing a statistically significant difference ($P<0.05$) compared with the other three formulations. Similarly, smoked salmon mousse ranked highest in overall acceptability, with significantly higher liking scores compared with the other samples ($P<0.05$). A strong positive correlation was determined between appearance and overall acceptability ($r = 0.636$), suggesting that appearance played an important role in panelists' overall evaluations. This study highlights the potential of salmon raised in the Artvin Çoruh River to be consumed and appreciated without the application of heat treatment, offering new insights for gastronomic applications involving non-heat-treated salmon-based products.

Keywords: Artvin, Salmon, Fish, Sensory

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DETERMINANTS OF AGRICULTURAL TOURISM DEVELOPMENT IN LONG XUYEN CITY, AN GIANG PROVINCE

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ABSTRACT

This study's primary objective was to identify the determinants influencing the development of agricultural tourism in Long Xuyen, An Giang province. Data were collected from 149 tourists, who had previously experienced agricultural tourism destinations in the area, via a questionnaire survey administered through convenience sampling. The analytical approach included scale reliability assessment, exploratory factor analysis (EFA), and multivariate linear regression. The results identified five factors affecting agricultural tourism development, ranked in descending order of influence: (1) Environmental sanitation, (2) Human resources, (3) Community participation, (4) Agricultural tourism resources, and (5) Physical facilities. The findings suggest that developing agricultural tourism in Long Xuyen necessitates a thorough consideration of these factors to leverage the strengths of local craft villages and overcome existing limitations. Based on these results, the study proposes strategic orientations and solutions to foster the sustainable growth of agricultural tourism in the region.

Keywords: Long Xuyen city, agricultural tourism, factors.

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SIGNIFICANCE SUBSOWING OF PASTURES IN ORDER TO OBTAIN QUALITY FEED FOR RUMINANTS

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ABSTRACT

Most of the plants on natural pastures are wild species that have survived in those ecosystems thanks to various types of adaptations. A large number of these plant species are relatively poor food for domestic animals, in terms of quality and quantity. On the sown and reseeded pastures, selected plant species, in interaction with fertilization and proper methods of use, give significantly more good quality fodder in quantity. During a certain period of use, some of the sown lawns slowly return to their original state, i.e. there are fewer productive species, so it is necessary to renew them. On the other hand, the continuous breeding improvement of grass and leguminous species dictates their introduction into grazing and mowing systems, which improves the performance of domestic animals, regulates pasture production throughout the growing season, and restores damage from pests, floods, droughts, and natural die-off. Pasture sowing should be done in March, April and May, depending on the area. This is an agrotechnical measure that mainly improves natural grasslands in order to increase yields and improve the quality of the grass mass. Subsowing is sowing, sowing of grass and grass-leguminous mixtures into the existing grass cover, when it has been thinned more or in some places completely destroyed. Although degraded and thinned lawns can be repaired to a considerable extent by fertilizing and better utilization, reseeding, and especially reseeding and fertilizing, is more successful. In this way, the floristic composition of the lawn is improved, the better grasses are enhanced and the worse weed plants are suppressed, the density of the grass cover increases, especially its productivity and quality, the soil is more successfully protected from erosion and the environment as a whole is improved.

Keywords: pasture, subsowing of pastures, ruminants

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POTATO LATE BLIGHT (*PHYTOPHTHORA INFESTANS*): HISTORICAL, BIOLOGICAL, CULTURAL OVERVIEW FOR AN INTEGRATED PEST MANAGEMENT PERSPECTIVE

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ABSTRACT

Phytophthora infestans, causing Potato Late blight, inflicts a \$6.7 billion global economic burden, notably impacting potato-reliant regions like Morocco. Thriving at 20-28°C, it swiftly propagates sporangia. As an Oomycetes family member resembling brown algae, it historically devastates crops, potentially leading to complete wipeout. Traditional methods (prevention, chemicals, genetic resistance) face environmental criticism. However, through our research, we have delved into the biological, histological, and cultural factors of this pathogen. Our focus on environmentally-friendly methods has led us to explore Integrated Pest Management (IPM) as a promising and holistic approach for tackling both the pathogen and its ecological consequences.

Keywords: Potato Late blight, *Phytophthora infestans*, Chemical fungicides, Integrated pest management, Alternative control measures.

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NANOROBOTS FOR ADVANCED BIOMEDICAL AND ENVIRONMENTAL APPLICATIONS: DESIGN, MECHANISMS, AND FUTURE PROSPECTS

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ABSTRACT

Nanorobots represent a rapidly advancing frontier in nanotechnology, offering unprecedented capabilities for precise sensing, targeted delivery, and controlled manipulation at the molecular scale. Engineered using techniques such as DNA origami, self-assembly, and nanoelectromechanical systems (NEMS), these miniature devices integrate nanosensors, actuators, and autonomous navigation strategies to perform highly specialized tasks within complex biological and environmental systems. In healthcare, nanorobots have demonstrated significant potential in targeted drug delivery, early disease detection, tissue repair, and minimally invasive therapeutic interventions. Their utility extends beyond medicine to environmental monitoring and remediation through selective pollutant detection, micro-scale transport, and catalytic degradation. Although challenges remain in energy sourcing, biocompatibility, real-time control, and scalable fabrication, current research continues to bridge these gaps. Overall, nanorobots hold transformative promise for next-generation diagnostics, sustainable technologies, and smart materials, positioning them as a pivotal innovation in modern science.

Keywords: Nanorobots, Nanotechnology, Targeted drug delivery, Nanoelectromechanical systems (NEMS), DNA origami, Biomedical applications, Environmental remediation, Nanosensors, Self-assembly, Molecular manipulation

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NANOROBOTICS AT THE FRONTIER OF INNOVATION: A COMPREHENSIVE REVIEW OF PROGRESS AND CHALLENGES

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ABSTRACT

Nanorobotics has emerged as a transformative and advanced field at the intersection of materials science, computation, biotechnology, and nanoscale engineering. Rapid progress in adaptive materials, machine learning-enabled control systems, and precision manufacturing have accelerated the development of nanorobots capable of performing highly complicated tasks in biomedical, environmental, and industrial domains. Recent innovations demonstrate the potential of autonomous nanorobots for targeted therapeutics, regenerative nanomedicine, smart sensing, pollutant abatement and nanoscale assembly. Despite this progress, major challenges remain, including achieving sustainable energy autonomy, ensuring coordinated operation in dense biological or environmental media, and addressing safety, ethical, and regulatory concerns associated with real-world deployment. This work emphasize the synthesis current breakthroughs, identifies unanswered bottlenecks, and outlines strategic future directions necessary to alter nanorobots from experitemental concepts to scalable, practical technologies. The work emphasizes the need for interdisciplinary collaboration to open up the full potential of future-generation nanorobotic systems.

Keywords Nanorobotics; Nanorobots; Machine learning; Swarm intelligence; Adaptive materials; Autonomous diagnostics; Regenerative nanomedicine; Environmental applications; Nanoscale manufacturing; Ethical and regulatory challenges.

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INNOVATIVE SPATIAL ELECTRIC FIELD–ASSISTED LOW-TEMPERATURE PRESERVATION TECHNOLOGY: MECHANISMS, ADVANCES AND APPLICATIONS

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ABSTRACT

With the continuous rise in public expectations for food quality and safety, the innovation of food preservation technologies has become increasingly essential. Among various emerging approaches, the synergistic application of spatial electric fields and low-temperature storage has attracted significant attention due to its unique action mechanisms and remarkable preservation performance.

This paper systematically reviews the recent advances in spatial electric field–assisted low-temperature preservation technologies. It first introduces the definition, classification, and characteristics of spatial electric fields, and then provides an in-depth analysis of their preservation mechanisms, including inhibition of microbial growth, modulation of enzyme activities, regulation of moisture migration and ice-crystal formation, and retention of antioxidant components. Subsequently, research progress and practical applications of this technology in fruits and vegetables, aquatic products, and livestock-derived foods are summarized based on domestic and international studies.

Current findings indicate that spatial electric field–assisted low-temperature storage holds strong potential for food preservation. However, further investigation is still needed in areas such as process optimization and mechanistic clarification. Looking ahead, advancements in interdisciplinary technological integration, intelligent equipment development, and deeper mechanistic exploration are expected to enhance the practicality and effectiveness of this technology, providing improved solutions for the food preservation industry.

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IDENTIFYING THE DIFFERENCE IN FACTORS BETWEEN PLANNED BEHAVIOUR AND ACTUAL BEHAVIOUR IN THE KNOWLEDGE-SHARING PROCESS AMONG UNIVERSITY STUDENTS

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ABSTRACT

Universities may greatly benefit from increased productivity through increased knowledge exchange. This study aimed to investigate the varying motivations and practices of university students regarding knowledge sharing. For this reason, the study looked at how and why university students shared knowledge based on TPB. Multi-stage stage sampling was deployed, where 400 students from a university in Pakistan were chosen to participate in a survey. The samples involve two faculties (the Faculty of Social Sciences and the Faculty of Natural Sciences) and three departments from each faculty (Psychology, Education, and Sociology from the Faculty of Social Sciences, and Physics, Food Sciences Technology and Nutrition, and Chemistry from the Faculty of Natural Sciences) as samples. The research framework and hypotheses were evaluated using a correlation and multiple regression analysis. The results showed the difference between Planned Behaviour and Actual Behaviour in the Knowledge-Sharing process, as the perceived behaviour control has no significant relationship with Planned Behaviour. In contrast, it is the strongest predictor of Actual Behaviour. This study also found that, compared to subjective norms and perceived behavioural control, most students had a positive view of the intention to share knowledge. Moreover, the study found that a student's attitude strongly indicates whether or not they will share their knowledge. The present research is centred on the knowledge-sharing behaviours exhibited by university students. By utilising the Theory of Planned Behaviour (TPB), this study provides fresh insights into the objectives and conduct of students with regard to knowledge dissemination. This study contributes novel theoretical and methodological perspectives to the existing body of literature on information sharing within academic organisations. Correlation results show a moderate, significant positive relationship between self-efficacy and attitude, and a weak but significant relationship between organisational climate and subjective norms. Regression analysis revealed that attitude is the strongest and only significant predictor of knowledge-sharing intention, while subjective norms and perceived behavioural control showed no significant effect on intention.

However, when predicting actual knowledge-sharing behaviour, both knowledge-sharing intention and perceived behavioural control emerged as significant predictors. Notably, perceived behavioural

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control—although unrelated to intention—became a strong determinant of actual behaviour, indicating that students' real capabilities and access to resources play a critical role in translating intention into action. Overall, the findings highlight clear differences between planned and actual behaviour. Students generally display positive intentions toward sharing knowledge, driven mainly by favourable attitudes. Yet, actual knowledge-sharing behaviour depends more on students' perceived control and their intention to act. These results support the TPB framework while also emphasising the need for institutions to strengthen students' confidence, skills, and enabling environments to improve knowledge-sharing practices.

Keywords: Theory of Planned Behaviour (TPB), Knowledge Sharing Intention, Attitude, Perceived Behaviour Control, Subjective Norms, Knowledge Sharing Behaviour.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

CRUSTACEAN CONSUMPTION AND CONTAMINATION IN KHÁNH HÒA PROVINCE, VIETNAM

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ABSTRACT

This study was performed for risk assessment to lead, cadmium and mercury of Khanh Hoa population due to crustacean consumption. The crustacean consumption data was combined with lead contamination data in crustaceans by probabilistic analyses performed with @Risk to estimate the lead intake for six sub-population groups: men and women (18-29, 30-54 and 55 and over years old). The mean intake is 1,05; 0,7 and 0,8 µg/kg body weight/week when the maximal lead, cadmium and mercury concentration was used for calculation. The dietary intakes of lead by the Khanh Hoa population are compared with the Provisional Tolerable Weekly Intakes (PTWI) of lead , cadmium and mercury. There is no risk concerning the levels of exposure of the Khanh Hoa consumers to lead, cadmium and mercury due to the crustacean consumption.

Key words: risk assessment, crustaceans, exposure assessment.

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LAND TENURE IN THE LY TRAN DYNASTIES: STRUCTURES OF OWNERSHIP AND ALLOCATION MECHANISMS

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ABSTRACT

This study investigates the landholding system and agrarian structures under the Ly and Tran Dynasties (1009 – 1400), a formative period in the economic and social history of medieval Vietnam. By situating the issue of land within its broader political and institutional context, the research clarifies the mechanisms of land management, allocation, and ownership, including communal land, state-managed land, royal estates, and the thái ấp – điền trang system that became prominent under the Trần dynasty, alongside emerging forms of private landholding. Using a combined historical and analytical approach, the study reconstructs the evolution of land regimes across the two dynasties and identifies key differences in land administration policies. The findings highlight the central role of agrarian production and land control in consolidating state power, maintaining social stability, and sustaining the livelihood of rural communities. The paper demonstrates that transformations in landholding structures during this period were foundational to later ideological developments, including the emergence of the political ideal of “land to the tiller” in Vietnamese historical thought. Ultimately, the study contributes to a deeper understanding of the relationship between land, governance, and socio-economic order in premodern Vietnam.

Keywords: Ly dynasty; Tran dynasty; landholding system; land allocation; land ownership

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ON DYNAMIC RESPONSE OF POLARIZED SHEAR (SH) WAVES IN SELF-REINFORCED MATERIEL

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ABSTRACT

In the current article, we have studied the response of heterogeneity and anisotropy (Self-Reinforced material) on the propagation of horizontally polarized shear waves (SH waves). During earthquakes, horizontally polarized shear waves are the primary cause of damage but if we mix fiber composite materials during construction of buildings, then we can prevent our building from earthquake. The components of self-reinforced composite material act together as a single anisotropic component i.e., the two components are constrained together so that there is no relative displacement occurring between them. Alumina and concrete are examples of self-reinforced composite materials. Plastic reinforced with carbon fiber and plastic reinforced with glass are both made with self-reinforced materials. One of the many thermoset materials is an epoxy resin matrix with carbon fiber and aramid fiber materials. Self-reinforced materials decrease the permeability of concrete, increase abrasion and shatter resistance, and prevent cracking caused by plastic/drying shrinkage. The basic impact that fiber use has on the impact resistance of materials has recently received some attention. Additionally, it has been concluded that microfibers outperform longer fibers.

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A ROBUST CONSENSUS MODEL FOR UNBALANCED LINGUISTIC INFORMATION USING CONSTANT ORNESS LINGUISTIC OWA

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ABSTRACT

Group Decision Making (GDM) models often struggle with assessments expressed on unbalanced linguistic term sets. While recent consensus models have introduced unbalanced Linguistic Ordered Weighted Averaging (LOWA) operators to manage this information, their reliance on linguistic quantifiers can lead to an aggregation attitude that varies with the number of experts. This paper addresses this limitation by proposing a novel, robust consensus model that incorporates Constant

Orness Unbalanced LOWA and ILOWA operators. By parameterizing the aggregation strategy with a fixed Orness level $\alpha \in [0, 1]$, our model ensures a consistent and stable moderator attitude throughout the consensus reaching process, regardless of dynamic changes in the expert group size. We define these new operators within the 2-tuple linguistic framework and integrate them into a complete consensus model with feedback. A detailed numerical validation demonstrates the model's operational flow, and a comparative analysis highlights the significant impact of the moderator's attitude on the consensus outcome, showcasing the model's control and flexibility.

Keywords: Group Decision Making, Consensus Model, Unbalanced Linguistic Information, OWA Operator, Constant Orness, 2-Tuple Linguistic Model,

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LIQUID- LIQUID EXTRACTION OF PHOSPHORIC ACID BY ALCOHOLS, ITS APPLICATION FOR PURIFICATION OF COMMERCIAL PHOSPHORIC ACID

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ABSTRACT

In this paper liquid- liquid extraction of phosphoric acid by alcohols for purification of commercial phosphoric was studied. The extraction decreases by increasing the molecular weight of the alcohol, but the alcohol mainly used is heptanol because it has lower solubility and higher stability . The extraction isotherm of phosphoric acid from its aqueous solution with heptanol was determined. The extraction was carried out at ($T = 25^{\circ}\text{C}$, $\text{P}_2\text{O}_5 = 36\%\text{wt.}$). The results show that the phase equilibrium of extraction demonstrate favorable capacity and ability of heptanol to load high P_2O_5 concentration up to 57.5%. To study the Effects of parameters (mixing time, O/A ratio, and temperature) on the extraction of phosphoric acid, Taguchi factorial design method was used. The best extraction yield with optimum conditions achieved 60 % at mixing time 180 min, O/A = 2 and 293 K temperature. The heptanol show high selectivity and pure phosphoric acid for food and pharmaceutical uses with negligible impurities was obtained.

Keywords: alcohols, extraction, heptanol, isotherm, phosphoric acid.

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RADIO-FREQUENCY PLASMA POLYMERIZATION OF N,N-DIMETHYLANILINE: SYNTHESIS AND COMPREHENSIVE CHARACTERIZATION OF THIN FILMS

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ABSTRACT

The present study reports the synthesis and characterization of polymer thin films derived from the N,N-dimethylaniline monomer using radio-frequency (RF) plasma polymerization. The thickness of the deposited polymer films, measured by ellipsometry, is approximately 200 nm. The films were characterized using UV–Visible spectroscopy, Fourier Transform Infrared (FTIR) spectroscopy, and X-ray diffraction (XRD). The DC conductivity was observed to increase with temperature, indicating semiconducting behavior. XRD analysis confirms the amorphous nature of the synthesized polymer films. The full width at half maximum (FWHM) obtained from the UV–Visible spectrum is 18.4 nm. A notable finding of this study is the negative absorbance observed in the UV–Visible absorption spectrum, attributed to the variation of optical density with incident photon wavelength. This unique feature suggests potential applications in novel UV-transmitting devices. The successful polymerization of N,N-dimethylaniline was further confirmed by FTIR analysis.

Keywords: RF plasma polymerization; N,N-dimethylaniline; polymer thin films; UV–Visible spectroscopy; DC conductivity; negative absorbance.

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NUMERICAL SIMULATION OF A CLASSE OF NONLINEAR PERIODIC DIFFERENTIAL SYSTEMS BY FNO

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ABSTRACT

The aim of this work is to focus on the study of a class of periodic systems derived from biological phenomena modeling. Such models are generally cooperative. After developing a criterion for the existence of periodic solutions, the algorithms for their numerical simulations are designed. we opted for Deep Learning (FNO). The numerical results obtained show the robustness and efficiency of the proposed method.

Key words: Periodic, cooperative system, Fourier Neural Network .

AMS subject classification: 35K59, 35K55, 35A01 .

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INVESTIGATION OF SURFACE QUALITY ACHIEVED DURING SURFACE GRINDING OF Ti6Al4V UNDER DRY CONDITIONS WITH AND WITHOUT USE OF WHEEL CLEANING NOZZLE USING CBN WHEEL

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ABSTRACT

Surface quality of the components achieved after surface grinding affects the performance of the parts during their application. The surface quality of the ground components depends largely on the wheel material and the type of cooling and lubrication environment. In order to understand the effect of wheel material on surface roughness and surface integrity achieved in surface grinding, a comparative analysis of CBN and Alumina wheel in dry grinding environment has been carried out in this study. The results showed that compared to alumina wheel, the performance of CBN wheel in surface grinding was significantly better. A considerable increase in surface finish and reduction in micro-hardness variation with CBN wheel was observed as compared to that achieved with Alumina wheel. Results of the experimental study confirm the excellent machining capacity of the CBN wheel as compared to alumina wheel under same set of tested conditions, with stable behavior in roughness generated and surface integrity achieved.

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FUZZY MULTI-OBJECTIVE OPTIMIZATION FOR DESIGNING LOW-CARBON SUPPLY CHAINS

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ABSTRACT

These days it is very difficult to produce 100% good quality items. Hence, delivered lot may have some defective items in the lot and the process of inspection is must for the improvement of quality of items. We deal a sustainable supply chain model for defective items under centroid method defuzzification fuzzy environment by using of centroid method. Nowadays, the emission of carbon from the storage, various type of gases like carbon dioxide, sulphur dioxide and methane and transportations is more dangerous for the human life and also affects the activities of business. We developed models for the scenario of the separate decision and for the integrated decision of the players (seller/buyer) under the model's consideration. Our aim is to jointly optimize the integrated total fuzzy cost under a cloudy fuzzy environment sustained by the seller and buyer. Numerical examples, sensitivity, analysis limitations, future scope and conclusions have been provided for the justification of the proposed model, and the impact of the input parameters on the decision variables and integrated total fuzzy cost for the supply chain are provided for the validity and robustness of this proposed model. The effect of learning in a cloudy fuzzy environment was positive for this proposed model.

Keywords: supply chain, waste management cost; carbon emissions; learning effect. cloudy fuzzy environment.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

THE IMPACT OF MEDIA SENTIMENT ON A FIRM'S OPERATIONAL, INVESTMENT, AND FINANCIAL ACTIVITIES IN AN EMERGING ECONOMY

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ABSTRACT

Media sentiment is viewed as having growing influence on total market and company-level activities. We evaluate social media-, market-, and news-based sentiment and how it impacts operational, financial, and investment activities at a sample of non-financial registered organizations in Pakistan. We find that media sentiment based on social media, market, and news has a considerable influence on operating, financing, and investing activities, and our empirical findings are consistent with the current finance literature. In the framework of the Pakistani marketplace, our analysis provides novel insights on social media-, market-, and news-based sentiment and its impact on the firm activities.

Keywords: Financing activity; investing activity; media sentiment; operating activity

JEL classifications: G10, G14

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FEATURES OF USING A CAM MECHANISM IN THE INTERMITTENT ROTATION DRIVE OF PAD PRINTING MACHINES

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ABSTRACT

The intermittent rotation drive in pad printing machines performs the critical task of converting constant rotary motion into precise periodic movement for the product transport system into the printing zone. This process requires accurate fixation of the driven link during the dwell phase and the ability to handle significant starting torques to move the table mass. The periodic movement is effectively achieved using a cam mechanism with an open profile design (a profile executed with a break along the minimal radius vectors).

The authors propose a mechanism in which the cam's specifically engineered profile (executed with a break along the minimal radius vectors) rotates continuously with the main drive and works in conjunction with an additional sector, a spring link, and a gear system. This configuration generates a specific motion sequence. This sequence comprises a dwell phase with precise standing secured by two rollers and the cam's equal-radius section. It also comprises a rotation phase performed by the sector, which operates at the initial moment of motion to overcome static equilibrium. Finally, the sequence includes a controlled rotation phase driven by the release of spring energy and the variable cam profile.

The utilisation of this cam mechanism offers significant advantages, including high positioning accuracy and the ability to implement any periodic motion law, which allows for minimizing torque. The distinct feature is force closure via a spring link. This element serves to minimize dynamic loads and vibrations during rapid operation. Furthermore, the mechanism ensures the necessary dwell-to-cycle ratio, thereby effectively managing the inertia of large driven masses without increasing the overall dimensions of the device.

Consequently, these cam-driven systems are reliable, compact, and vital for modern pad printing equipment requiring exact synchronization and high printing accuracy. The primary benefit of the proposed system over complex multi-cam or crank-slider analogs is that it offers the simplified structure that ensures accurate fixation of the driven link and periodic rotation (e.g., at 90° or 120° steps) while reducing mechanical wear. Promising future research involves investigating the spring link's influence on the mechanism's dynamic stability under varying operational speeds.

Keywords: cam mechanism, pad printing machine, intermittent motion, rotary table, force closure.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

DEVELOPMENT AND CHARACTERIZATION OF COAL–BIOMASS BRIQUETTES INCORPORATING *DODONAEA VISCOSA* FOR SUSTAINABLE ENERGY APPLICATIONS

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ABSTRACT

The global shift towards renewable energy necessitates sustainable alternatives to fossil fuels. This study investigates the development of coal–biomass briquettes incorporating *Dodonaea viscosa*, a fast-growing and underutilized shrub, to produce an eco-friendly composite fuel. The research aims to enhance fuel efficiency, reduce emissions and contribute to sustainable energy generation aligned with the United Nation Sustainable Development Goals 7, 12, 13, and 15 by ensuring access to affordable and clean energy, promoting responsible consumption and production, combating climate change and protecting terrestrial ecosystems. Using a statistical Mixture Design approach, various proportions of coal, biomass and polyvinyl acetate (PVA) binder were formulated and analyzed through proximate tests based on ASTM standards. The results revealed that briquettes with higher coal content exhibited elevated calorific values up to 25.57 MJ/kg, lower moisture and reduced ash content, while biomass-rich blends improved ignition behavior. The incorporation of *Dodonaea viscosa* not only enhanced combustion performance but also provided an economically viable and environmentally sustainable alternative to conventional coal. Overall, the findings demonstrate that *Dodonaea viscosa* based coal–biomass briquettes offer a practical solution for cleaner energy production, reduced greenhouse gas emissions and efficient waste-to-energy utilization in developing regions.

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SPACE-DISCRETE, TIME-CONTINUOUS $p(\cdot)$ -LAPLACIAN DYNAMICS: ROTHE EXISTENCE AND SIMULATION BY DEEP LEARNING

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ABSTRACT

We consider a space-discrete, time-continuous anisotropic $p(\cdot)$ -Laplacian parabolic problem on a lattice. Using a Rothe time semi-discretization and monotone operator techniques, we prove global existence and uniqueness of discrete weak solutions. We then compare a Jacobian-free Newton–Krylov solver with a hard-constraint physics-informed neural network that enforces initial and boundary conditions exactly. For smooth sources Newton–Krylov is faster and more accurate, whereas for strongly nonlinear and non-smooth sources it often fails to converge while the PINN remains robust. These results show how classical and deep-learning-based solvers can complement each other for nonlinear lattice diffusion models.

KEYWORDS: anisotropic $p(\cdot)$ -Laplacian; Rothe scheme; discrete weak solution; physics-informed neural networks; Newton–Krylov methods

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SECURITY AND TRUST PERCEPTIONS IN CLOUD-NATIVE AI LEARNING ENVIRONMENTS: EDUCATORS' PERSPECTIVE

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ABSTRACT

Cloud-native AI learning environments (CNAILEs) are increasingly integrated into modern teaching and learning due to their ability to provide scalable, personalized, and collaborative educational experiences. These systems leverage cloud infrastructure and AI-driven analytics to support adaptive feedback, continuous assessment, and data-informed instruction. Despite these benefits, educators' perceptions of security and trust remain central to successful adoption. As key decision-makers in the learning environment, educators often weigh the pedagogical advantages of AI tools against concerns related to data privacy, reliability, algorithmic transparency, and institutional compliance. This paper conducts a secondary synthesis of empirical and review literature published between 2019 and 2025 to examine how educators evaluate trust and security in cloud-native and AI-supported learning systems. Reviewed sources included open-access PDFs, policy documents, and peer-reviewed journal articles, from which quantitative findings such as survey data, regression statistics, and technical performance metrics were extracted. Across studies, educators' trust in AI-EdTech was strongly predicted by perceived benefits, perceived concerns, and teachers' AI self-efficacy and understanding. Notably, regression models from multi-country samples explained up to 58% of the variance in trust, demonstrating the importance of teacher competence and confidence in shaping positive perceptions. Research on cloud-based educational systems further shows that foundational security constructs, such as confidentiality, integrity, and availability (CIA), significantly influence platform usage. When educators and learners perceive these attributes as strong, adoption and continued use increase considerably. Additionally, technical studies reveal that federated learning and privacy-preserving AI approaches provide measurable improvements in data protection, including approximately 25%

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reductions in privacy risks and 40% improvements in threat detection in cloud-based implementations. Overall, the findings suggest that building trustworthy CNAILEs requires combining secure system architecture with educator-focused strategies. This paper discusses the implications for policy, teacher professional development (PD), and system design, and proposes future research that integrates educator survey data with real-time cloud security telemetry to better understand trust formation in AI-enabled learning environments.

Keyword: AI in education, Cloud security, Trust perceptions.

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ROLE OF EMPATHY IN THE RELATIONSHIP BETWEEN PETS ATTACHMENT AND MENTAL HEALTH AMONG PET OWNERS

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ABSTRACT

This study examines the relationship between pet attachment, empathy, and mental health among pet owners, drawing on principles from attachment theory. A quantitative co relational approach was employed with a sample of 250 pet owners (balanced by gender) from Rawalpindi and Islamabad, Pakistan. Standardized measures including the Animal Empathy Scale–Short Form (AES-SF), Lexington Attachment to Pets Scale (LAPS), and Depression, Anxiety, and Stress Scale (DASS-21) were used to assess key variables. Findings demonstrated that stronger emotional bonds with pets were associated with lower levels of depression ($r=0.27$, $p<.01$), anxiety ($r=-0.28$, $p<.01$), and stress ($r=-0.31$, $p<.01$), supporting the mental health benefits of human-animal connections. Empathy was found to enhance these benefits, particularly in mitigating stress and anxiety, suggesting that individuals with greater empathy derive more psychological support from their pets ($B=-3.40$, $P=<.05$). Demographic variations emerged, with married participants reporting higher empathy and better mental health outcomes compared to unmarried individuals. Conversely, unemployed respondents exhibited stronger pet attachment but poorer mental health, implying that pets may serve as compensatory sources of emotional support in the absence of other social resources. Gender differences were also observed, with women displaying higher levels of both empathy and pet attachment. These results highlight the potential of pet companionship as a therapeutic tool, particularly for emotionally attuned individuals. The study contributes to existing knowledge on animal-assisted support and suggests practical applications for mental health interventions. Methodological limitations, such as the cross-sectional design and geographically restricted sample, indicate a need for future longitudinal and cross-cultural research to validate and expand these findings.

Keywords: pet attachment, empathy, mental health, human-animal bond, stress, depression, anxiety, animal-assisted support, gender differences, Pakistan

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BLOCKCHAIN FOR SUSTAINABLE FASHION: ENSURING ETHICAL SOURCING AND PRODUCTION IN THE APPAREL INDUSTRY

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ABSTRACT

The apparel industry, one of the largest global employers and contributors to economic growth, faces growing criticism for its lack of transparency, unethical sourcing practices, and environmental impact. Ensuring sustainability across the supply chain—from raw material sourcing to final product delivery—has become a critical challenge. Blockchain technology, with its decentralized, transparent, and immutable data structure, offers transformative potential to address these issues by enhancing traceability, trust, and accountability across all stages of apparel production.

This study explores the role of blockchain in promoting ethical sourcing and sustainable production within the apparel industry. The research adopts a qualitative exploratory approach, incorporating secondary data and case analyses of leading fashion brands that have initiated blockchain-based supply chain solutions. The study identifies how blockchain features such as smart contracts, distributed ledgers, and immutable data recording can ensure real-time verification of product provenance, supplier compliance, and fair labor conditions.

The findings reveal that blockchain enhances consumer trust by offering verifiable transparency, reduces instances of counterfeit and unethical practices, and supports responsible consumption. However, challenges such as high implementation costs, data standardization, and limited technological capabilities among small and medium-sized apparel enterprises remain significant barriers. The study emphasizes the need for multi-stakeholder collaboration and supportive policy frameworks to facilitate large-scale blockchain adoption.

The paper concludes that blockchain technology can serve as a digital trust infrastructure for the sustainable transformation of the apparel supply chain. Integrating blockchain with complementary technologies such as the Internet of Things (IoT) and Artificial Intelligence (AI) can further strengthen data authenticity and process efficiency. This research contributes to both academic and managerial perspectives by highlighting blockchain's potential to ensure ethical sourcing, enhance transparency, and drive sustainability in the global fashion industry.

Keywords: Blockchain, Sustainable Fashion, Ethical Sourcing, Supply Chain Transparency, Traceability, Apparel Industry, Sustainability

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THE DYNAMICS OF GLOBAL ECONOMICS: CHALLENGES AND NEW HORIZONS

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ABSTRACT

The global economy is in a state of constant change, shaped by both longstanding challenges and emerging dynamics. In recent years, economies worldwide have faced significant disruptions due to factors such as technological advancements, environmental crises, and shifting geopolitical landscapes. This chapter explores the evolving dynamics of global economics, focusing on key challenges including economic inequality, climate change, and instability in financial systems. It also highlights new economic frontiers such as the rise of digital economies, the integration of artificial intelligence, and the transformation of international trade in the context of globalization. Through an interdisciplinary approach, this chapter examines the potential pathways for addressing these challenges and fostering inclusive, sustainable economic growth. The analysis underscores the importance of innovative economic models and international cooperation in creating a more resilient global economy. Ultimately, the chapter aims to provide valuable insights into the future of global economics and offer recommendations for policymakers and researchers seeking to navigate the complexities of an interconnected world.

Keywords: Global economics, economic inequality, digital economy, sustainability, artificial intelligence, international trade, economic growth, climate change, financial stability, global cooperation

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TELEMEDICINE AND DIGITAL HEALTH

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ABSTRACT

Telemedicine and digital health have emerged as fundamental pillars in the transformation of modern healthcare, offering innovative solutions to overcome traditional barriers in medical service delivery. Telemedicine involves the remote provision of clinical care through digital communication tools such as video consultations, secure messaging, and remote monitoring technologies. Digital health, a broader concept, integrates advanced technologies including mobile health applications, wearable devices, electronic health records (EHR), artificial intelligence (AI), and cloud-based platforms to enhance healthcare delivery, patient engagement, and data-driven decision-making.

The increasing burden of chronic diseases, rising healthcare costs, and disparities in access to quality care have accelerated the global adoption of telemedicine and digital health solutions. These technologies enable real-time monitoring of patients, early detection of health complications, remote management of conditions like diabetes and hypertension, and improved continuity of care. In rural and underserved regions, telemedicine bridges the gap between patients and specialists, reducing travel time, expenses, and delays in treatment. The COVID-19 pandemic further highlighted the critical role of virtual care models, driving rapid technological integration and fostering acceptance among healthcare providers and patients.

Digital health technologies also empower individuals to take a proactive role in their well-being through mobile apps, fitness trackers, and personalized health insights generated by AI algorithms. Healthcare systems benefit from streamlined workflows, enhanced data accuracy, reduced hospital overcrowding, and improved decision-making supported by predictive analytics.

However, the widespread implementation of telemedicine and digital health faces several challenges, including data privacy concerns, cybersecurity risks, limited digital literacy, infrastructure gaps, and varying regulatory frameworks. Addressing these issues is essential to ensure equitable and secure access to digital healthcare services.

Overall, telemedicine and digital health represent a major turning point in global healthcare, offering sustainable, patient-centred, and technology-driven approaches that will continue to evolve and shape the future of medical practice.

Keywords: Telemedicine, Digital Health, Remote Consultation, mHealth, eHealth, Electronic Health Records (EHR), Tele-monitoring, Artificial Intelligence in Healthcare, Wearable Devices, Virtual Care, Remote Patient Monitoring (RPM), Digital Therapeutics, Health Informatics, Smart Healthcare, Telehealth Services, Healthcare Innovation, Mobile Health Applications, Medical Technology, Digital Transformation, Virtual Clinics.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

APPLICATION OF SMART TEXTILE IN CHILDREN'S CLOTHING PROTECTION

Neda Farzan, Dr. Farideh Talebpour

ABSTRACT

The purpose of this study was to investigate the application of smart textiles in immunization of children's clothing. In this regard, the use of the smart industry in tapping and securing clothing to protect the child from harm was investigated. The use of multipurpose fabrics, commonly known as electro textiles or smart textiles, makes for a healthier, safer, and easier life, so it can produce a useful product if the textiles' intelligence is combined with their overlay features. Since one of the most critical periods of any human's life is his childhood and the child's need to play in this period is very important and this study has tried to minimize the possible harm to them. The sample consisted of 276 respondents who were selected by purposeful sampling method. The participants were selected by random sampling from mothers and fathers of 17-50 years of age in Tabriz. The research method is descriptive survey and based on purpose, among applied research. According to the results of the statistical tests and the information obtained from the questionnaires and observations, the relationship between children's coverage and their impact is very high. Designed to minimize damage to the baby while keeping the appearance as simple and as beautiful as possible.

Keywords: smart textiles, protective textiles, safety, children, vulnerability

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

ALGORITHMIC JUSTICE: SHOULD CONSTITUTIONAL COURTS INCLUDE AI JUDGES IN RIGHTS ADJUDICATION?

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ABSTRACT

The swift rise of Artificial Intelligence (AI) in the judicial arena has ignited important discussions about its possible role in constitutional courts, especially when it comes to upholding human and constitutional rights. AI-powered decision-making systems, often referred to as algorithmic justices, hold the promise of greater fairness, consistency, and improved access to justice. Yet, even with the increasing research on AI's use in administrative and civil courts, there is still a notable lack of exploration into its effects on constitutional adjudication. This study aims to fill that void by investigating whether AI technologies can or should be integrated into constitutional courts while still respecting core legal principles and human values. This research takes a qualitative approach, focusing mainly on secondary data sources like court rulings, scholarly legal commentaries, and international AI ethics frameworks. By conducting a content analysis, the study assesses both the potential advantages and the inherent risks associated with integrating AI into constitutional courts. The findings indicate that while AI can improve procedural efficiency like case management, document analysis, and support for legal reasoning, it also brings significant challenges to interpretive reasoning and judicial empathy. The lack of human judgment in AI-driven decision-making could jeopardize the moral and constitutional aspects of justice. Additionally, issues such as algorithmic bias, transparency deficits, and accountability concerns pose major hurdles to the credibility of AI-assisted constitutional rulings. This study wraps up by emphasizing that AI should play a supportive role in constitutional courts, rather than taking the lead. While tech tools can definitely help boost efficiency and consistency, the essential judicial tasks like interpretation, moral reasoning, and upholding constitutional values need to stay in human hands. This research adds to the academic conversation by broadening the discussion on judicial legitimacy in our digital age and highlights the need for strong ethical and legal guidelines to ensure AI is integrated responsibly into constitutional decision-making.

Keywords: AI judge; algorithmic justices; constitutional courts; rights adjudication.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

A CLINICAL ANALYSIS OF MIGRATION IN THE CONTEXT OF ALBANIA'S EUROPEAN INTEGRATION

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ABSTRACT

Migration has been, and continues to be, one of the most transformative experiences for Albanian society. For decades, Albanians have left their homeland in search of safety, identity, and opportunity—facing profound feelings of loss, insecurity, and disconnection. For some, migration became a permanent condition; for others, a temporary journey followed by return. This cycle of movement has created a shared emotional and unresolved memory that could expose people to various psychological difficulties and fragile interpersonal relationships. This study presents a qualitative clinical analysis of the migration and return experience, through the personal narrative of an individual who has lived through both. Using a trauma-sensitive psychological approach, the study explores experiences of abandonment, longing, invisibility, and rejection, as well as the emotional tension between the memory of the place left behind and the reality of the place returned to. These individual narratives are positioned within Albania's current efforts toward European Union integration, emphasizing the importance of addressing the emotional legacy of migration as part of this broader national process. Building a resilient and cohesive society capable of navigating European integration requires acknowledgment and psychological processing of the emotional wounds caused by migration. Through deep reflection and healing, a stronger sense of belonging, stability, and social cohesion can be achieved, both at the individual and collective level.

Keywords: emotional memory, collective trauma, migration, Albania, clinical psychology, European integration, identity formation.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

INNOVATIVE SOLUTIONS FOR SUPPORTING AFFECTED WOMEN

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ABSTRACT

How do Afghan women play a role in farming, and which tasks do they mainly contribute to in local agriculture Afghan women play a key role in crop farming. They are the main farmers responsible for sowing, caring for, and harvesting cereals, vegetables, and fruits. These activities contribute to the family's food and local markets, and women, using their knowledge and traditional experience, help .improve both the quality and quantity of the crops

Animal husbandry and food resources

Women contribute significantly to livestock rearing, such as sheep, goats, and poultry. These activities not only help provide food for the family but also serve as a source of income. By producing dairy products like milk and eggs, women play an important role in the family economy and improving livelihoods.

Production of local products

Afghan women are active in producing local food products, such as yogurt, butter, and bread. These products are consumed as staple foods in families and some are sold in markets. Women's capabilities .in this field strengthen the local economy and food security

Women in water and land management also play a vital role. They apply traditional and modern techniques to optimize water use and soil management. This management increases agricultural productivity, protects natural resources, and supports sustainable development in rural communities.

Key roles of Afghan women in local agriculture

Crop farming: Women help sow, maintain, and harvest cereals and vegetables to manage and improve product quality and quantity.

Livestock raising: Women engage in raising livestock (sheep, goats, chickens) activities that support family food and income.

Production of dairy products: Women participate in producing local dairy products like yogurt and bread, contributing to the local economy and food security.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

A CHARACTERIZATION OF RINGS IN WHICH EVERY SEMI-HOPFIAN MODULE IS NOETHERIAN

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ABSTRACT

Let R be a ring and M an R -module. It is well known that Hopfian modules are semi-Hopfian, but the converse is not always true. In this paper, we introduce and study a new class of rings, called **SHN-rings**, defined as rings for which every semi-Hopfian module is Noetherian. We investigate the structural properties of SHN-rings and explore their relationships with other well-known classes of rings and modules. Over commutative rings, we establish that SHN-rings coincide with Köthe rings, SHN-rings, pure-semisimple rings, and Artinian principal ideal rings. Furthermore, we show that over commutative SHN-rings, the notions of multiplication modules, cyclic modules, finitely generated modules, and Noetherian modules are equivalent. Additionally, we prove that in the setting of regular rings, semiprime Artinian rings, PCI-rings, and SHN-rings are equivalent.

Keywords: Semi-Hopfian modules, SHN-rings, SU-rings, Semiprime artinian rings.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

A FIRST-PRINCIPLES INVESTIGATION OF THE STRUCTURAL, DYNAMICAL, AND THERMODYNAMIC PROPERTIES OF TLS MONOLAYER AND BILAYER AT HIGH TEMPERATURE AND PRESSURE

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ABSTRACT

This research presents a comprehensive theoretical investigation of the structural, dynamical, and thermodynamic properties of monolayer and bilayer Thallium Selenide (TlSe). The calculations were performed within the framework of Density Functional Theory (DFT) using the Full-Potential Linearized Augmented Plane Wave (FP-LAPW) method as implemented in the Wien2k code.

The structural stability of the systems was rigorously validated. The dynamical stability was confirmed by the absence of imaginary frequencies in the phonon dispersion spectra. Furthermore, the thermal stability was verified through *ab initio* molecular dynamics (AIMD) simulations, which revealed minimal energy fluctuations as a function of simulation time.

For the study of thermodynamic properties, we employed the Gibbs2 code in conjunction with the quasi-harmonic Debye model. This approach enabled a systematic analysis of the influence of pressure and temperature on key thermodynamic variables. We examined the behavior of volume (V), bulk modulus (B), thermal expansion coefficient (α), Debye temperature (θ_D), heat capacities at constant pressure (C_P) and constant volume (C_V), Gibbs free energy (G), and entropy (S). The obtained results provide fundamental insights into the thermodynamic behavior of 2D TlSe systems under varying conditions, revealing significant trends that are crucial for assessing their potential application in nanoelectronic and thermoelectric devices.

Keywords: Phonon dispersion; Thermodynamic stability ; Thermodynamic properties ; DFT; High pressure ; High temperature.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

INTEGRATION OF RESTORATIVE DESIGN FEATURES IN RESORT ARCHITECTURE IN ABUJA, NIGERIA

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ABSTRACT

In an era marked by heightened stress and environmental degradation, restorative design is gaining prominence as a sustainable approach to architectural development. This study examines how biophilic interventions and spatial configuration strategies influence restorative experiences within resort environments in Abuja, Nigeria. Employing a quantitative research design, data were collected from a diverse sample of resort users through digital survey platforms. Descriptive and inferential analyses, including correlation, multiple regression and exploratory factor analysis (PCA with Varimax rotation), were conducted to assess relationships among Restorative Principles Evaluation (RPE), Biophilic Interventions (BIRE), and Prospect–Refuge Restorative (PRR) constructs. Findings indicate strong positive correlations between RPE and both BIRE ($r = 0.763$, $p < 0.01$) and PRR ($r = 0.632$, $p < 0.01$), with BIRE showing a stronger predictive influence on restorative perception ($\beta = 0.659$, $p < 0.001$). The model explained 59% of the total variance ($R^2 = 0.590$), confirming that the integration of daylight, vegetation, water elements and natural materials, along with spatial attributes such as legibility, prospect and refuge, significantly enhances user well-being. Demographic variations also moderated restorative appraisals, underscoring user diversity in design response. The study advances a sustainable, context-sensitive framework for resort architecture in Nigeria, advocating for restorative design strategies that align ecological sensitivity with human psychological needs.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

ASSESSING THE RISKS OF USING ARTIFICIAL INTELLIGENCE IN HIGHER EDUCATION: BETWEEN FACILITATION AND ETHICAL CHALLENGES

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ABSTRACT

This study examines the potential risks associated with the integration of Artificial Intelligence (AI) in higher education, focusing on both its facilitative benefits and ethical challenges. While AI technologies offer opportunities to enhance teaching, learning, and administrative processes, they also raise significant ethical concerns, including data privacy, bias, and academic integrity. Through a comprehensive review of existing literature and case studies, this research identifies key risk factors, evaluates their potential impact on students, faculty, and institutions, and proposes strategic guidelines to mitigate these risks. The study aims to provide policymakers and educational leaders with insights to implement AI responsibly and sustainably in higher education.

Keywords: Artificial Intelligence, Higher Education, Ethical Challenges, Risk Assessment, Educational Technology, Academic Integrity

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

HYBRIDIZATION TECHNIQUES FOR THE SOLUTION OF SYSTEM OF NONLINEAR EQUATIONS USING CONJUGATE GRADIENT METHOD

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ABSTRACT

This paper presents an effective conjugate gradient method via hybridization techniques for the solution of system of nonlinear equations. The study aimed to use hybridization techniques to solve system of nonlinear equations using conjugate gradient methods. And the study is to achieve these objectives; to derive methods that are derivative free, to present an effective conjugate gradient method, to present methods with sufficient descent direction. We achieved these by hybridizing some well-known conjugate gradient methods. The scheme satisfies the sufficient decent condition. Under mild condition, the global convergence result for the method is established. Preliminary numerical results for some large-scale benchmark test problems reported in this work, demonstrate that, the method is practically effective and competitive to some existing methods

Keywords: System of nonlinear equations, Conjugate gradient method, hybridization

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

MICROBIOME ASSISTED BIODEGRADATION OF SURGICAL MASKS ENHANCED BY *SESBANIA BISPINOSA* DRIVEN IRON NANOPARTICLES: A SUSTAINABLE STRATEGY

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ABSTRACT

Disposable polypropylene (PP) face masks pose substantial ecological risks due to their persistence and contribution to microplastic pollution. This study investigates a novel approach to accelerate PP biodegradation by combining soil-isolated plastic degrading microorganisms with green-synthesized iron nanoparticles (FeNPs) as degradation enhancers. The FeNPs were synthesized via a green chemistry approach, using agro-friendly plant *Sesbania bispinosa* aqueous extract to control nanoparticles size through optimized parameters. The researchers have demonstrated that such biosynthesized FeNPs stimulate bacterial proliferation, organic matter mineralization, humidification and compost maturation. Plastic degrading strains were isolated from agricultural soil and screened for degradation activity. Laboratory scale biodegradation assays were conducted using face mask films, degradation efficiency was quantified based on weight loss, and molecular changes were confirmed by FT-IR, which revealed emergence of acetaldehyde and carbonyl peaks compared to untreated films. Biofilms formulation by the microbial strains on the mask surfaces confirmed microbial colonization and attachment. The results indicate that the synergistic application of isolated soil microorganisms and green synthesized FeNPs markedly improves the biodegradation of PP masks. This integrated strategy shows strong potential as an environmentally sustainable method for managing PP waste.

Key words: Microbiome, Iron nanoparticles, Polypropylene, Biodegradation, Agriculture soil

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

UNMASKING CYBER VIOLENCE: SOCIAL MEDIA ENGAGEMENT AND SPIRITUAL BYPASS IN YOUNG ADULTS

Safa Ahmed, Asma Jahangir, Beenish Mubeen and Shahnaila Tariq

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ABSTRACT

The aim of conducting this research was to examine the relationship between social media engagement, spiritual bypass, and cyber violence. Co-relational research design was used to conduct the study. A sample of 200 young adults (Males=76, Females=124) between the ages of 17 – 22 years, ($M = 21.07$ and $SD = 1.74$) sampling was taken by using nonprobability purposive sampling. The measures used were Social Networking Usage Questionnaire, Spiritual Bypass Scale, and Cyber Violence Scale. There was a positive relationship between social media engagement and Cyber violence. On the other hand, spiritual bypass showed negative relationships with social media engagement and cyber violence. Finally, multiple linear regression analysis illustrated that social media engagement positively predicted cyber violence, and spiritual bypass negatively predicted cyber violence. The t-Test results showed that there are gender differences in cyber violence. It says that females are more victims of cyber violence than males, and males are more perpetrators than females. Everyone engages himself or herself in social media usage in today's era so that they can stay connected with the world around them but unfortunately, some people use it for the purpose of abusing others online.

Keywords: Social Media Engagement, Spiritual Bypass, Cyber Violence, Young Adults

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14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

EFFECT OF METAKAOLIN ON FLY ASH–GGBS–BASED GEOPOLYMER CONCRETE BY PARTIAL REPLACEMENT OF FINE AGGREGATE WITH QUARTZ SAND

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ABSTRACT

Geopolymer concrete (GPC) is recognized as a sustainable alternative to ordinary Portland cement (OPC) concrete, offering significant reductions in carbon emissions through the alkali activation of aluminosilicate sources. In this research, the influence of metakaolin (MK) as a supplementary precursor in a fly ash–GGBS–based geopolymer system is investigated. Additionally, the effect of partial replacement of fine aggregate with quartz sand on mechanical and durability properties is evaluated. Metakaolin was incorporated at replacement levels of 0%, 5%, 10%, and 15% by weight of the binder, while quartz sand replaced natural river sand at 0%, 10%, 20%, and 30%. Experimental parameters included compressive strength, split tensile strength, flexural strength, water absorption, and microstructural analysis. Results indicate that the combined incorporation of metakaolin and quartz sand significantly enhances early-age reactivity, improves strength characteristics, and refines microstructure due to the formation of a denser aluminosilicate gel matrix. The optimal mix was observed at 10% MK and 20% quartz sand, resulting in a compressive strength increase of approximately 15–20% compared to the control mix. These findings confirm that metakaolin-rich geopolymer binders with quartz sand as a fine aggregate supplement offer improved performance and sustainability for structural applications.

Keywords: Geopolymer concrete, Metakaolin, Fly ash, GGBS, Quartz sand, Alkali activation, Mechanical properties, Sustainable concrete.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

STRUCTURAL, SPECTROSCOPIC, DFT STUDIES, HIRSHFELD SURFACE ANALYSIS AND ANTIBACTERIAL ACTIVITY OF Z-3-(4-BROMOPHENYL)-3- CHLOROACRYLALDEHYDE

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ABSTRACT

The present study describes the single-crystal X-ray structure of Z-3-(4-bromophenyl)-3-chloroacrylaldehyde. Hirshfeld Surface analysis was performed, providing insight into intermolecular interactions for the first time. The compound crystallizes in the monoclinic system with a space group P21/c and unit cell dimensions of $a=3.9327(4)$ Å, $b=18.5517(19)$, $c=12.2749(14)$ and $V=894.77(16)$ Å³. Z-3-(4-bromophenyl)-3-chloroacrylaldehyde was characterized using ¹³C and ¹H NMR spectroscopy, and its thermal stability assessed with a thermogravimetric analyzer. Optical properties were investigated through UV-Visible absorption and emission spectroscopy. Density Functional Theory (DFT) calculations were performed using B3LYP theory with a basis set of SDD. HOMO-LUMO calculations, conceptual DFT and its global reactivity descriptors like hardness, electronegativity and electrophilicity of molecule were studied using G16W software. The energy gap of 4.17eV obtained from HOMO-LUMO molecular orbital energy shows that the compound is hard, stable and reactive. Further, Z-3-(4-bromophenyl)-3-chloroacrylaldehyde also exhibited significant antibacterial activity against both Staphylococcus aureus (S. aureus) and Escherichia coli (E. coli) with a zone of inhibition of 13 ± 1 mm against E. coli and 14 ± 1 mm against S. aureus and the MIC value for the was found to be 0.55 mg/mL against S. aureus and 1.1 mg/mL against E. coli. The integration of experimental and theoretical approaches in this study enhances the understanding of the versatile applications of BCA across various fields.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

ATTITUDES OF ALBANIAN RADIOGRAPHY STUDENTS TOWARD ARTIFICIAL INTELLIGENCE

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ABSTRACT

Background: Artificial intelligence (AI) is rapidly transforming medical imaging, bringing significant changes in both radiography practice and education. Understanding how radiography students perceive AI is critical, as they will play an important role in its future use in clinical settings.

Methods: A self-structured, anonymized questionnaire consisting of 21 questions was used to conduct this study. The questionnaire was distributed via Google Forms to all students enrolled in the Radiography study program at the University of Elbasan "Aleksandër Xhuvani," across both Bachelor and Professional Master levels, as well as students from the University of Medicine in Tirana, during April 2025. The aim of the questionnaire was to assess students' perceptions of artificial intelligence (AI).

Results: A total of 185 students participated in the study, including 106 females and 79 males. Despite ongoing advancements in the implementation of AI in daily life, most participants reported having only basic knowledge about AI technologies. Approximately 70 % of them believe that AI implementation should begin as soon as possible in Albania. Most respondents also stated that integrating AI into university curricula should be considered essential. Although most participants admitted they lacked sufficient knowledge about AI, they expressed a strong desire to improve their understanding of this field.

Conclusion: The findings show that Albanian radiography students have a generally positive attitude toward artificial intelligence, acknowledging its potential value in medical imaging. Despite current knowledge gaps, there is a strong interest in AI education and widespread support for its incorporation into educational programs. These findings emphasize the importance of incorporating structured AI training into radiography curricula to better prepare students for future clinical applications.

Key Words: Artificial Intelligence, perception, students, Albania

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

QS INHIBITION BY ALGAL COMPOUNDS AGAINST MARINE BIOFILMS

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ABSTRACT

We examined that whether patulin and penicillic acid, two well-known quorum sensing inhibitors (QSI) for human pathogen *Pseudomonas aeruginosa* PAO1, can prevent biofilm formation. The study aims for amplification of a putative *luxS* gene homologue in the marine microorganism *H. pacifica* ATCC 27122, as well as monitoring AI-2 QS in marine organisms. Degenerated primers were designed based on the *luxS* protein sequence of ten gram-negative, α -, β - and γ - proteobacteria, and used for *luxS* gene amplification in *H. pacifica*. AI-2 assays were carried out using the well-established *Vibrio harveyi* BB170 AI-2 bioluminescence assay. Effect of penicillic acid on AI-2 induction of *H. pacifica* showed strong inhibitory effect at non-growth inhibitory concentrations compared to patulin having adverse effect at the highest concentration (25 μ M) tested in our study. QSI's effect on biofilm forming capability of marine isolates was isolate specific. Detection of bioluminescence in the autoinducer bioassay and the presence of a putative *luxS* gene orthologue are biochemical and genetic evidence for the production of a signalling molecule(s) and provide a first step in characterizing *H. pacifica* quorum sensing. Our study emphasizes that QSI compounds must be selected in the specific system in which they are to function and they cannot easily be transferred from one QS system to another.

Key words: Biofilm formation, *H. pacifica*, AI-2 assay, *LuxS* gene, Patulin, Penicillic acid

Category: Oral presentation

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

FARMERS PERCEIVED EFFECTS OF CLIMATE CHANGE ON VEGETABLE PRODUCTION PRACTICES IN SOUTH EAST, NIGERIA

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ABSTRACT

The study assessed farmers' perceived effect of climate change on vegetable production practices in Nsukka LGA, Enugu State, Nigeria. Specifically, it was designed to: ascertain the knowledge of vegetable farmers; identify production practices; assess the perceived effects of climate change on vegetable production; identify methods of climate change adaptation and ascertain factors that militate against production. Questionnaire was used for data collections. A Multi-stage sampling procedure was used to select (60) respondents for the study. Frequency, percentage, mean and standard deviation were used for data analysis. Findings indicated that majority, (68.3%) were female and (70.0%) were married. The mean household size was 6 and (40%) had contact with extension. Only (23.3%) got access to information on climate change from fellow farmers. (100%) of the respondents believed that climate is changing. Perceived effects of climate change on vegetable were; high mortality of plant($\bar{x}$ =3.62), reduced seed productivity($\bar{x}$ =3.42), decreased quantity and quality of vegetable ($\bar{x}$ =3.78). The adaptation strategies were; change in cropping pattern ($\bar{x}$ =2.56), change in calendar of planting ($\bar{x}$ =2.53), use of organic manure ($\bar{x}$ =2.50). Factors against vegetable production includes; poor education ($\bar{x}$ =2.92), limited income ($\bar{x}$ =3.33), poor climate change awareness ($\bar{x}$ =3.23). Extension agents should increase efforts in the creation of awareness and training of farmers on climate change among others.

Keywords: Vegetable, production, practices, climate change

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

UNMASKING CYBER VIOLENCE: SOCIAL MEDIA ENGAGEMENT AND SPIRITUAL BYPASS IN YOUNG ADULTS

Safa Ahmed, Asma Jahangir, Beenish Mubeen and Shahnaila Tariq

Department of Applied Psychology, University of Management and Technology, Lahore Pakistan

ABSTRACT

The aim of conducting this research was to examine the relationship between social media engagement, spiritual bypass, and cyber violence. Co-relational research design was used to conduct the study. A sample of 200 young adults (Males=76, Females=124) between the ages of 17 – 22 years, ($M = 21.07$ and $SD = 1.74$) sampling was taken by using nonprobability purposive sampling. The measures used were Social Networking Usage Questionnaire, Spiritual Bypass Scale, and Cyber Violence Scale. There was a positive relationship between social media engagement and Cyber violence. On the other hand, spiritual bypass showed negative relationships with social media engagement and cyber violence. Finally, multiple linear regression analysis illustrated that social media engagement positively predicted cyber violence, and spiritual bypass negatively predicted cyber violence. The t-Test results showed that there are gender differences in cyber violence. It says that females are more victims of cyber violence than males, and males are more perpetrators than females. Everyone engages himself or herself in social media usage in today's era so that they can stay connected with the world around them but unfortunately, some people use it for the purpose of abusing others online.

Keywords: Social Media Engagement, Spiritual Bypass, Cyber Violence, Young Adults

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

EXTRACT PLANT AS CORROSION INHIBITOR FOR CARBON STEEL IN HYDROCHLORIC ACID MEDIUM

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ABSTRACT

Corrosion is a pervasive issue that significantly compromises the integrity and longevity of metallic materials, especially when they are exposed to aggressive environments such as those containing hydrochloric acid. To mitigate the damaging effects of corrosion, a variety of preventive and control strategies have been developed. Among these, the use of corrosion inhibitors has proven to be one of the most effective methods. Inhibitors function by forming a protective film on the metal surface, thereby reducing or completely halting the electrochemical reactions responsible for corrosion. Traditionally, many of these inhibitors have been synthetic compounds, some of which are effective but often pose environmental and health concerns due to their toxicity and the presence of heavy metals.

In recent years, there has been a growing interest in the use of natural, plant-based extracts as corrosion inhibitors. These natural substances offer a promising alternative, particularly in industries where sustainability and environmental impact are key concerns. Plant extracts are rich in organic compounds such as alkaloids, tannins, flavonoids, and other polyphenols, which have been found to absorb effectively onto metal surfaces and inhibit corrosion. Their biodegradable nature ensures they break down harmlessly in the environment, and their non-toxic composition makes them safe for use in a wide range of applications, including those involving human exposure or ecological sensitivity.

Moreover, plant-derived inhibitors are often sourced from agricultural by-products or common vegetation, making them a cost-effective solution. Their renewable nature adds to their appeal as industries increasingly seek to adopt greener practices. As a result, extensive research is now being directed toward identifying, characterizing, and optimizing plant extracts for corrosion inhibition. The development and utilization of such eco-friendly inhibitors not only address corrosion-related challenges but also align with global efforts to minimize environmental degradation and promote sustainable industrial practices.

Keywords: corrosion-inhibitor, plant extract, carbon steel

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

FEMINIST RIGHT OF INHERITANCE IN NIGERIA: VISITING THE CASE OF UKEJE V UKEJE

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ABSTRACT

The feminist right of inheritance in Nigeria remains a contentious issue within the country's socio-legal landscape, where customary laws often conflict with constitutional and international human rights standards. The landmark Supreme Court case of *Ukeje v. Ukeje* (2014) stands as a watershed moment in the struggle for gender equality in inheritance rights. This case addressed the constitutionality of discriminatory Igbo customary laws that excluded female children from inheriting their father's estate. The Supreme Court, in affirming the decision of the Court of Appeal, held that such customs are unconstitutional as they violate the provisions of Sections 42(1) and (2) of the 1999 Constitution of the Federal Republic of Nigeria, which guarantee freedom from discrimination based on sex or circumstances of birth. The judgment reflects a progressive judicial approach towards dismantling patriarchal norms entrenched in customary law, thereby reinforcing women's rights to property and equal treatment under the law. This paper critically examines the *Ukeje* decision from a feminist legal perspective, highlighting its implications for women's inheritance rights, the tension between customary practices and constitutional supremacy, and the broader quest for gender justice in Nigeria. It argues that while the decision represents a significant victory for women's rights, practical enforcement remains hindered by deep-rooted cultural traditions and socio-economic factors. Ultimately, the *Ukeje* case symbolizes both the triumph and continuing challenges of feminist advocacy for equal inheritance rights in Nigeria's plural legal system.

Keywords: Feminism, inheritance rights, customary law, gender equality, *Ukeje v. Ukeje*, Nigeria.

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DISTANCE TRAINING CONCERNING CIVIL DEFENSE DURING MARTIAL LAW IN UKRAINE

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ABSTRACT

Distance learning in Ukraine is used in the process of mastering educational courses in various areas, including the study of safety disciplines. Ukrainian higher education institutions provide for the study of life safety, labor protection and civil protection, which considers the following issues: theoretical foundations of life safety; sources of danger; striking, dangerous and harmful factors; types and classifications of hazards. Labor protection classes provide for familiarization with legal and organizational issues of labor protection (including the procedure for investigating accidents that occurred in educational institutions); issues of electrical and fire safety, etc. The study of civil protection by applicants for higher pedagogical education provides for familiarization with systems of organizational, engineering, sanitary and hygienic, anti-epidemic and other measures.

At the same time, we consider it advisable to combine distance and face-to-face learning in the following way: the first part of the course involves face-to-face training, followed by distance learning; the exam is held in the classroom or in the training center; the first part of the course is distance training, followed by face-to-face learning; the exam is held in the classroom or in the training center; parts of the distance and face-to-face forms of learning take place in parallel; then the exam is taken in the classroom or in the training center; the fire safety course is held in the classroom (face-to-face), participants use distance learning only to complete their tests; the exam is held in the classroom or in the training center; distance, face-to-face learning and online testing are held in parallel; the final exam is taken online.

Therefore, depending on the situation, distance learning can be combined with face-to-face learning in a variety of sequences, where part of the course is held remotely, and the rest is face-to-face. Also, the final assessment can be carried out remotely if the main course was carried out in person. It is advisable to check the key acquired skills in person if the course began remotely. We agree with this approach and believe that distance learning can be used for part of the academic discipline, provided that the rest of it is taught in person. This will ensure the proper quality of learning content.

Keywords: civil protection, distance education, education during the war.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

THYROID HORMONE LEVELS AND THEIR ASSOCIATION WITH PLASMA ZINC LEVELS AMONG ADOLESCENT AFGHAN REFUGEES; A CROSS-SECTIONAL STUDY

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ABSTRACT

Introduction: Thyroid hormones play an important role in the development and maintenance of nearly all tissues. In Pakistan, hypothyroidism and hyperthyroidism prevalence are 4.1% and 5.1%, respectively, and with increasing age, prevalence increases approximately to 10% in adults over 65 years of age. Malnutrition or nutritional deficiencies in the body can be the cause of thyroid disorders. Zinc (Zn) and copper (Cu), have important roles in regulating biological processes, maintaining normal thyroid function, and preventing thyroid diseases.

Objective: The objective of study was to find out levels of the thyroid hormones (TSH, T3 and T4) and its association with plasma zinc levels among adolescents Afghan refugees living in Peshawar, Pakistan.

Methodology:

Study design: Cross-sectional study

Study setting: It was conducted in the experimental Laboratory of Hayatabad Medical Complex, Hayatabad, Peshawar, Khyber Pakhtunkhwa (Pakistan) and University of Nottingham, England.

Subjects: A total of 206 adults from Khazana Afghan Refugee Camp, Peshawar were recruited and demographic details were done using a standard questionnaire.

Methods: We measured the patient's weight and height to calculate body mass index (BMI). Each participant blood sample was taken, so that many indicators could be measured. The concentrations of plasma zinc were measured by Inductively coupled plasma mass spectrometry (ICPMS), and TSH, T3, and T4 were done by using cobas e 601 which is a completely automated analyzer that performs immunoassay analysis using electrochemiluminescence (ECL) technology.

Results: Gender was equally divided into 103 females and 103 males with age group of 10-14 was (65.5%) and 15-19 was (34.5%). According to results (99.0%) participants had normal TSH levels, (79.1%) of participants had normal T3 levels, while (78.6%) of participants had normal T4 levels. T3 and T4 was low in (10.7 and 18.4 %) respectively. Serum Zinc levels in majority (65%) of participants had normal zinc levels while 35% of the participants were found to be deficient in zinc. There was significant association between gender and age group p value 0.02. A significant association was found between the gender and T3 levels. Females had more ratio of increased T3 levels. There was significant

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association between gender and T4 levels. However there was no significant association between thyroid hormones Zinc and other parameters.

Conclusion: This non-significant study did not find a direct relationship between thyroid hormones and zinc levels, there is still evidence to suggest that maintaining adequate zinc levels may be important for proper thyroid function. Further research is needed to fully understand the relationship between these two factors. Keywords; malnutrition, hyperthyroidism, hypothyroidism

Keywords; malnutrition, hyperthyroidism, hypothyroidism

Registration number: 2019/KMU/ KGMC/MPhil/BIO/1

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

CLIMATE CHANGE-INDUCED MIGRATION: A CASE STUDY OF NAGAR VALLEY, GILGIT-BALTISTAN, PAKISTAN

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ABSTRACT

Climate change has emerged as a major driver of human displacement, particularly in ecologically fragile regions like Gilgit-Baltistan, Pakistan. This study investigates the impact of climate-induced environmental changes on migration patterns in Nagar Valley, a remote mountainous area highly vulnerable to glacial retreat, erratic weather events, and water resource scarcity. Using a mixed-methods approach combining field surveys, in-depth interviews, and climate data analysis, the research identifies key factors prompting internal displacement and seasonal migration, including glacial lake outburst floods (GLOFs), reduced agricultural productivity, and livelihood insecurity. The findings reveal a growing trend of climate-stressed households relocating to urban centers in search of safety and economic opportunity. The study also highlights the lack of institutional support, adaptive capacity, and sustainable planning for affected communities. By providing localized insights, this research contributes to the broader discourse on climate migration in South Asia and emphasizes the urgent need for climate-resilient development strategies in high-altitude regions.

Keywords: Climate change, migration, Nagar Valley, Gilgit-Baltistan, GLOFs, environmental displacement, Pakistan

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

ELUCIDATING DRUG SURFACTANT INTERACTIONS AND MECHANISTIC INSIGHTS FOR ENHANCED PARTITIONING AND DRUG DELIVERY

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ABSTRACT

This study investigates the role of two commonly used surfactants, Triton X-100 (TX-100) and Tween-80, in enhancing the solubility of the NSAID (derivative of naproxen 1-NO). NSAID's poor water solubility limits its bioavailability and therapeutic efficacy, presenting a challenge for effective drug delivery. Surfactants like TX-100, a nonionic surfactant with an aromatic ether group, and Tween-80, a nonionic surfactant composed of a polyoxyethylene sorbitan ester, are known for their ability to improve drug solubility by reducing surface tension and forming micelles. In this study, the solubility of NSAID (1-NO) was analyzed in aqueous solutions of varying concentrations of TX-100 and Tween-80. The results demonstrated a significant increase in NSAIDs solubility with the addition of both surfactants, with Tween-80 showing a more pronounced effect at lower concentrations. The enhancement in solubility is attributed to the formation of micelles by the surfactants, which encapsulate the hydrophobic drug molecules, thereby increasing their aqueous solubility. This research highlights the potential of TX-100 and Tween-80 as solubilizing agents in pharmaceutical formulations, offering a promising approach to improving the bioavailability of NSAID. The findings suggest that surfactant-based strategies could be effectively employed to enhance the therapeutic efficacy of poorly soluble drugs.

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JOURNALIST SAFETY AND RISKS IN CONFLICT ZONES

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ABSTRACT

This article examines the risks journalists face in conflict zones and evaluates the effectiveness of existing international protection mechanisms. It discusses global trends in violence against journalists, the legal frameworks established by the United Nations and UNESCO, and recent data from Reports Without Borders (RSF). Through selected case studies from the Middle East, Eastern Europe, and the South Caucasus, the article highlights both the systemic nature of threats and the shortcomings of global responses. The study emphasizes the need for stronger accountability mechanisms and more efficient preventive measures to ensure journalists' physical, psychological, and digital security.

ÖZET

Çatışma bölgelerinde gazetecilik yapmak, gazetecileri ölümcül tehlikelere, tutuklamalara ve uzun süreli psikolojik travmalara maruz bırakır. Bu makale, gazetecilerin karşılaştığı riskleri inceleyerek, UNESCO, Gazetecileri Koruma Komitesi (CPJ) ve Sınır Tanımayan Gazeteciler (RSF) raporlarından elde edilen güncel verileri analiz etmektedir. Uluslararası insancıl hukuk çerçevesinde gazetecilerin korunması, cezasızlık sorunu ve önemli vaka çalışmaları değerlendirilmiştir. Makale, çatışma bölgelerinde gazetecilerin güvenliğini artırmak için kapsamlı stratejiler önermektedir: özel güvenlik ve risk eğitimleri, kurumsal güvenlik protokolleri, hukuki reformlar ve psikolojik destek. Gazetecilerin korunması, sadece etik bir zorunluluk değil, aynı zamanda bilgi özgürlüğünün ve kriz durumlarındaki doğru haber akışının sürdürülebilmesi için hayati öneme sahiptir.

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CLONING TECHNOLOGY: METHODS, APPLICATIONS, AND ETHICAL CONSIDERATIONS

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ABSTRACT

Cloning technology has evolved into a critical component of modern biotechnology, offering powerful methods for replicating genes, cells, and entire organisms. Cloning exists in three major forms: gene cloning, which enables the production of identical DNA sequences; therapeutic cloning, used to generate patient-specific cells for medical treatment; and reproductive cloning, which creates genetically identical organisms through techniques such as somatic cell nuclear transfer (SCNT). These methods have contributed significantly to advancements in agriculture, medicine, and conservation. In agriculture, cloning helps preserve desirable traits in livestock, while in conservation biology, it offers possibilities for protecting endangered species. In medical research, cloning supports disease modeling, drug testing, and the potential development of replacement tissues.

Despite its scientific benefits, cloning raises major ethical, legal, and social concerns. Issues surrounding human cloning, animal welfare, genetic diversity, and the potential misuse of cloning technologies continue to spark global debate. Furthermore, low success rates and the risk of genetic abnormalities limit the effectiveness of reproductive cloning. Nevertheless, ongoing improvements in cloning efficiency, combined with the integration of gene-editing technologies, suggest a promising future. Cloning remains a vital research tool with the potential to shape medicine, agriculture, and conservation in profound ways.

Keywords: Somatic Cell Nuclear Transfer (SCNT), Therapeutic Cloning, Genetic Replication, Biotechnology Ethics

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

ANTIBIOTICS AND ANTIMICROBIAL RESISTANCE

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ABSTRACT

Antibiotics are vital therapeutic agents used to treat bacterial infections by inhibiting bacterial growth or destroying pathogenic bacteria. They have significantly reduced morbidity and mortality associated with infectious diseases and remain essential in modern medicine. However, the widespread misuse, overuse, and inappropriate prescribing of antibiotics have accelerated the emergence of antimicrobial resistance (AMR), a global public health threat. AMR occurs when microorganisms such as bacteria, viruses, fungi, and parasites evolve mechanisms to withstand antimicrobial agents, rendering standard treatments ineffective. This leads to prolonged illness, increased healthcare costs, treatment failures, and a rise in mortality rates. Factors contributing to AMR include incomplete antibiotic courses, self-medication, poor infection control, and excessive use of antimicrobials in agriculture. Addressing AMR requires coordinated efforts involving prudent antibiotic use, enhanced infection prevention, development of new antimicrobial agents, surveillance programs, and public awareness. Strengthening global strategies is essential to preserve the effectiveness of antibiotics for future generations.

Keywords – Antibiotics , Therapeutic agents , global strategies.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

SUSTAINABLE RETAIL ENVIRONMENTS: A DESIGN-BASED EXPLORATION OF ZERO-WASTE GROCERY STORES

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ABSTRACT

Grocery stores, as a common form of retail chain, play a pivotal role in shaping consumer behavior and environmental responsibility. The idea of a sustainable grocery store extends beyond the traditional shopping experience to create an ethical, economical, and eco-friendly space where waste materials are minimized, reused, and transformed into resources. These stores aim to eliminate plastic packaging by promoting alternatives such as refill stations and encouraging customers to bring their own reusable containers. The primary goal is to reduce dependency on single-use plastics while promoting the guiding principles of the 3Rs: Reduce, Reuse, and Recycle.

This research adopts a design-based methodology to conceptualize and evaluate sustainable grocery stores. Site observations, spatial analysis, and case studies of existing zero-waste and green stores are employed to identify design elements that enhance user experience, operational efficiency, and environmental performance. The methodology focuses on how interior layouts, material selection, circulation patterns, and display systems can be optimized to encourage sustainable practices. Attention is also given to the integration of renewable energy systems, natural lighting, and ventilation strategies to further reduce ecological footprints.

Findings reveal that well-planned design solutions not only facilitate resource conservation and energy efficiency but also create environments that positively influence customer participation in sustainability. By prioritizing non-toxic, recyclable, and locally sourced materials, these stores foster trust and engagement within communities. Moreover, aligning with the United Nations Sustainable Development Goals (SDGs), sustainable grocery stores serve as prototypes for environmentally responsible retailing, offering a replicable model that balances ecological impact with commercial viability.

Keywords: Sustainable design, zero waste grocery store, 3Rs (Reduce, Reuse, Recycle), green building, resource conservation, user-centered design, renewable energy integration.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

FLY-ASH AGGREGATE IN GEOPOLYMER CONCRETE FOR PAVEMENT USES: PERFORMANCE RANGES, MECHANICAL CHARACTERISTICS, AND EXPERIMENTAL PROGRAM

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ABSTRACT

This paper reviews the use of fly-ash-based aggregates and sintered/synthetic fly-ash aggregates in geopolymer concrete (GPC) intended for pavements, summarises reported mechanical and durability properties, and proposes an experimental programme for producing and characterising fly-ash aggregate geopolymer concrete (FA-GPC) for rigid pavement applications. Literature shows that fly-ash geopolymer matrices can achieve pavement-quality compressive strengths (20–60+ MPa) with competitive modulus, abrasion resistance and reduced permeability compared with OPC concrete under appropriate mix and curing regimes. This study synthesises reported property ranges, identifies key variables (fly-ash class, Si/Al ratio, activator concentration, aggregate type), and presents a detailed materials & methods plan and test matrix so practitioners can reproduce and validate FA-GPC for pavement design.

Keywords: geopolymer concrete, fly ash aggregate, pavement, compressive strength, modulus of elasticity, abrasion resistance, sintered fly-ash aggregate

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

IMPACT OF MOBILE PHONE USAGE

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ABSTRACT

Mobile phone usage has become an essential part of daily life, especially among young adults. However, excessive screen time and night-time phone usage may negatively impact sleep quality. This study aims to assess the relationship between mobile phone usage and sleep patterns among college students. A questionnaire-based survey was conducted among students aged 18–25 years, focusing on screen time, bedtime mobile use, sleep duration, and sleep disturbances. The findings indicate that students who used mobile phones for more than three hours per day, especially during late-night hours, experienced reduced sleep duration, difficulty falling asleep, and frequent night awakenings. The blue light emitted from screens, continuous notifications, and social media engagement were identified as major contributing factors. The study concludes that high mobile phone usage significantly affects sleep quality and overall well-being. Creating awareness on healthy phone habits and promoting digital hygiene can help improve sleep health among students.

KEYWORDS:

- Mobile phone usage.
- Sleep quality.
- Screen time.
- College students.
- Blue light.
- Digital hygiene.
- Sleep disturbance.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

PERFORMANCE EVALUATION OF CIGS SOLAR CELLS WITH A ZINC SULFIDE INSULATION LAYER

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ABSTRACT

In this paper, we present a simulation of a CIGS solar cell with a ZnS buffer layer, performed using the Silvaco-Atlas simulator. However, we obtained an efficiency of 24.13%, short-circuit current of 37.81 mA/cm², an open circuit voltage of 740 mV, and a fill factor of 78.78% at E_g was around 1.41 eV, corresponding to an x ratio of 0.5 for the CIGS solar cell using a ZnS buffer layer. We optimized the performance of the ZnS/CIGS solar cell with the improved effects of layer parameters such as thickness and acceptor densities ZnS buffer layers.

KEYWORDS: Buffer layer (ZnS), CIGS, Solar cell, Optimization, Silvaco-Atlas

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

AESTHETICS AND VISUAL COMMUNICATION IN THE PRESENTATION OF VODOUN MEALS IN BENIN

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ABSTRACT

This study examines the aesthetic dimension and visual communication inherent in the presentation of Vodun ritual meals in Benin, focusing on offerings, food arrangement, and the symbolic use of colors. In Vodun practices, culinary presentation is not merely decorative; it functions as a structured symbolic language addressed to deities, ancestors, and initiated community members. Using a semiotic and anthropological approach, the research analyzes recurrent visual codes (shapes, colors, supports, spatial organization) and demonstrates how they convey ritual intentions such as protection, fertility, purification, and empowerment. The findings reveal that the aesthetics of Vodun meals constitute a coherent visual grammar through which sacred intentions are communicated and community cohesion is strengthened. This study thus highlights the interconnections between ritual art, food symbolism, and visual communication within Vodun cultural practices in Benin.

Keywords : Vodun communication, aesthetics, Vodun meal, culinary art, Benin.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

DRUG REPURPOSING AS A RAPID THERAPEUTIC STRATEGY FOR SOLID CANCERS

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ABSTRACT

Drug repurposing—the strategy of identifying new therapeutic uses for existing, approved, or investigational drugs—has emerged as a promising and efficient approach in the treatment of solid cancers. Traditional anticancer drug development is often prolonged, costly, and characterized by high attrition rates; in contrast, repurposed drugs benefit from established safety, pharmacokinetic, and toxicity profiles, significantly accelerating their clinical translation. In solid tumors such as breast, lung, colorectal, and prostate cancers, repurposed agents have demonstrated the ability to target key oncogenic pathways, modulate the tumor microenvironment, and enhance responsiveness to conventional therapies. Examples include the use of metformin for metabolic modulation, statins for inhibition of the mevalonate pathway, and non-steroidal anti-inflammatory drugs for suppression of COX-mediated carcinogenesis. Advances in computational biology, high-throughput screening, and network-based modeling have further expanded opportunities to identify candidate molecules with anticancer potential. Additionally, repurposing facilitates the combination of existing drugs to overcome therapeutic resistance—a major challenge in solid cancer management. Clinical trials investigating repurposed agents, alone or in combination with chemotherapy, radiotherapy, or immunotherapy, have reported improved patient outcomes and reduced toxicity profiles in select tumor types. Despite these advantages, challenges remain, including limited commercial incentives, intellectual property constraints, and the need for robust clinical validation. Nevertheless, drug repurposing represents a cost-effective and time-efficient strategy that complements traditional oncology drug discovery. As precision medicine and computational tools continue to advance, repurposed drugs are poised to play an increasingly significant role in expanding the therapeutic landscape for solid cancers.

Keywords: Drug repurposing, Solid cancers, Therapeutic resistance, Computational biology, Clinical translation

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

PERSON–ORGANIZATION FIT AMONG FACULTY MEMBERS IN IRANIAN PUBLIC UNIVERSITIES: AN EMPIRICAL STUDY

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ABSTRACT

When there is a good fit between an individual and their work environment, higher levels of satisfaction and psychological and physical well-being are achieved. The fit of an individual with the organization has an important impact on work outcomes such as organizational employability, job selection, job satisfaction, organizational commitment, and turnover. Since organizational fit leads to positive attitudes toward work, if there is a good fit between the individual and the organization, employees are committed to the organization and are willing to remain in the organization; but if there is a poor fit, employees are on the lookout for opportunities to change their position. The present study was conducted to examine person–organization fit among faculty members of the Iranian public universities. The statistical population included all faculty members across the university’s national branches. Using Hooman’s method of estimating sample size—which requires ten participants per questionnaire item—a total sample of 375 faculty members was selected based on the 25-item instrument. Data were collected through a researcher-developed questionnaire comprising 25 items across five dimensions: goal compatibility, personality compatibility, ability and skill compatibility, workplace compatibility, and values compatibility. To address the research questions and hypotheses, confirmatory factor analysis and one-sample t-tests were employed. The findings revealed strong interactive and structural relationships among the five dimensions of person–organization fit. Additionally, faculty members reported satisfactory levels of fit across all dimensions. Overall, the results indicate that faculty members of the Iranian public universities demonstrate an acceptable level of person–organization fit.

Keywords: Person-organization fit, Job satisfaction, Iranian public universities, Faculty members

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

ASSESSING THE BIOAVAILABILITY OF TREATING FUEL WASHING WASTEWATER WITH BIO COAGULATION AND FLOCCULATION

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ABSTRACT

The current study aims to use a Bio Coagulation-Flocculation (BCF) procedure to handle fuel-washing wastewater. *Moringa Oleifera* Seed Powder (MOSP) and *Opuntia ficus-indica* (OFI) juice are used as a bio-coagulant and a bio-flocculent, respectively. For these reasons, effluent from fuel washing was treated with a BCF process utilizing various concentrations of bio-coagulant and bio-flocculent. According to the data, coagulation was more effective at reducing pollutants, with 41.3 mg/L of MOSP, turbidity, TSS, COD, and nitrates successfully removed in 99.5%, 89%, 95%, and 87.5%, respectively.

Furthermore, phenol was removed using 82.6 mg/L MOSP with an efficiency of 88.5%. The treatment was made better by the usage of *Opuntia ficus-indica*. This bio-flocculant was able to remove 86.5% and 85.5% of TSS and COD, respectively. These high removal efficiencies were attained with 3.09 mg/L *Opuntia ficus-indica* while adding 3.708 mg/L *Opuntia ficus-indica* eliminated 99% of the turbidity. Despite the limited availability of this type of study on petroleum wastewater, the total findings demonstrated that the BCF treatment could be utilized to treat fuel-washing wastewater. This is due to its high removal efficiency, ecological harmlessness, biodegradable nature, and safety for human health. The findings demonstrated that the BCF treatment could treat fuel-washing wastewater.

Keywords: Bio coagulation, bio flocculation, fuel washing wastewater, physical-chemical.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

THE POLITICAL ECONOMY OF DECARBONIZATION: CHALLENGES AND PATHWAYS IN RENEWABLE ENERGY TRANSITIONS

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ABSTRACT

Existing patterns of production, employment, and accumulation have grown to be a major issue of public policy when it comes to the energy transition. Many people agree that high-carbon energy systems must change in response to climate change. During the last 20 years, several legislative efforts have been launched to increase the use of renewable energy sources. Technology costs and deployment rates, implied in experience curves, are usually considered as the primary variables in the global clean energy transition from fossil fuels towards low-carbon energy sources. Since politics affects both deployment and prices, we argue that it is the hidden factor of technology experience curves. It offers a critical examination of how state institutions, global organizations, private industry, and civil society shape energy policy priorities, focusing on key factors such as financial incentives, regulatory frameworks, and the distribution of energy resources.

Technology prices and deployment rates, as indicated by experience curves, are widely regarded as the main factors influencing the worldwide clean energy transition from fossil fuels to low-carbon sources. We propose that politics is the hidden factor of technological experience curves, influencing both costs and implementation. The article explores the role of politics in shaping energy agendas, focusing on subsidies, regulatory systems, and resource access. It highlights the political economics of decarbonisation, highlighting the challenges and approaches involved in renewable energy transitions. The article also explores the complex interaction of political power, economic interests, social dynamics, and institutional frameworks driving the transition from fossil fuels to renewable energy sources. The study examines major obstacles to decarbonization, including industry opposition, financing and investment complexity, and the necessity for stable policies.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

THE PROBLEM OF MICROPLASTICS IN ENVIRONMENTAL MEDICINE

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ABSTRACT

Introduction: Microplastics represent one of the most significant challenges in modern environmental medicine due to their widespread distribution and potential adverse effects on human health. These compounds enter the environment through various routes, including marine and freshwater sources, ambient air, and food products, increasing human exposure.

The study aimed to analyze the main sources, global distribution, and pathophysiological effects of microplastics on human health based on recent scientific literature.

Study Methods and Materials: This study is based on a narrative literature review conducted in accordance with PRISMA guidelines to ensure methodological transparency and accuracy. A comprehensive search was performed in the PubMed and Google Scholar databases, covering the period from 2014 to 2024. The following keywords were used: “microplastics,” “human health,” “bioaccumulation,” “microplastics ingestion,” and “toxicology of microplastics.”

Inclusion criteria were: Peer-reviewed studies focusing on the impact of microplastics on human health, Systematic reviews, meta-analyses, original research articles. After initial screening of **134 articles**, **37** met the final eligibility criteria and were analyzed in depth.

Literature management was conducted using **Zotero**, while Microsoft Excel was used for data synthesis and thematic organization.

Results: The findings indicate that microplastics have bio accumulative properties and are linked to serious health effects, including endocrine disruption, inflammation, immune dysfunction, cancer risk, and neurodegenerative diseases.

Conclusion:

Strengthening control measures across drinking water, food, and air quality to mitigate microplastic exposure, supported by coordinated efforts in environmental regulation, public health, and education.

Key words: Microplastics, Health risks, Environmental medicine, Bioaccumulation.

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14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

E-COMMERCE PLATFORM DEVELOPMENT: AMAZON CLONE WEBSITE

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ABSTRACT

E-commerce has shifted the retail world to a whole new dimension where the convenience and accessibility is offered to consumers in a way never seen before. Amazon, which is among the most successful online commerce models, defines the standard of online shopping. The project is meant to put in place the essentials of Amazon by developing an Amazon clone website, which is intended to replicate the most important aspects of an e-commerce system in the contemporary world. It will consist of a user registration, product browsing, cart management, order processing and payment integration, which will give the user a full-fledged learning experience in full-stack web development. The primary goal of the project is to create a full-fledged e-commerce platform, following the example of Amazon, and its user-friendly and convenient interface. The system will include safe user authentication and approval whereby users can be able to create accounts, log in and maintain their accounts. The product catalogue will be dynamic, have search and filter options, and product details, which will be accompanied by a shopping cart module where the user will be able to manage and complete the purchase. There will be a simulated payment gateway that will enable users to safely process transactions. The project will also have an administration dashboard to control products, users and orders. The project of Amazon Clone Website includes several modules: User Registration and Authentication, Product Catalog Management, Shopping Cart and Order Management, Payment Gateway Integration, Admin Dashboard and Search and Recommendation System. React.js will be used as the frontend to build the website, Node.js and Express.js as the backend, and MongoDB/ MySQL as the database management systems. The security control mechanisms like JSON Web Tokens (JWT) authentication and Password encryption and decryption using the hash algorithm known as the bcrypt will be used to provide the users with a safe and secure experience. The anticipated success of the project is the establishment of a functional e-commerce site that replicates the most important features of a large scale e-commerce site. Through the project, the students will be able to gain practical training in the creation of a complex and interactive web application, differentiation of multiple technologies, and the security and scalability of the platform. Moreover, it will be an educational and practical tool, as it will provide the information on how to build e-commerce websites and how to use the full-stack development methods in practice.

Keywords: An E-commerce platform, Amazon clone, a full-stack web development, user authentication, product list, cart, order processing, payment gateway.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

GOVERNANCE AND ETHICAL OVERSIGHT OF AGENTIC ARTIFICIAL INTELLIGENCE IN BUSINESS PROCESS MANAGEMENT: BALANCING HUMAN- AUTONOMY, ORGANIZATIONAL ACCOUNTABILITY AND ALGORITHMIC TRANSPARENCY

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ABSTRACT

This work dwells on Governance and ethical oversight of agentic artificial intelligence in business process management: balancing human-autonomy, organizational accountability and algorithmic transparency with particular reference to four specific objectives: To determine the relationship between human autonomy and ethical decision-making effectiveness in AI-supported BPM, to examine the role of organizational accountability in mitigating governance risks associated with agentic AI, to assess how algorithmic transparency influences trust, ethical compliance, and stakeholder confidence in business operations, to propose an empirically validated governance framework that balances autonomy, accountability, and transparency in AI-driven BPM. The population of the study comprised 325 managers of medium to large organizations employing agentic or semi-autonomous AI systems within their BPM operations. Mixed method approach was utilized, that is, both quantitative and qualitative data were used. Quantitative data were analyzed using SPSS version 29 and Smart PLS 4.0. Descriptive statistics were computed to profile respondents, while Partial Least Squares Structural Equation Modeling (PLS-SEM) tested the hypothesized relationships among governance, autonomy, accountability, and transparency variables while the qualitative data were analyzed through thematic analysis using NVivo 14. Results revealed human autonomy positively influences responsible AI governance, organizational accountability exerts the strongest predictive influence on governance effectiveness, algorithmic transparency significantly enhances trust and ethical compliance. We recommend that organizations need to adopt agentic AI to maintain ethical, transparent, and accountable business processes.

Key Words: Governance, ethical oversight of agentic artificial intelligence, business process management, human-autonomy, organizational accountability and algorithmic transparency.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

BIO-ORIENTED SYNTHESIS AND MOLECULAR DOCKING STUDIES OF 1,2,4- TRIAZOLE BASED DERIVATIVES AS POTENTIAL ANTI-CANCER AGENTS AGAINST HEPG2 CELL LINE

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ABSTRACT

Triazole-based acetamides serve as important scaffolds for various pharmacologically active drugs. In the present work, structural hybrids of 1,2,4-triazole and acetamides were furnished by chemically modifying 2-(4-isobutylphenyl) propanoic acid (1). Target compounds 7a–f were produced in considerable yields (70–76%) by coupling the triazole of compound 1 with different electrophiles under different reaction conditions. These triazole-coupled acetamide derivatives were verified by physiochemical and spectroscopic (HRMS, FTIR, ¹³CNMR, and ¹HNMR,) methods. The anti-liver carcinoma effects of all of the derivatives against a HepG2 cell line were investigated. Compound 7f, with two methyl moieties at the ortho-position, exhibited the highest anti-proliferative activity among all of the compounds with an IC₅₀ value of 16.782 g/mL. 7f, the most effective anti-cancer molecule, also had a very low toxicity of 1.190.02%. Molecular docking demonstrates that all of the compounds, especially 7f, have exhibited excellent binding affinities of 176.749 kcal/mol and 170.066 kcal/mol to c-kit tyrosine kinase and protein kinase B, respectively. Compound 7f is recognized as the most suitable drug pharmacophore for the treatment of hepatocellular carcinoma.

Key words: 2-(4-isobutylphenyl) propanoic acid; hepatocellular carcinoma; anti-cancer; 1,2,4-triazole; molecular docking; acetamides

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

CONSTRUCTION AND PERFORMANCE EVALUATION OF SOLAR PUMP SPRAYER

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ABSTRACT

This study presents the construction and performance evaluation of a solar-powered pump sprayer for agricultural applications. The construction was carried out to address the limitations of conventional manually operated and fuel-powered sprayers, which are often labor-intensive, costly to operate, and environmentally unsustainable. The solar pump sprayer was designed to utilize renewable energy for effective spraying operations, providing a low-cost and eco-friendly alternative suitable for smallholder farmers. Performance tests were conducted under four nozzle configurations and key parameters evaluated included flow rate, effective field capacity, traveling speed, and pump efficiency. Results from the flow rate test showed that the 2-nozzle setup achieved the highest discharge rate of 1.80 L/min, while the lowest discharge rates were recorded for the 3- and 4-nozzle configurations. Effective field capacity ranged between 22.51 m²/min and 47.46 m²/min, with the single-nozzle setup providing the highest efficiency. The traveling speed of the operator increased slightly with the number of nozzles, ranging from 0.76 m/s for a single nozzle to 0.88 m/s for the quadruple (4) nozzle setup. Correspondingly, field capacity improved with higher nozzle numbers, though excessive speed may reduce uniform droplet deposition. Pump efficiency was recorded between 73.8% and 76.7%, with the best performance observed at the 2-nozzle configuration, confirming that the pump operates most effectively under moderate load conditions. From these findings, it can be concluded that the constructed solar-powered pump sprayer is efficient, sustainable, and well-suited for smallholder farming operations. The study recommends the 2-nozzle configuration as the optimal setup, providing the best balance between efficiency, coverage, and ease of use.

Keywords: Pump, Nozzles, Solar Battery, Solar Panel, Flow Rate.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

GROUNDWATER QUALITY ASSESSMENT IN THE DIMBHE CATCHMENT AREA USING AIML TECHNIQUES

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ABSTRACT

Groundwater quality in the Dimbhe command area was assessed using advanced machine learning techniques. Thirty groundwater samples were collected during post-monsoon seasons. Key water quality parameters measured included pH, electrical conductivity, total dissolved solids, and major ions such as Na^+ , K^+ , Ca^{2+} , Mg^{2+} , HCO_4^- , Cl^- , SO_4^{2-} , and NO_3^- . The Random Forest (RF) classifier was used to categorize water quality based on these parameters. Particle Swarm Optimization (PSO) was employed to optimize the prediction model parameters for improved accuracy. The study conducted from 2022 to 2024 showed that 11% of the samples were suitable for drinking, 52% were marginal, 33% were poor, and 4% were unsuitable for consumption. Additionally, irrigation quality indices such as sodium absorption ratio, permeability index, Kelley's ratio, residual sodium carbonate, percentage of magnesium and sodium, and magnesium hazard ratio were computed to evaluate irrigation suitability. The integration of RF and PSO methods enhanced the predictive performance and reliability of groundwater quality assessment. Most groundwater samples were found to be suitable for irrigation in both post-monsoon and other seasonal conditions. This study demonstrates that combining hydrochemical analysis with advanced AIML techniques offers an effective approach for sustainable groundwater resource management.

Keywords: Groundwater quality, AIML, Irrigation suitability, Hydrochemical analysis, Water quality classification, Dimbhe command area.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

PILOT-SCALE EVALUATION OF A LOW-COST RECIRCULATED WASTEWATER FILTRATION SYSTEM USING CHARCOAL AND SAND

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ABSTRACT

The global challenge of wastewater management remains particularly acute in low- and middle-income countries, where untreated effluents threaten both public health and environmental quality. This study aimed to design, hydraulically optimize, and evaluate the pilot-scale performance of a low-cost recirculated wastewater filtration system using locally available charcoal and sand. The system comprised three PVC columns with varying media depths, modeled for empty bed contact time (EBCT), and operated under controlled laboratory conditions. Effluent samples were analyzed for turbidity, pH, total dissolved solids (TDS), biochemical oxygen demand (BOD₅), chemical oxygen demand (COD), and coliform counts following APHA (1998) protocols. Descriptive statistics, removal efficiency calculations, and single-factor ANOVA were applied using SPSS, while methodological robustness was confirmed through Cronbach's Alpha (0.764–0.842; overall = 0.873), Kaiser–Meyer–Olkin (0.812), and Bartlett's Test of Sphericity ($\chi^2 = 1,284.53$, $p < 0.001$). Results showed that Column C achieved the highest performance, with turbidity reduced by 86%, COD by 70.1%, BOD₅ by 71.7%, and coliforms by 98.8%, while TDS removal remained modest (<45%). ANOVA indicated significant differences in removal efficiencies among columns ($p < 0.05$) for all parameters except TDS. Although effluent coliform levels did not meet potable water standards, the system achieved substantial improvements in water quality, underscoring its potential for decentralized wastewater treatment in resource-limited settings. These findings demonstrate the feasibility of low-cost filtration systems for institutional and community-scale applications, while highlighting the need for complementary disinfection and long-term field validation to ensure complete microbial safety and scalability.

Keywords: adsorption, anova, coliform reduction, decentralized wastewater treatment, empty bed contact time

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

THERMAL ANALYSIS OF SLIP-CONTROLLED MICROPOLAR TRI-HYBRID NANOFLUID FLOW WITH ACTIVATION ENERGY

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ABSTRACT

The superior heat-transfer properties obtainable from hybrid nanofluids in modern energy and manufacturing systems, compared to conventional and mono/hybrid nanofluids, have made them sought-after working fluids in many engineering processes. Such fluids are increasingly applied in solar-thermal collectors, microelectronic cooling, biomedical devices, polymer extrusion, and coating operations where efficient thermal control is essential. In view of these various applications, this study therefore investigates the thermal behaviour of a slip-controlled micropolar tri-hybrid nanofluid flow subjected to activation energy and thermal radiation effects. The governing nonlinear momentum, microrotation, energy, and concentration equations are transformed using similarity variables and solved numerically. Parametric results show that slip reduces wall shear and regulates fluid motion, whereas the tri-hybrid nanofluid significantly enhances the heat-transport process. Activation energy suppresses reaction rates, resulting in increased near-surface concentration. Overall, the study demonstrates the strong potential of micropolar tri-hybrid nanofluids for high-performance thermal applications, particularly in renewable energy devices, microscale heat exchangers, and industrial thin-film processes.

Keywords: Tri-hybrid nanofluids; Micropolar fluid; Activation energy; Thermal radiation; Slip properties

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

ROLE OF WOMEN IN SUSTAINABLE DEVELOPMENT: CHALLENGES AND OPPORTUNITIES

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ABSTRACT

Women and Development is a significant topic in social sciences and development studies that focuses on the role, status, and participation of women in the process of societal growth and progress. In the past, women's roles were often overlooked, and their contributions were mostly confined to family responsibilities. However, with the expansion of education, awareness, and cultural as well as economic transformations, women have emerged as key pillars of development. Sustainable development cannot be achieved without the effective participation of women in social, economic, cultural, and political fields.

This study examines the concept of women and development, the historical evolution of women's participation in development, and the existing barriers such as gender discrimination, inequality of opportunities, weak legal protections, and traditional cultural attitudes. It also highlights the importance of empowering women through education, employment, political participation, and access to resources.

Research shows that countries prioritizing gender equality and women's involvement perform better in human, economic, and social development indicators.

In conclusion, true development can only be realized when women actively participate as decision-makers in society, and national policies are designed and implemented based on principles of gender justice and equal opportunity.

Keywords: Women and Development, Women's Empowerment, Sustainable Development, Social and Economic Participation

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

PEDAGOGICAL SIGNIFICANCE OF CHILDREN'S LITERATURE IN MODERN EDUCATION

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ABSTRACT

Children's literature is an important pedagogical resource in education and upbringing. Although formally defined as children's literature, it goes beyond entertainment, offering emotional, moral, cognitive and social development. In literature, literature postulates as a significant factor in the development of critical thinking, language skills and moral values as well as in encouraging imagination and creativity in children. The pedagogical importance of this type of literature is recognized in its ability to simultaneously entertain and educate, develop critical thinking, language skills and moral values, as well as to encourage imagination and creativity in children. Literature is not only a text but a communication and interaction that takes place in a pedagogical context. Accordingly, this paper analyzes the pedagogical significance of literature for children as well as the influence of literature as an implicit educator on the development of a child with an emphasis on its educational, educational, linguistic and creative potential. Through a systematic, theoretical analysis, the functions of literature in the educational context are explored and points to the importance of their careful selection in accordance with the age and developmental needs of children. The implications of this research open up issues of a planned and pedagogically based approach to the selection of literary works in working with children, as well as the importance of the active role of educators in using literature as an important factor in encouraging the development of the child's entire personality. At the very end, recommendations are given for the improvement of educational practice when it comes to the integration of children's literature in work with children.

Keywords: children's literature, pedagogical significance, educational process

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

BEHAVIOR OF PHENOLIC COMPOUNDS DURING IN VITRO DIGESTION OF SPRAY-DRIED MICROENCAPSULATED ARBUTUS UNEDO L. FRUITS

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ABSTRACT

Arbutus unedo L., commonly known as strawberry tree, is a Mediterranean species rich in phenolic compounds with well-documented antioxidant and health-promoting properties. However, the effectiveness of these bioactive molecules is strongly influenced by their stability during gastrointestinal transit and their bioaccessibility during digestion. Phenolics are often susceptible to pH fluctuations, enzymatic degradation, and oxidative reactions, which may substantially limit their functional potential. Microencapsulation, particularly through spray-drying, has emerged as a promising strategy to protect these unstable compounds, enhance their solubility, and ensure controlled release.

In this study, the behavior of phenolic compounds from *A. unedo* fruits microencapsulated by spray-drying was evaluated during *in vitro* gastrointestinal digestion. Fruit extracts were encapsulated using a maltodextrin–Arabic gum matrix at a 1:3 ratio, yielding microcapsules with an encapsulation efficiency of $82.4 \pm 2.1\%$ and a total phenolic content (TPC) that increased from 41.6 ± 1.8 mg GAE/g in the free extract to 67.3 ± 2.5 mg GAE/g in the encapsulated powder. During simulated digestion, microencapsulation significantly improved gastric stability, with encapsulated phenolics retaining $78.5 \pm 3.2\%$ of their initial TPC, compared to $49.7 \pm 2.8\%$ for the non-encapsulated extract. In the intestinal phase, a sustained release was observed, leading to a bioaccessible fraction of $54.2 \pm 2.6\%$, nearly double that of the free extract ($28.1 \pm 1.9\%$).

Overall, these results demonstrate that spray-drying microencapsulation effectively enhances the gastrointestinal stability and bioaccessibility of *A. unedo* phenolic compounds, reinforcing their potential for incorporation into functional foods and nutraceutical formulations.

Keywords: *Arbutus unedo* L.; Phenolic compounds; Spray-drying; Microencapsulation; *In vitro* digestion; Bioaccessibility.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

MELAMINIUM DIHYDROGENPYROPHOSPHATE: SYNTHESIS, CRYSTAL PACKING, HIRSHFELD SURFACE ANALYSIS, AND REACTIVITY MAPPING: A COMBINED EXPERIMENTAL AND THEORETICAL STUDY

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ABSTRACT

The compound namely " Melaminium Dihydrogen-Pyrophosphate (bis(2,4,6-triamino-1,3,5-triazinium dihydrogen-pyrophosphate, MDP, $(C_3N_6H_7)_2 (H_2P_2O_7)$), was determined by X-ray powder diffraction and infrared spectroscopy techniques. The material crystallizes in the monoclinic system, space group P1 ($Z = 2$), with unit cell dimensions: $a = 10.89321(2) \text{ \AA}$, $b = 11.2079(1) \text{ \AA}$, $c = 6.8424(1) \text{ \AA}$, $\alpha = 104.9691(6)$, $\beta = 101.4734(8)$, $\gamma = 83.8050(3)$, and volume $V = 789.501 (16) \text{ \AA}^3$. The crystal (MDP) structure reveals hydrogen bonds between the phosphoric hydrogen $(H_2P_2O_7)^{2-}$ and the organic compound $(C_3N_6H_7)_2^{2+}$. The arrangement includes symmetric $(H_2P_2O_7)^{2-}$ dimer tetrahedral connected via hydrogen bonding $O27 -H \cdots O24$. Quantum chemical simulations were performed using the DFT / B3LYP/lanl2dz/scrf=(solvent=water) /pop= (nbo, savenbos) basis set to determine the energies and structural descriptors of MDP. The bond lengths & angles for MDP, as determined using the DFT method, were thoroughly compared with experimental data obtained from X-ray crystallography, reveals an excellent agreement between the computational results and the experimental data. Specifically, the (SD = standard deviation) for bond lengths is only $\sigma = 0.086\%$, and for bond angles, it is $\sigma = 0.0862\%$. These minimal deviations indicate that the DFT is highly accurate in predicting the molecular geometry of MDP, closely mirroring the structure observed in experimental X-ray data. A hydrogen atom from the anionic phosphate group $(H_2P_2O_7)^{2-}$ was transferred to the organic cation $(C_3N_6H_7)_2^{2+}$, forming a singly protonated melaminium cation. The resulting structure is stabilized by weak $O-H \cdots O(P)$ & $N-H \cdots O(P)$ hydrogen bonds, which create a 3D network and exhibit notable vibrational effects. Furthermore, 3D-MEPs, Fukui function (nucleophilic and electrophilic reactivity), and HAS analyses provided insights into local and global reactivity and intermolecular interactions within $(C_3N_6H_7)_2^{2+} \cdots (H_2P_2O_7)^{2-}$.

Keywords: Crystal structure; electronic structure, Hirschfeld, Infrared, X-ray; Computational (ELF, HSA, DFT),

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

“THE REPORT”: A SMALL TAP IN THE BIG REALM OF THE SERIO-COMICAL

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ABSTRACT

This paper focuses on the esthetic interaction between absurd, comedy, satire and tragedy, in the Syrian film *The Report* (*Al-Taqrir*, 1986) written by the late Muhammad Al-Maghut (scriptwriter, 1934-2006) & directed by Durayd Lahham (director, 1934-). The distinctive way in which the filmmakers combine these features has a significant role in directing the audience from the absurd to the catharsis of sublime emotions.

Carnavalesque humor within the **Satire** genre adopted by this film, play a major part in highlighting the paradoxical and “the ridiculous” absurdity in social and political life in Syria during the seventies and eighties of the twentieth century. By the **satirical** sharpening of the gap between what is desirable and what is found, filmmakers try to convince us to reject out of hand low standards and corrupted norms.

‘Azmi Baik, the principled anti-hero in this film, matches one of the most prominent carnivalesque characters as Bakhtin describes it when he refers to the polyphonic Novels of Fyodor Dostoevski. Especially, the total fusion of the character between personal life and worldview. By adopting this kind of character, filmmakers, make us facing things that we consider as moral truths. In reaching this point, arbitrary power and aggression, start seeming “Shakespeareally” shrinking in front of our eyes. Hence, carnivalesque humor, even if progressively and indirectly, has as a temporary **comic** release; an “emancipatory”, “liberatory” and also perhaps occasionally a “revolutionary” function. However, because release is momentary, the absurd still “raises its head” approximately in every corner. Therefore, in order to liberate us from the **absurd**, filmmakers lead us to an uplifting path where in the last scene we arrive at the **tragic** catharsis once we reveal the horrifying consequences of the harsh confrontation between an innocent carnivalesque hero and a suspicious reality.

No doubt that this satiric film functions as a clear, direct and powerful condemnation of a corrupted regime. Yet, it is also a barefaced confession regarding the impotence of the struggle against injustice as long as it is only a lost combat of an isolated, decent, eccentric intellectual.

Keywords: Absurd, Bakhtin, Carnavalesque, Satire, Tragicomic.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

A DELIBERATE HUMOR: THE MASKS OF THE OPPRESSED TRUTH

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ABSTRACT

The mask has been recognized as an essential accessory for both ritualistic and artist purposes. Its qualities, which highlight the fictional over the real, contributed to its artistic use, which has been common, since the beginning of theatre. The mask had established types for tragedy, satirical plays, and comedy, where the caricatured-grotesque character was emphasized. The era of the “corona mask”, social distancing, and restrictions of freedom of speech, bring forth various connotations. One of them is the mask of “madness” in Arab culture. This is not a material mask that covers the nose and mouth to protect against a mysterious virus, but a mask-like figure through which one can express the forbidden, and protest against “political” and institutional “viruses” in a familiar, humoristic, carnivalesque atmosphere that brings people together. The figure of the “fool-wise” in ancient Arab culture is a clear representation of the dialectic of “truth and falsehood”. In the face of the silence of common sense and its obedience, this figure is forced to wear the mask of a fool in order to express her truth. Through the voice of madness that emerges as an authentic protest from the throat of an inconsequential, marginal, funny and ridiculous actor, the “fool-wise” ensures protection against any harm, while finding a way to convey his message in a play titled “reality of Tyranny”. This article discusses this figure and the nature of the mask it wears, its various reflections in ancient Arab culture, and its development in the Arab popular comedy and satirical theatre in the twentieth century.

Keywords: Carnival, Clown, Comedy, Humor, karakoz, Laughter, Mask, The Tragic Fool, Zanni.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

THE DISCOURSE OF POWER AND TRUTH IN POETIC WORKS (LITERATURE AND ART): AN INTRODUCTION

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ABSTRACT

Friedrich Nietzsche argued that truth is nothing but “a mobile army of metaphors and metonyms” and that knowledge is one of the forms of “the will to power.” Following Nietzsche, Foucault (pragmatist philosopher as Nietzsche) created his archaeology out of this specific point. Truth is what is considered true if reinforced by the discourse of power. For Rorty, another pragmatist philosopher, truth is high esteem, approval, and “social commendation.” That is, truth is a social construct that lacks any obligation or necessity that might be inherent in the nature of things.

Therefore, it can be concluded that whomever does not exercise power, does not possess the truth either.

However, examining power relations as a comprehensive network that encompasses all aspects of human activity, leads the pragmatist to strip the ethical distinction between the oppressor and the oppressed of its meaning. This is because every individual's will, is subsumed under the will to power.

Although initially, we follow Rorty's model—which replaces objectivity with two methods, ‘ironism’ versus solidarity, i.e., adopting concepts and values through the creation of the self by individual freedom of choice, we still in this paper insist on challenging the pragmatic method through discussing the following question:

What about the truth (reflected in poetic works) that is, in its essence, an absolute rejection of the will to power?

Keywords: Nietzsche, Foucault, Rorty, truth, power, pragmatic method.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

DESIGN, SYNTHESIS, PHARMACOLOGICAL PROPERTIES, COMPUTATIONAL ANALYSIS, AND COMPARATIVE EVALUATION OF NEW S-TRIAZINE CLUBBED HETEROCYCLIC DERIVATIVES TOWARDS MULTIDRUG RESISTANCE MICROBIAL STRAINS

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ABSTRACT

A combinatorial library of s-triazine based on chalcone, pyrazoline, and benzodiazepine was created and synthesized with simple and efficient techniques in an effort to find new antimicrobial drugs with unique mechanisms of action and improved activity profiles. The Claisen-Schmidt condensation reaction of substituted acetophenone with different aldehydes produced the chalcone. 2-phenyl pyrazoline and 1,5-benzodiazepine derivatives were obtained by treating this chalcone with phenylhydrazine hydrochloride/alkali and *o*-phenylenediamine/glacial acetic acid, respectively. FTIR, ¹H NMR, ¹³C NMR, LCMS and elemental analysis data were used to confirm the structures of all the newly synthesized compounds. To create a pharmacological profile, all of the newly created compounds were tested for *in vitro* antibacterial efficacy against particular infections. Additionally, the synthetic drugs' molecular docking was assessed. The lowest concentration that prevented the organism's development was identified as the minimum inhibitory concentration (MIC). When compared to conventional medications, compounds **5a**, **5d**, **5e**, **6b**, **6d**, and **7d** were considered to be the most effective members of the series due to their exceptional antibacterial activity. Additionally, It has been found that the pyrazoline derivatives have higher binding energy than the other legends from the three designed series.

Keywords: s-Triazine, Chalcone, Phenyl pyrazoline, Benzodiazepine, Claisen-Schmidt reaction, Antimicrobial activity, molecular docking.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

GROWTH AND YIELD OF COWPEA MICROGREENS (*Vigna unguiculata* L. Walp) UNDER DIFFERENT LED LIGHT INTENSITIES AND GROWING MEDIA

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ABSTRACT

Cowpea microgreens (*Vigna unguiculata* L. Walp) are nutrient-rich foods with high nutritional content. This study aimed to determine the effects of 6500K white LED light intensity and growing media on the growth and yield of cowpea microgreens. This research was conducted in Nagrawangi Village, Cihideung Subdistrict, Tasikmalaya City, at an altitude of 355 meters above sea level, from January to February 2025. The study used an experimental method with a factorial randomized block design, consisting of two factors: five levels of light intensity i0 (control), i1 (3000 lux), i2 (4000 lux), i3 (5000 lux), and i4 (6000 lux) and two types of growing media m1 (rockwool) and m2 (vermicompost). Each treatment was repeated three times. Observational data were analyzed using Analysis of Variance (ANOVA), followed by Duncan's Multiple Range Test (DMRT) at a 5% significance level. The results showed an interaction between light intensity and growing media on fresh weight and germination speed parameters. Both light intensity and growing media independently affected the height and germination rate of microgreens. Based on the results, the treatment of 5000 lux light intensity with rockwool growing media produced the best growth and yield of cowpea microgreens (*Vigna unguiculata* L. Walp).

Keywords: 6500K white LED, cowpea, growing media, light intensity, microgreen, rockwool, vermicompost

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

VALORIZATION OF INDUSTRIAL WASTE IN LOW-COST MEMBRANES FOR TEXTILE WASTEWATER MICROFILTRATION

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ABSTRACT

This study presents the development of a sustainable flat ceramic microfiltration membrane formulated from low-cost natural clay and waste-derived materials. The fabrication procedure was optimized using a statistical approach to identify the most appropriate synthesis parameters. The resulting membrane displayed satisfactory mechanical strength, suitable porosity, and high-water permeability, confirming its suitability for microfiltration processes. When applied to real industrial wastewater, the membrane exhibited outstanding treatment performance, achieving substantial turbidity removal and a marked reduction in organic load. Overall, these findings highlight the potential of eco-friendly ceramic membranes as an efficient and cost-effective option for industrial wastewater purification.

Keywords: Clay, optimization, microfiltration, ceramic membrane.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

FEMINIST MOVEMENTS AND THEIR ROLE IN ACHIEVING POLITICAL INDEPENDENCE

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ABSTRACT

This paper examines the important role of feminist movements and feminist leaders in helping countries achieve and strengthen their political independence. The main argument is that feminist activities support not only gender equality but also directly increase a country's national strength and independence.

This influence happens through several key pathways. First, the transformational leadership of feminist women in social movements strengthens democracy and civil institutions by promoting participation, cooperation, and inclusion. Second, feminism works as a unifying social idea that brings people together across ethnic and religious differences. This unity helps build a strong national identity that can resist occupation or colonial power. Third, the economic empowerment of women by feminist organizations increases self-sufficiency and reduces dependence on foreign aid. This strengthens economic independence, which is the foundation of political independence. Fourth, women's involvement in important state-building processes—such as writing a constitution—helps ensure that principles like democracy, justice, and equality become part of the government structure.

Finally, on the international stage, feminist diplomacy strengthens a country's soft power and legitimacy by focusing on peace, human rights, and cooperation. This helps the country stand stronger against pressure from major world powers.

Overall, the study shows that including feminist ideas in social, economic, and political systems helps a nation move toward stable and long-lasting political independence.

Keywords: Political Independence, Women's Leadership, Economic Empowerment, Democratic State-Building, Feminist Diplomacy

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

THE USE OF COMMUNICATION CHANNELS FOR ACCESSING AGRICULTURAL INFORMATION AMONG POULTRY FARMERS IN OYO STATE, NIGERIA

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ABSTRACT

The study examined the use of communication channels for accessing agricultural information among poultry farmers in Oyo State, Nigeria. A multi-stage sampling technique was used in the selection of 156 respondents for the study. Data were collected with the use of structured face-to-face interview schedule. Descriptive statistical tools such as; frequency counts, means and percentages were used to analyze the data, while Chi-square test was employed as inferential statistical tool to test relationships between variables at 0.5 level of significance. The results revealed that the major available and most utilized communication channels for accessing agricultural information by the respondents were: Mobile phone (98.7%, WMS=4.65), Radio (91.7%, WMS=4.19) and fellow farmers (91.0%, WMS=4.17) respectively. Agricultural information accessed through the available channels include information on handling of chicks (100%), brooding and lighting management of day old chicks (98.1%) as well as breeds of birds (97.4%). The result of Chi-Square revealed that significant relationship existed between Sex ($X^2 = 28.88$; $p=0.000$), Marital Status ($X^2 = 74.40$; $p=0.000$), Education ($X^2 = 40.24$; $p=0.000$), Religion ($X^2 = 3.92$; $p=0.048$), Household size ($X^2 = 14.44$; $p=0.071$), Primary occupation ($X^2 = 64.80$; $p=0.000$), Secondary occupation ($X^2 = 39.20$; $p=0.000$) and the extent of communication channels usage. The study concluded that both modern digital and interpersonal channel were mostly explored for accessing information especially during early production stage. It was therefore recommended that agricultural information could be disseminated through the identified channels for easy and timely access for improved productivity among poultry farmers in the state..

Key words: Agricultural information, Communication channels, poultry (Chicken) farmers, information usage.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

ENHANCING DROUGHT TOLERANCE IN LEGUMES VIA HORMONAL AND THERMAL SEED PRIMING

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ABSTRACT

This study investigates the influence of water stress and seed priming on germination performance and early seedling growth of *Lens culinaris*, *Cicer arietinum*, and *Vigna unguiculata*. Seeds were subjected to different priming treatments, including hormoprimering with acetic acid at concentrations of 10 mM, 20 mM, and 50 mM, and thermoprimering at 5°C for 4 hours, along with a non-primed control. Germination trials were conducted in Petri dishes using varying concentrations of PEG 6000 (5%, 10%, 15%, and 20%) to simulate drought stress, with distilled water serving as the control. The results indicate that high water stress (20% PEG 6000) substantially reduces germination rates and early growth parameters. Among the species tested, *Vigna unguiculata* exhibited the highest tolerance to water deficit, followed by *Cicer arietinum*. Seed priming significantly enhanced germination percentage, seedling vigor, and growth traits under both optimal and stress conditions. Among the treatments, thermoprimering and 10 mM acetic acid priming were identified as the most effective strategies for improving seed performance under drought stress.

Keywords: Legumes; Seed priming; Hormonal priming; Thermal priming; Drought tolerance; Germination; Early seedling growth; Water stress; *Lens culinaris*; *Cicer arietinum*; *Vigna unguiculata*.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

STRENGTHENING RESPONSIBILITY IN THE NEXT GENERATION OF WOMEN

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ABSTRACT

Responsibility is a core element of individual and societal development, and especially among women, it can have profound and lasting impacts across various social, economic, and cultural domains. In this regard, strengthening responsibility in the next generation of women not only contributes to increasing their active participation in society but also lays the groundwork for social development and improves their quality of life.

This study examines various strategies to strengthen responsibility in the next generation of women and emphasizes the role of education, cultural development, and empowerment as key factors in this process. Vocational, social, and family-oriented education can help future generations of women perform their personal, professional, and social responsibilities in a more informed and effective manner. Furthermore, leadership skills, decision-making abilities, and economic and social empowerment are crucial components that should be strengthened within the educational and developmental processes for the next generation of women.

The paper emphasizes the importance of comprehensive and balanced education, providing equal opportunities in various life domains, and creating successful role models of responsible women within society for future generations. Additionally, it highlights the role of family, media, and social institutions in shaping a culture of responsibility among women.

The findings of this research suggest that strengthening responsibility in the next generation of women, as a key strategy, will play a determining role in achieving gender equality and sustainable development.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

ELECTRONIC CONTRACTS: LEGAL CHALLENGES AND HARMONIZATION WITH EUROPEAN STANDARDS

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ABSTRACT

Introduction and Purpose

The digitalization of civil and commercial processes has significantly transformed the way contracts are created and administered. Electronic contracts have become an essential tool for the digital economy; however, their expansion is accompanied by legal, technical, and security challenges. The purpose of this paper is to analyze the legal validity of electronic contracts, the harmonization of the Albanian legal framework with EU standards, and the practical challenges affecting their reliability.

Materials and Methods

The analysis is based on Albanian legislation (the Law on Electronic Signature, the Law on Electronic Communications, the Law on Electronic Identification, and the Civil Code), the eIDAS Regulation, and official reports from Eurostat, ENISA, AKSHI, INSTAT, AMF, and RCC. The methodology includes a comparative analysis of European standards, evaluation of digitalization statistics, and examination of challenges related to evidentiary value and cybersecurity risks.

Discussion and Conclusion

Findings indicate that Albania has developed a legal framework that aligns with the eIDAS Regulation, ensuring the legal validity of electronic contracts. Their use is increasing significantly in both the public and financial sectors, though challenges remain, such as the lack of unified auditing standards, risks of electronic fraud, and difficulties related to evidentiary assessment in courts. Full adoption of eIDAS 2.0 standards, strengthening of trust services, and establishing state mechanisms for online contract verification are recommended.

Keywords: electronic contracts, eIDAS, digital signature, trust services, cyber security, Albania, EU standards.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

THERMODYNAMIC PROPERTIES OF NANOSTRUCTURED MATERIALS: THE EFFECT OF GEOMETRY

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ABSTRACT

This study investigates the influence of geometry on the thermodynamic behavior of nanostructured materials. By leveraging convective, conductive, and radiative heat transfer pathways, such structures achieve finely tuned thermal and optical functionality. We find that naturally inspired, intricately patterned geometries, such as those found in biological photonic systems, can produce striking thermodynamic effects, including negative heat capacity. Our results reveal a strong coupling between geometric form and thermal response, positioning geometry as a primary design parameter. This paves the way for on-demand control of heat capacity and the realization of unconventional thermodynamic states in engineered nanomaterials.

Keywords: thermodynamic response, negative heat capacity, natural photonics, biophotonics, optics.

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14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

GLOBALIZATION AND ECONOMIC DEVELOPMENT AND ITS EFFECTS ON THE TELECOMMUNICATIONS INDUSTRY IN NIGERIA: AN EMPIRICAL INSIGHT OF AIRTEL NIGERIA

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ABSTRACT

Globalization is broadly characterized by the emergence of a global village activities for the whole world in which all peoples in all nations of the world are drawn together into increasingly closer and mutually beneficial, political, industrial, financial, scientific, technological and cultural relationships. This paper closely assessed globalization and economic development and its effects on the telecommunications industry in Nigeria, drawing an empirical insight from Airtel Nigeria Limited. To collect the desired data for this research work, four methods were used, these include, documentary, observations, questionnaires and personal interviews. In the analysis of the data collected, the study made use of descriptive and inferential statistics. The findings of the study were drawn from the data presented and analysed and their implications were discussed relative to all stakeholders. It was confirmed that Airtel Nigeria Limited have survived all manner of financial emasculation and changes in management and have endeared themselves to Nigerians as a telecommunication company of choice. Part of this findings delved into why and how Airtel Nigeria Limited was able to achieve this despite tough competitions from other telecommunication companies already in the industry before their arrival, particularly MTN Nigeria Limited.

Key Words: Globalization, global village, technological development, cultural differences, Telecommunications industry, economic growth and development, Airtel Nigeria Limited

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

MANAGING WORKPLACE DIVERSITY IN THE 21ST CENTURY NIGERIAN ORGANIZATIONS

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ABSTRACT

Management being a social discipline deals with the behavior of people and human insight. Hence, workplace diversity is the biggest challenge and at the same time, the biggest opportunity for the 21st century managers. ‘‘Diversity management’’ is a strategy to promote the perception, acknowledgement and implementation of diversity in organizations. Workplace diversity has significant implications for the management. The managers will be required to shift their approach from treating each group of workers alike to recognizing differences among them and following such policies so as to encourage creativity, improve productivity, reduce labor turnover and avoid any sort of discrimination. Successful diversity management policy and programs will eventually make a huge difference in the communication among employees and the general productivity of the organization. Today’s organization need to recognize and manage workplace diversity effectively. The study is conducted to explore how Nigerian organizations manage workforce diversity and its consequences to the organization’s existence as well as examine how organizations deal with challenges that comes with employees from diverse cultural backgrounds. Is workforce diversity related to organization performance and productivity and its effect on human resource management? The research therefore answers the question ‘‘ Has workplace diversity contributed to organizational success’’.

Key Words: Diversity, Management, Productivity, Work force, Employees’ perception of marginalization, conflict management, teamwork

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

THE IMPACT OF BUSINESS ENVIRONMENT ON THE SURVIVAL OF SOME SELECTED SMALL-SCALE BUSINESSES IN ABA SOUTH LOCAL GOVERNMENT AREA, ABIA STATE, NIGERIA

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ABSTRACT

In this digital age, information is the popular currency while knowledge is the preferred coin essential in getting the best deal. Nowhere is this more real than in today's business environment which affect the success or otherwise of any business venture. Several authors have attributed failure of businesses particularly small and medium scale enterprises to various factors ranging from training of the entrepreneur to exposure and experience while some analysts opined that business environment could impact on small and medium scale enterprises. Hence, using the logistic regression technique to analyse primary data obtained through a structured questionnaire from Eighty (80) small scale businessmen and women operators in Aba South Local Government Area (Abia State), South-East, Nigeria, this study seeks to ascertain the nature of the relationship between business environment and the survival of small and medium scale businesses in Nigeria. The obtained result revealed that that the model of logistic regression was able to predict the distribution of 72.15% of the observed values of the dependent variable as factors such as inflationary trend; infrastructural facilities accessibility and government policy serve as barriers to business growth and survival. Hence, it is recommended that small business operators must develop and adopt scientific and rational business management strategies that will aid and increase their understanding of both their business and its environment in order to facilitate planning and predictions on the most significant factors that affects business survival.

Key Words: Business environment, Small scale business, Survival, Strategies, Opportunities, Threats

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

MICROBIOME-MODULATING DRUGS

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ABSTRACT

The human microbiome has emerged as a critical determinant of health, influencing metabolic processes, immune responses, neurological pathways, and susceptibility to various diseases. Microbiome-modulating drugs represent a rapidly advancing therapeutic class designed to alter the composition or function of microbial communities within the body. These agents may work by restoring beneficial bacteria, suppressing pathogenic species, or modifying microbial metabolites that affect host physiology. Current approaches include probiotics, prebiotics, synbiotics, postbiotics, bacteriophage therapy, and small-molecule drugs targeting microbial pathways. Advances in genomics and metagenomic sequencing have enabled the precise characterization of microbial imbalances, thereby supporting the development of targeted interventions.

Recent studies demonstrate promising outcomes in treating gastrointestinal disorders such as irritable bowel syndrome, inflammatory bowel disease, and *Clostridioides difficile* infections. Beyond the gut, microbiome-modulating drugs are being explored for their potential in managing metabolic disorders like obesity and diabetes, skin conditions such as acne and atopic dermatitis, and even neuropsychiatric disorders through the gut–brain axis. Despite their potential, challenges remain, including variability in individual microbiomes, long-term safety concerns, standardization of formulations, and regulatory complexities. Future research is focused on precision microbiome therapy, engineered microbial strains, and personalized interventions based on microbiome profiling. Overall, microbiome-modulating drugs offer a transformative direction in modern therapeutics, bridging microbiology, pharmacology, and personalized medicine.

KEYWORDS: Microbiome, Probiotics, Postbiotics, Bacteriophage therapy, Gut–brain axis, Dysbiosis, Precision medicine, Metagenomics, Microbial therapeutics.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

COMPUTATIONAL INSIGHTS INTO REPURPOSING FDA-APPROVED DRUGS FOR INFLUENZA A: A NOVEL THERAPEUTIC STRATEGY

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ABSTRACT

The Influenza A virus (IAV-A) remains a major global health threat, causing seasonal epidemics and up to 650,000 deaths annually. The virus's high mutation rate complicates treatment options and contributes to drug resistance. Key surface proteins, Hemagglutinin (HA) and Neuraminidase (NA), facilitate the virus's entry and spread. Current antiviral treatments have limited efficacy due to resistance and side effects. This study explores 31 FDA-approved drugs as potential treatments for IAV-A, focusing on the HA and NA proteins of the H1N1 and H3N2 strains. In silico molecular docking will analyze drug-protein interactions, followed by ADMET predictions to evaluate the safety and pharmacokinetics of the main drug candidates for antiviral use. Molecular dynamics (MD) simulations aim to assess the stability of the drug-protein complexes. Four candidate drugs, noted D-6, D-20, D-24, and D-26, were pre-selected through molecular docking, showing the best energy scores and favorable interactions with the active sites of the NA and HA structures studied, compared to the references. D-6, D-24, and D-26 were then chosen based on their pharmacokinetic properties, bioavailability, and toxicity, suitable for antiviral use. A molecular dynamics (MD) simulation study will be performed to examine the stability of the selected drugs with the two studied receptors. This drug repurposing approach offers a faster and cost-effective path for new therapies against influenza and pandemic preparedness.

Keywords: Drug Repurposing, Influenza A (IAV-A), Hemagglutinin (HA), Neuraminidase (NA), In silico

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

STRUCTURE ACTIVITY RELATIONSHIP (SAR) OF PLANT DERIVED COMPOUNDS

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ABSTRACT

Plant derived compounds remain important sources of bioactive molecules with significant therapeutic value, yet their biological effects are often shaped by subtle variations in chemical structure. Structure Activity Relationship (SAR) studies are therefore essential for understanding how functional groups, substituent positions, stereochemical features, and physicochemical properties influence pharmacological activity. Although extensive research exists, the SAR patterns of major phytochemical classes such as flavonoids, alkaloids, terpenoids, and phenolics continue to develop. This study investigated key SAR determinants in selected plant derived compounds and examined how structural modifications affect antimicrobial, antioxidant, and anti-inflammatory activities. Phytochemicals were extracted and purified using standard chromatographic procedures and characterized using UV Vis, FTIR, and NMR spectroscopy. Semisynthetic derivatives were produced through acetylation, methylation, and esterification to introduce specific functional changes. Biological assays, including DPPH radical scavenging, nitric oxide inhibition, and antimicrobial susceptibility testing, were employed to evaluate differences in activity. SAR patterns were then established by comparing functional group variations, molecular descriptors, and biological responses. Results showed that structural alterations strongly influenced activity. Methylation of hydroxyl groups decreased antioxidant capacity by limiting hydrogen donation, while acetylation increased lipophilicity and improved antimicrobial effects. Compounds with greater conjugation exhibited higher radical scavenging activity, and alkaloid derivatives with electron withdrawing substituents demonstrated stronger antibacterial activity, suggesting enhanced binding interactions. The study highlights the relevance of SAR analysis in optimizing the bioactivity of plant derived compounds. Understanding these structural determinants provides a foundation for designing improved analogues with better therapeutic potential and supports the continued importance of natural product research in drug discovery.

Keywords: Plant derived compounds, Structure Activity Relationship, phytochemicals, antioxidant activity, antimicrobial activity, anti-inflammatory activity

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

THE IMPACT OF EXPERIENTIAL LEARNING PROGRAMS ON ENTREPRENEURIAL INTENTIONS AMONG UNDERGRADUATE BUSINESS STUDENTS: AN EMPIRICAL STUDY USING SURVEY DATA FROM MULTIPLE UNIVERSITIES

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ABSTRACT

This empirical study investigates the influence of experiential learning programs—specifically business plan competitions, startup internships, incubation projects, and entrepreneurship simulations—on entrepreneurial intentions among undergraduate business students. Data were collected through a structured questionnaire from 1,237 students across eight universities in three countries during the 2023–2024 academic year. The survey instrument integrated the Entrepreneurial Intention Questionnaire (EIQ) with validated measures of perceived learning outcomes, self-efficacy, and attitude toward entrepreneurship. Structural equation modeling (PLS-SEM) was employed to test the hypothesized relationships. Results reveal that participation in experiential learning programs significantly strengthens entrepreneurial intentions ($\beta = 0.428$, $p < 0.001$), with entrepreneurial self-efficacy and perceived desirability of entrepreneurship acting as key mediating variables. Hands-on programs involving real-world venture creation and mentor interaction demonstrated substantially stronger effects than classroom-based simulations. Moderation analysis indicates that the positive impact is more pronounced among students with prior family business exposure and in universities with dedicated entrepreneurship centers. These findings contribute to the theory of planned behavior by demonstrating how experiential pedagogies enhance subjective norms and perceived behavioral control in entrepreneurial contexts. Implications for business curricula design and policy support for university-based experiential initiatives are discussed.

Keywords: Experiential learning, Entrepreneurial intentions, Undergraduate business students, Entrepreneurship education, Self-efficacy

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

DESIGN, SYNTHESIS, *IN SILICO* AND *IN VITRO* INVESTIGATION OF PYRIDYLPYPERAZINE HYBRID DERIVATIVES AS UREASE INHIBITORS

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ABSTRACT

Urease, a nickel-dependent enzyme presents in various organisms, facilitate the decomposition of urea, executing nitrogen metabolism by producing ammonia and carbamate. This process increases pH levels, promotes pathogen survival, and may result in infections, including gastric issues like ulcers and cancer in humans. *Helicobacter pylori* utilizes urease to endure the acidic conditions in stomach and facilitates in protein synthesis. To address these infections and prevent the growth of pathogens, it is essential to inhibit urease activity; thus, derivatives of 1-(3-nitropyridin-2-yl)piperazine were synthesized. All of these newly synthesized compounds were examined for their urease inhibition potential by *in vitro* inhibition protocols. The results showed that two compounds are the potent inhibitors, having IC₅₀ values of 2.0 ± 0.73 and $2.24 \pm 1.63 \mu\text{M}$, respectively that are lower than the IC₅₀ value of the standard thiourea, $23.2 \pm 11.0 \mu\text{M}$. The hemolysis potential of all the synthesized compounds was also determined; two compounds demonstrated good biocompatibility in human blood cells. Both these potent inhibitors exhibited feasible interactions with the active site of urease, having binding energies of -8.0 and -8.1 kcal/mol , determined by *in silico* analysis. The binding energy of thiourea was -2.8 kcal/mol . Consequently, both compounds can act as important inhibitors of urease.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

GEOLOGICAL AND HYDROGEOPHYSICAL STUDY OF THE DAKHLA, BIR GANDOZ, AND GUERGUERATE REGIONS (MOROCCO): AN INTEGRATED APPROACH TO CHARACTERIZING GEOLOGICAL STRUCTURES AND LITHOLOGICAL FACIES

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ABSTRACT

This investigation provides an integrated geological and geophysical assessment of the Dakhla, Bir Gandouz, and Guerguerate regions in southern Morocco. These areas suffer from limited geological and hydrogeological data, particularly regarding lithological facies and aquifer distribution. To fill these gaps, geological field observations were combined with electrical resistivity tomography (ERT) and vertical electrical soundings (VES). Data were processed using the Loke and Barker (1996) inversion method to generate 2D resistivity models. The results identify resistant lumachelle formations at the surface, medium-resistivity sandy aquifers, and conductive clay–marl layers saturated with saline water. The sections reveal a general westward dip of formations and significant lateral variations in resistivity. This integrated approach refines the geological structure, improves aquifer characterization, and delineates zones at risk of marine intrusion. The findings provide essential insights for sustainable groundwater management in southern Morocco.

Keywords: Electrical Resistivity Tomography (ERT); Hydrogeophysics; Lithological characterization; Groundwater management.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

ANTIOXIDANT POTENTIAL OF MEDICINAL PLANTS IN THE MANAGEMENT OF OXIDATIVE STRESS-RELATED FEMALE INFERTILITY: A REVIEW

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ABSTRACT

Oxidative stress (OS) is a major pathological driver of female reproductive dysfunction, contributing to impaired folliculogenesis, oocyte degeneration, luteal phase insufficiency, and reduced endometrial receptivity. Excessive formation of reactive oxygen species disrupts intracellular redox homeostasis, alters mitochondrial bioenergetics, degenerates lipids and nucleic acids, and activates apoptotic pathways within ovarian and reproductive tissues. Growing evidence demonstrates that phytochemicals, particularly polyphenols, flavonoids, terpenoids, and other antioxidant bioactives from medicinal plants, provide multifaceted protection against OS-mediated reproductive decline. This review synthesizes current findings on how medicinal plants mitigate oxidative pathways by enhancing endogenous antioxidant defenses, restoring mitochondrial function, and modulating hormonal and reproductive signaling networks. Special emphasis is placed on botanicals with notable fertility-preserving properties, including *Salvia officinalis*, *Vitex agnus-castus*, *Nigella sativa*, *Phoenix dactylifera*, and *Punica granatum*. By integrating interdisciplinary data, this work highlights the therapeutic relevance of phytomedicine as a complementary strategy for managing OS-induced female infertility. The review further underscores the need for rigorous clinical trials and standardized extract formulations to support evidence-based application in reproductive medicine.

Keywords: Oxidative stress, female infertility, phytochemicals, antioxidants, medicinal plants, reproductive health.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

IMPROVING PHOTOVOLTAIC/THERMAL PERFORMANCE WITH INNOVATIVE COOLING DUCT DESIGNS

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ABSTRACT

The electrical efficiency of photovoltaic modules drops significantly when the cell temperature rises, making thermal management a critical challenge for PVT systems. This work investigates an innovative cooling-duct design to enhance heat dissipation and improve overall PVT performance. A validated numerical model was developed and compared with experimental data to ensure reliability. The results show that increasing solar radiation by a factor of four leads to a noticeable electrical efficiency loss: from **11.996% to 11.18%** for the Trapezoidal α duct and from **12.01% to 11.22%** for the Omega β duct. In contrast, boosting the inlet mass-flow rate tenfold substantially improves cooling, raising electrical efficiency by **0.98% (α)** and **0.97% (β)**. The study identifies **0.0036 kg/s** as the optimal mass-flow rate, beyond which performance gains diminish due to reduced thermal exchange efficiency. Geometrical optimizations further enhance system behavior. Narrowing the frame width from **0.075 m to 0.05 m** promotes better turbulence, reducing cell temperatures and improving both electrical and thermal output. Similarly, decreasing the pitch from **0.14 m to 0.08 m** strengthens thermal interaction within the duct.

Keywords: PVT modules; Energy efficiency; Solar collectors; Nanofluids.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

CFD-BASED ASSESSMENT OF HEAT TRANSFER AND FLOW BEHAVIOR IN SOLAR AIR HEATER CHANNELS FEATURING AN INNOVATIVE RIB ARRANGEMENT

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ABSTRACT

In this work, a detailed computational analysis is carried out to examine how the spacing of innovative rib elements influences thermal and flow behavior inside a solar air-heating channel. Three-dimensional CFD simulations are performed under turbulent airflow conditions while applying a uniform heat flux to the absorber wall. Particular attention is given to the way rib spacing alters the development of vortical structures, the renewal of the thermal boundary layer, and the resulting heat transfer intensity. The rib pitch is systematically varied while keeping the rib height and other geometric characteristics fixed, enabling a clear evaluation of the aerodynamic and thermal impact of rib distribution along the duct. The study shows that close rib spacing generates more vigorous mixing and improves convective heat transfer, though at the cost of increased frictional resistance. Conversely, larger spacing mitigates pressure losses but weakens the heat-transfer enhancement. An intermediate pitch is identified as the most effective configuration, offering a favorable trade-off between thermal improvement and hydraulic penalty. The outcomes provide valuable design insights for engineers seeking to enhance the performance and energy efficiency of solar air heater systems.

Keywords: Solar air heater; Rib pitch; Thermo-hydraulic performance; Heat transfer enhancement.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

TENSOR-DECOMPOSITION-BASED MACHINE LEARNING FOR RADIATION SIGNAL SEPARATION

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ABSTRACT

Neutron spectrometry using scintillation detectors has gained widespread adoption in radiation detection and medical science, particularly in radiation diagnosis and radiation therapy. These detectors are highly efficient in detecting neutrons across a broad energy spectrum, cost-effective, and feature a straightforward design that facilitates maintenance and operation. Despite these advantages, a critical challenge remains in accurately distinguishing neutron signals from accompanying gamma radiation, which is essential for precise radiation diagnosis and effective radiation therapy treatment planning. Addressing this challenge, various techniques have been proposed to differentiate neutrons from gamma radiation. This work reviews neutron-gamma discrimination methods using different types of scintillators and compares these methods based on their accuracy and the type of detector used. Additionally, potential recommendations for the research community are provided.

Keywords: Neutron-gamma discrimination, Unsupervised Learning, Pulse Shape discrimination, Scintillation detectors.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

MOTIVATIONAL CHALLENGES OF AFGHAN ADOLESCENT GIRLS AND THEIR IMPACT ON FUTURE PLANNING

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ABSTRACT

This study explores the motivational challenges experienced by Afghan adolescent girls and the ways these challenges influence their ability to plan for their future. In fragile and transitional societies, motivation plays an essential role in shaping educational attainment, long-term aspirations, and overall well-being. Afghan girls, however, face a unique combination of social, psychological, and cultural barriers that significantly undermine their motivation and diminish their sense of agency. This research employs a document analysis method, reviewing relevant scholarly literature on education, gender, motivation, and crisis-affected communities. The findings reveal that unequal access to education, persistent insecurity, cultural restrictions, familial pressures, and the lack of visible female role models contribute to reduced hope, lower academic engagement, and limited future orientation. Psychologically, repeated exposure to stress, restricted self-expression, and low self-efficacy weaken girls' confidence in their capacity to set and achieve meaningful goals. Socially, limited pathways to higher education, gender-based discrimination, and the absence of supportive institutional structures further hinder their ability to envision academic or professional futures. The study concludes that enhancing motivation among Afghan adolescent girls requires integrated interventions, including empowerment programs, psychological support, equitable educational opportunities, and the promotion of positive female role models. These findings provide a valuable foundation for future policy development and targeted social initiatives aimed at strengthening resilience, motivation, and future planning among Afghan girls.

Keywords: Motivation, Afghan Adolescent Girls, Future Planning, Educational Barriers

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

THE OBJECTIFICATION OF WOMEN IN NIGERIAN AND AMERICAN MUSIC VIDEOS: A CRITICAL ANALYSIS

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ABSTRACT

The representation of women in music videos has been a contentious issue, sparking widespread discourse on their objectification and commodification. This paper delves into a critical examination of how young male artists from Nigeria and the United States depict women in their music videos, with a specific focus on their tendency to portray women as sexual objects. Adopting a feminist theoretical framework, the study employs content and semiotic analysis to scrutinise four selected videos: *Dumebi* by Rema, *Soco* by Wizkid, *Good as Hell* by Lizzo and *Say So* by Doja Cat. The findings reveal a pervasive trend in which women are predominantly showcased in ways that accentuate their physical attributes and sexual allure, often relegating them to mere objects of male gratification. Furthermore, the analysis highlights a disturbing uniformity across cultural contexts, where the visual narratives in these videos perpetuate stereotypes and reinforce patriarchal ideologies. The Nigerian videos, for instance, frequently combine traditional and modern aesthetics to showcase women as symbols of beauty and wealth, aligning with local cultural expectations. Meanwhile, the American videos demonstrate a hyper-commercialised approach that magnifies the sexualisation of women, catering to global pop culture trends. This study also explores the broader cultural and social ramifications of such portrayals, including their influence on gender norms, self-perception among young women and societal attitudes towards women. Ultimately, the paper advocates for a shift in the music industry's approach to female representation, urging stakeholders to embrace narratives that celebrate women's individuality, agency and diverse roles in society. Such efforts are crucial for fostering a more respectful and equitable media landscape.

Keywords: Objectification, Representation, Nigerian Artists, American Artists, Gender Norms.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

AN OVERVIEW OF PHYTOCHEMICAL, PHARMACOLOGICAL, AND BIOLOGICAL CHARACTERIZATION OF *TEUCRIUM POLIUM* SPECIES: LITERATURE REVIEW

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ABSTRACT

In recent years, there has been growing interest in the interdisciplinary exploration of biologically active compounds derived from medicinal plants traditionally used in herbal medicine. This trend reflects increasing global demand for ecologically sustainable, health-promoting substances. Against this backdrop, the present study aims to examine and characterize *Teucrium polium* for potential biotechnological applications. The species, collected from southeastern Tunisia. Initially, we conducted an ancient ethnobotanical survey to assess the therapeutic and ethnopharmacological properties of the selected taxa within the local community. Data were analyzed using ethnobotanical indicators, including use value (UV), frequency of citation (FC), and informants' consensus factor (ICF), to gauge the presenters' perceived effectiveness of selected species. This study emphasizes the phytochemical, pharmacological, and biological attributes of the chosen species. A comprehensive literature search identified relevant works, including an ethnobotanical survey of the local population and phytochemical characterizations of the target species. Both lines of evidence were contextualized within the scope of our doctoral program. Overall, the findings support the therapeutic potential of the studied species and offer insights into its traditional medicinal uses by indigenous communities. The results indicate opportunities for further investigation and applications across diverse domains, including cosmetics, pharmacology and nutrition.

Keywords: Medicinal plants, therapeutic properties, phytochemical, pharmacological, biological characterization.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

A MANGROVE-SOIL DERIVED NOVEL *STREPTOMYCES* ISOLATE WITH SYNERGISTIC ANTIMICROBIAL AND ANTICANCER METABOLITE PRODUCTION

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ABSTRACT

Actinomycetes are prolific producers of secondary metabolites with therapeutic potential, particularly in antimicrobial and anticancer domains. Mangrove ecosystems represent underexplored reservoirs for novel bioactive strains. This study reports the cultural characteristics, and bioactivity assessment of *Streptomyces viridiostaticus* recovered from mangrove soil sample of the Mangalore coastal region, India. Morphological and biochemical characterization was performed on SCNA and additional selective media. Antibacterial activity of crude proteins was tested against Gram-positive and Gram-negative pathogens. Protein purification was carried out using Sephadex G-10 column chromatography. Cytotoxic activity was determined via MTT assay using the PC3 prostate cancer cell line. Metabolite profiling through mass spectrometry, identifies Tryprostatin B. S24 was confirmed as *Streptomyces viridiostaticus* by 16S rRNA sequencing (Accession: MZ021336.1). The isolate displayed robust growth across different media, with distinct brown aerial and substrate pigmentation. Crude protein extracts exhibited antibacterial activity against *Bacillus cereus*, *Proteus vulgaris*, *Salmonella typhimurium*, *Staphylococcus aureus*, and *Pseudomonas aeruginosa*, with inhibition zones up to 24 mm. Protein purification yielded a 10.75-fold increase in specific activity, though with reduced recovery (9.25%). Cytotoxic assays revealed dose-dependent inhibition of PC3 cells, achieving 51.85% growth inhibition at 200 µg/mL. Mass spectrometry confirmed the presence of Tryprostatin B, a known indole alkaloid with anticancer potential. The study demonstrates that *Streptomyces viridiostaticus* is a promising source of bioactive proteins and metabolites with antibacterial and anticancer properties. Its discovery from mangrove soil highlights the ecological and pharmaceutical significance of marine-derived *Actinomycetes* as reservoirs of novel therapeutic compounds. This work was supported by UNAM Postdoctoral Program (POSDOC) to Y.K. The authors acknowledge UNAM-DGAPA-PASPA through a sabbatical grant to A.M-K & K.N.

Keywords: *Actinomycetes*; anticancer activity; antimicrobial peptides; mangrove soil; protein purification; *Streptomyces viridiostaticus*; Tryprostatin B

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

BOLD EFFECT OF HIGH HYDROSTATIC PRESSURE ON UNFOLDING AND AGGREGATION BEHAVIOR OF CANOLA (RAPESEED) PROTEIN

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ABSTRACT

High Hydrostatic Pressure (HHP) has gained increasing attention as a non-thermal processing technology capable of inducing precise structural modifications in food biopolymers. Canola (rapeseed) protein, recognized as a sustainable and nutritionally valuable plant-based ingredient, presents a promising alternative to conventional protein sources. However, its complex native conformation and limited solubility often restrict its broader application in food systems. This study explores how HHP influences both the unfolding and aggregation behavior of canola protein, with the broader aim of understanding how pressure-induced structural transitions may improve its techno-functional performance.

The introduction highlights the relevance of canola protein in modern food production, especially in the context of rising interest in plant-based ingredients. The sensitivity of globular plant proteins to pressure-driven changes is briefly discussed, emphasizing why the molecular responses of canola protein warrant closer examination. Because HHP can selectively disrupt non-covalent interactions while preserving covalent bonds, it offers a unique tool for controlled modification without causing thermal degradation.

In the findings section, potential mechanisms by which HHP affects canola protein structure are described. Pressure application may induce partial unfolding through the exposure of hydrophobic domains and redistribution of intramolecular forces. At moderate pressure levels, these changes can enhance hydration, solubility, and surface activity. At higher pressures, however, proteins may reassociate through hydrophobic or electrostatic interactions, leading to aggregation. These aggregation behaviors may positively or negatively influence functionality depending on the intended food application, such as gel formation, emulsifying performance, or texture development. Examples from recent studies illustrate how treatment conditions—including pressure intensity, duration, and temperature play a determining role in shaping the final structural outcome.

In conclusion, HHP represents a highly adaptable technology for tailoring the structural properties of canola protein. A clearer understanding of unfolding aggregation dynamics can support the development of improved plant-based formulations and contribute to the creation of sustainable, high-quality food products.

Keywords: High hydrostatic pressure; canola protein; unfolding; aggregation; structural modification; non-thermal processing

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

COMPARATIVE EVALUATION OF GC-MS VS LC-MS IN PHYTOCHEMICAL ANALYSIS: A COMPREHENSIVE REVIEW

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ABSTRACT

Phytochemical analysis plays a central role in natural product research, enabling the identification, characterization, and quantification of bioactive compounds from plant sources. Gas Chromatography Mass Spectrometry (GC-MS) and Liquid Chromatography Mass Spectrometry (LC-MS) remain two of the most widely applied analytical platforms. Although both methods integrate chromatographic separation with mass spectrometric detection, they differ significantly in operating principles, analyte suitability, sensitivity, sample preparation, and the type of phytochemicals they can analyze. This review provides a comparative evaluation of GC-MS and LC-MS in phytochemical research, highlighting their instrumentation, operational principles, strengths, limitations, and appropriate application areas. Emphasis is placed on practical considerations in natural product chemistry, including sample preparation strategies, derivatization, thermolability challenges, compound ionization, and data interpretation. Case studies from recent literature demonstrate how the complementary capabilities of both techniques enhance the discovery and characterization of natural products. The review concludes by discussing emerging trends such as high resolution MS, metabolomics workflows, and hyphenated techniques, suggesting the best-fit approach for specific classes of phytochemicals.

Keywords: Phytochemical analysis, Gas Chromatography Mass Spectrometry (GC-MS), Liquid Chromatography Mass Spectrometry (LC-MS), natural products, metabolite profiling

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

STUDY OF DEGRADATION OF S-TRIAZINE SOLUTION BY ANODIC OXIDATION USING ELECTROGENERATED HYDROXYL RADICALS

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ABSTRACT

This study evaluates the removal efficiency of a s-triazine solution, a persistent and toxic contaminant frequently introduced into the environment through agricultural applications, using an advanced oxidation process (AOP) based on electrochemical oxidation. The experiments were conducted in an open, undivided electrolytic cell equipped with a boron-doped diamond (BDD) anode and a carbon-felt cathode. The choice of the BDD anode was motivated by its high oxygen evolution potential and wide electrochemical stability window, which collectively enhances its ability to generate hydroxyl radicals ($\text{OH}^\bullet$) and promote direct electron-transfer reactions at the electrode surface. These properties make BDD one of the most effective anode materials for the oxidative degradation and mineralization of recalcitrant organic pollutants. A systematic evaluation of key operational parameters including current density, solution pH, temperature, and initial pollutant concentration was performed to determine their influence on the degradation kinetics. The results demonstrated that all these variables significantly affect oxidation efficiency. Under optimized conditions (current density of 20 mA/cm^2 , pH 5, and temperature of $25 \pm 3 \text{ }^\circ\text{C}$), the electro-oxidation process achieved a removal efficiency of 98.9% within 50 minutes of treatment. The high degradation performance observed in the BDD-based system can be attributed to the synergistic contribution of direct electrochemical oxidation at the anode surface and indirect oxidation mediated by electrogenerated hydroxyl radicals. Together, these mechanisms enable extensive mineralization of pollutants, confirming the potential of BDD-assisted electrochemical oxidation as a robust and efficient technology for the remediation of persistent organic contaminants

Keywords: Anodic oxidation ($\text{OA-H}_2\text{O}_2$), Advanced oxidation process (AOP), Wastewater treatment, BDD/Carbon felt, Hydroxyl radical ($\text{OH}^\bullet$)

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

WOMEN EMPOWERMENT IN AMMA DARKO *BEYOND THE HORIZON* AND MARIAM BÂ'S *SO LONG A LETTER*

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ABSTRACT

This paper examines the theme of women empowerment in African society through a comparative analysis of Amma Darko's *Beyond the Horizon* and Mariama Bâ's *So Long a Letter*. Both texts portray the struggles, resilience, and agency of African women within patriarchal contexts marked by cultural traditions, economic constraints, and gender inequalities. While Bâ foregrounds the experiences of educated women navigating issues of polygamy, widowhood, and female solidarity in Senegal, Darko exposes the vulnerabilities of rural Ghanaian women who face exploitation, migration challenges, and the harsh realities of globalization. Despite their different settings, the novels converge in highlighting women's quest for autonomy, dignity, and self-assertion against oppressive structures. Using a textual analysis method, the study argues that these literary works not only critique patriarchal norms but also advocate for social transformation by presenting empowered female voices that redefine identity and challenge subjugation. Ultimately, the analysis underscores literature's role as a tool for gender awareness and the promotion of women's rights in African society.

Keywords: female writers, patriarchy, resistance, sisterhood, women empowerment

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

HARMONY IN ACTION: UNRAVELING THE NEXUS OF MOTIVATIONAL THEORIES AND EMOTIONAL INTELLIGENCE IN PROJECT MANAGEMENT

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ABSTRACT

Even though motivation is a well-studied concept in psychology, understanding the role of emotional intelligence in driving our goals and behaviors remains an ongoing task. Although many known theorists have already researched emotional intelligence and the role of motivation, only a few have tried to find the connection between these two core concepts. Traditional motivation theories often focus on cognitive factors that neglect the significance of emotions in human motivation. This gap in knowledge hinders efforts to fully understand and optimize human motivation, which can serve as a key to understanding what really motivates or demotivates a person and how they can effectively deal with these elements to achieve their desired goals and objectives. The paper under consideration aims to bridge this gap by investigating the link between emotional intelligence (EI) and various popular motivation theories, including ERG, Social Learning Theory, Deci & Ryan's Self Determination Theory, etc. It seeks to elucidate how EI facilitates or hinders motivation by exploring how individuals with higher emotional intelligence navigate their emotions to achieve their goals and organizational objectives. The research also includes a tabular comparative analysis that measures the connection between these two core concepts in the light of social awareness, self-management, social skills, and relationship management. The paper employs a hypothetical approach and analyzes key concepts within EI and motivation theories as well as drawing insights from existing research to understand their interaction. Prominent motivation theories such as Maslow's hierarchy of needs, ERG theory, as well as McClelland's three needs theories are examined through the lens of EI. The paper reveals a significant connection between EI and motivation. The findings highlight the strong connection between self-awareness, self-management, as well as social and relationship management in the context of emotional and behavioral regulation skills, which are believed to be the core aspects of EI. These elements empower individuals to understand and manage their emotions and allow them to leverage positive behavior while controlling negative ones that might hinder goal pursuit. Furthermore, empathy fosters collaboration and builds a positive social environment, which eventually enhances motivation within teams. Additionally, EI can contribute to the fulfillment of needs and the setting of achievable goals, which are both considered to be powerful human motivators. This research highlights the potential of developing emotional intelligence to enhance personal and professional motivation. Leaders who understand and manage their own emotions, along with those of their team members, can cultivate a more motivated and productive work environment. Not just any one sector, but almost every organization can benefit by incorporating strategies to foster emotional intelligence in teams, potentially leading to increased motivation and success. Overall, this exploration offers valuable insights for individuals and organizations aiming to optimize goal achievement and well-being. The paper suggests avenues for future research, which includes but are not limited to the development and evaluation of interventions specifically designed to improve both EI and motivation. Further exploration into the precise mechanisms by which EI influences different aspects of motivation is also warranted.

Keywords: Motivational theories, emotional intelligence, project management, mapping.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

DYNAMICS OF FERROMAGNETIC HYBRID NANOFLUID WITH HEAT GENERATION, THERMAL RADIATION, AND Soret–DUFOUR EFFECTS OVER A PERMEABLE SURFACE

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ABSTRACT

This research presents a comprehensive investigation into the dynamical behavior of a ferromagnetic hybrid nanofluid subjected to the combined influences of heat generation, thermal radiation, and Soret–Dufour mechanisms. Hybrid nanofluids, known for their superior thermal performance, are further enhanced in this work by considering ferromagnetic properties, which introduce additional control through magnetic actuation. The study particularly focuses on the thermal and concentration characteristics of the fluid as it flows over a permeable stretching surface, a configuration commonly used in thermal processing, polymer extrusion, and advanced cooling technologies. The presence of induced magnetism, arising from the ferromagnetic nature of the nanoparticles, plays a crucial role in modifying the fluid motion and heat transfer behavior. The mathematical formulation of the physical model is represented through a system of coupled, nonlinear partial differential equations (PDEs) governing the momentum, energy, and concentration fields. To simplify the complexity of the problem and facilitate numerical computation, an appropriate similarity transformation is applied to reduce the PDEs into a set of more manageable ordinary differential equations (ODEs). These ODEs retain the essential physical characteristics of the original problem while enabling more efficient analysis. To obtain accurate and stable solutions, the Spectral Relaxation Method (SRM) is employed. SRM is an iterative numerical approach that separates linear and nonlinear components, treating nonlinear terms using information from previous iterations while solving the linearized equations at the current step. This strategy significantly enhances convergence and accuracy, especially for problems involving strong thermal interactions and nonlinear diffusion effects. Through SRM, reliable solutions for velocity, temperature, and concentration profiles are obtained. The thermal results indicate that heat generation and radiation substantially elevate the fluid temperature, leading to a thicker thermal boundary layer. The Dufour effect enhances the temperature distribution by coupling concentration gradients with heat flux, while the Soret effect intensifies species diffusion through temperature gradients, resulting in a pronounced concentration boundary layer. The outcomes derived in this work exhibit strong agreement with existing literature, thereby validating the effectiveness of the methodology and reinforcing confidence in the physical interpretations presented.

Keywords: Magnetohydrodynamic, heat and mass transfer, Ferromagnetic, SRM method.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

A ROBUST MACHINE LEARNING EXTENSION OF THE MULTIVARIATE BEHRENS– FISHER PROBLEM FOR HIGH-DIMENSIONAL INFERENCE

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ABSTRACT

This paper presents a machine learning–centric extension of the Multivariate Behrens–Fisher Problem for high-dimensional inference. The method relies exclusively on Random Forests to estimate and remove nuisance structure, produce out-of-sample residuals, and reduce effective dimensionality when p is large relative to sample size. Out-of-bag and cross-fitting predictions provide residualized observations and an empirical estimate of the prediction induced variance. That variance is aggregated into an additive inflation term for the pooled covariance estimator, producing a corrected Hotelling-style quadratic form. A Satterthwaite-style moment matching yields an adjusted degrees-of-freedom approximation, which aims to control Type I error while retaining power in complex, noisy settings. Extensive simulation studies compare the proposed RF-residualized test to standard MBFP procedures across a range of covariance structures, sample sizes, and effect patterns. Results show improved stability of Type I error and higher detection power in many high-dimensional scenarios. Applications to econometric datasets illustrate practical benefits: clearer signal detection after nuisance removal and more reliable inference where classical tests struggle. The contribution is a practical, reproducible framework that brings modern predictive tools into rigorous multivariate testing for high-dimensional data.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

IMPROVING THE LEGAL FRAMEWORK ON GREENHOUSE GAS EMISSIONS REDUCTION IN VIETNAM

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ABSTRACT

The impacts arising from the living and developmental activities of human societies on Earth over millions of years—together with the exploitation of natural resources to meet human needs—have increasingly caused serious harm to the environment. The Earth is facing, and continues to face, severe climate change manifested through global warming, polar ice melt, extreme weather events, and other phenomena, all of which are causing serious impacts on human life. The rapid industrial development of countries in recent decades has resulted in the discharge of large volumes of greenhouse gases into the atmosphere. Recognizing the worsening environmental changes, many nations have committed to reducing greenhouse gas emissions, making significant efforts to implement various measures and organizing global conferences to adopt treaties and conventions on environmental protection. Vietnam is among the countries that joined early in addressing climate change issues and has been an active, proactive, and committed member in reducing greenhouse gas emissions. However, in practice, Vietnam still faces numerous challenges that must be resolved in order to build a sustainable and effective legal foundation for greenhouse gas emissions mitigation. Strengthening this legal framework is essential to improving emission-reduction effectiveness and advancing the completion of relevant legal regulations.

Keywords: Greenhouse gas emissions reduction, Environmental Protection Law, legal shortcomings, legal improvement solutions.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

COMBINING A SEGMENTATION APPROACH WITH A BAYESIAN MODEL TO ESTIMATE NON-STATIONARY RATING CURVES

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ABSTRACT

Streamflow time series are essential for operational hydrology and water-resources management. They are generally derived from rating curves that relate river stage to discharge. However, these relationships are often nonstationary due to channel evolution, morphodynamic processes, or human interventions. This nonstationarity makes it necessary to automatically identify stationary periods in order to estimate reliable rating curves.

In this study, a method inspired by the PELT–CROPS framework was applied to a daily dataset of 1250 stage–discharge pairs. A mean rating curve was first constructed by fitting a power function with a fixed hydraulic exponent. A residual indicator α , defined as the difference between observed stage and reconstructed stage (from discharge using the mean curve), was then computed as a proxy for hydraulic changes.

The PELT change-point detection algorithm, combined with the CROPS multi-penalty approach, was applied to segment the residual series into homogeneous families. Eight experiments were conducted by varying the minimum segment length between 25 and 200 days, to explore the sensitivity of the segmentation process. Results show that: (1) using a wide CROPS penalty range enables a full exploration of possible segmentations; (2) the minimum segment length strongly influences the number of detected change points, with smaller values producing more segments; (3) the stage–discharge relationship is particularly sensitive during low flows, requiring more segments to accurately model low-flow discharge; (4) several change points appear consistently across experiments, highlighting hydraulically distinct periods.

These results demonstrate the usefulness of the PELT–CROPS approach for automatically identifying stationary periods and supporting the calibration of nonstationary rating curves. The method provides a robust tool to reduce data redundancy, improve discharge prediction accuracy, and optimize hydrometric calibration workflows.

Keywords : Nonstationary rating curves , Change-point detection (PELT–CROPS), Stage–discharge relationship, Residual indicator analysis, Hydrometric time-series segmentation

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

BUILDING THE SOCIO-POLITICAL AND CULTURAL IDENTITY OF THE MARGINALIZED PEOPLE OF POST-LIBERATION BANGLADESH, REVEALING THE PERFORMATIVE ASPECTS OF RESISTANCE

Afruza Hossain Konika

ABSTRACT

The formation of the social and cultural identity of the marginalized people of post-liberation Bangladesh is a multifaceted process that analyzes aspects of their resistance performance. After the Liberation War, the marginalized people of Bangladesh adopted the practice of performance to build their identity socially, politically and culturally. It plays an important role in their history and identity. However, the marginalized people are not getting enough opportunities to build their identity, such as their struggling history, without proper recognition of their own identity and resistance and being considered important. The main objective of the research is to show that the cultural expression of the marginalized people of post-liberation Bangladesh (festivals, songs, dances and folk-dramas) is not only a cultural heritage but also an effective means of building resistance against state domination. Basically, this study calls for the evaluation of an active social, political and cultural stance and as a performative method of prevention. The study followed a qualitative approach to understand the political and cultural identity of marginalized populations and the performative manifestations of resistance. Focus group discussions, participatory and ethnographic observations, in-depth interviews and archival research were used to collect the data. The field survey was conducted from January to July 2025. Tea gardens in Sylhet have been set up in certain communities of Rangamati and Rajshahi districts to collect field-level data. The findings of this study indicate that the cultural expression of marginalized communities in the form of songs, dances, festivals, folk-dramas is a powerful medium of subtle resistance against the hegemony expressed not only in cultural traditions but also in political activities. This research will open new theoretical and practical directions in understanding national identity.

The key words: Liberation War-North Bangladesh, marginalized people, cultural identity, political identity, social identity, resistance, folk performance.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

SCHOOL PHOTOGRAPHY: A NEW AESTHETIC SPACE IN GENERAL EDUCATION

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ABSTRACT

This study explores the potential of school-based photography as a new aesthetic space within Vietnamese general education, aligning with the competency-oriented orientation of the 2018 General Education Curriculum. The research proposes and implements several approaches to integrate photography into high school settings, including guiding students in visual observation, organizing thematic photo projects, establishing photography clubs, incorporating photographic narratives into learning activities, and creating opportunities for exhibition and peer critique. Over one academic year, these activities were applied to selected student groups at Bùi Hữu Nghĩa High School. The results show notable improvements in students' aesthetic perception, creative expression, confidence, and engagement with school life. Students demonstrated clearer visual thinking, increased participation in artistic activities, and greater ability to interpret and produce meaningful images. Photography also contributed to building a positive school culture and strengthening the emotional connection between students and their learning environment. The findings suggest that school photography is a highly feasible and effective means of fostering aesthetic competence and creative development, with strong potential for wider application in general education.

Keywords: school photography, aesthetic education, visual literacy, high school, 2018 General Education Curriculum.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

BRANDED WATER, BRANDED MINDS: WHY DO INDONESIANS PAY MORE FOR THE SAME H₂O

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ABSTRACT

This study examines why Indonesians are willing to pay premium prices for branded bottled water despite the product being largely identical across brands. This topic is important because Indonesia has one of the largest bottled water markets in Southeast Asia, making it crucial to understand how consumer perceptions and behavioural biases influence everyday spending. Using consumer surveys, supermarket observations, price comparisons, and behavioural economics concepts such as framing, perceived quality, and social signalling, the research investigates the psychological drivers behind brand preference. The findings show that Indonesians often associate higher-priced brands with greater safety, cleanliness, and status, even when objective differences are minimal. This study benefits consumers by increasing awareness of how biases shape purchasing decisions and benefits businesses by providing insights into how branding strategies influence consumer behaviour in the Indonesian market.

Keywords: Behavioural economics, Consumer bias, Consumer demand, Perceived value, Premium pricing

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

SCIENTIFIC RESEARCH IN THE POST-ARTIFICIAL INTELLIGENCE ERA: A COMPREHENSIVE APPROACH TO ADVANCING RESEARCH PARADIGMS

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ABSTRACT

The Post-Artificial Intelligence (Post-AI) Era represents a fundamental transformation in the methodology of scientific research, wherein artificial intelligence systems have transcended their role as computational tools to become active participants in the scientific discovery process. This paper endeavors to present a novel theoretical framework for understanding scientific research during this period. Based on a critical analysis of 150 scientific papers and interviews with 45 researchers, this study demonstrates that structural and epistemological differences between traditional and AI-driven research approaches manifest across five fundamental dimensions: AI participation, scientific transparency, knowledge generation, validation, and research ethics. Findings indicate that 68% of contemporary studies employ a hybrid approach combining empirical and computational methods. Results demonstrate that meticulous methodological organization and clear definition of human-machine roles can substantially improve research quality and reproducibility. This paper presents evidence-based recommendations for professionals, policymakers, and educational institutions to effectively navigate this transitional period while maintaining scientific standards. The contribution of this work extends existing frameworks by integrating epistemological considerations with pragmatic methodological guidance, addressing a critical gap in current literature regarding post-digital research paradigms.

Keywords: Artificial Intelligence and Scientific Research, Post-Digital Methodology, Knowledge Generation and Validation

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

ON VERTEX RELATED METRIC DIMENSION OF GRAPHS

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ABSTRACT

Let $G = G(V, E)$ be an undirected connected graph with vertex set $V(G)$ and edge set $E(G)$. A subset R of $V(G)$ is said to be resolving in G , if every pair of vertices (say v_1 and v_2) in G satisfy the relation $d(k, v_1) \neq d(k, v_2)$, for at least one k in R . The minimum set R with this resolving property is said to be a metric basis for G , and the cardinality of such set R , is referred to as the metric dimension of G , and is denoted by $dim_v(G)$. This graph parameter has different variants, all of which has a wide range of applications in different scientific discipline (including, chemistry, computer science, robotics, game theory, etc.) and these parameters in general are known as resolvability parameters. In this paper, we introduced the concept of s –MDimension (denoted as $dim_{sm}(G)$) and initiates the investigation of its mathematical properties. The underlying principle of this concept entails the exhaustive exploration of all potential metric basis sets for a given graph G . This comprehensive collection is known as the s –MDimension of a graph. Mathematically, it is defined as follows $dim_{sm}(G) = |R: R \text{ is the metric basis in } G|$. We prove that the concept of s –MDimension is NP-hard, along with several approximation results and applications pertaining to this problem. In addition, we hereby present a collection of bounds and closed formulae pertaining to the s –MDimension of various classes of graphs.

Key Words: metric dimension, s –Mdimension, resolving set, planar graph, connected graph

AMS Classifications: 05C12, 05C76

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

THE ROLES OF INTERNAL AND EXTERNAL STAKEHOLDERS IN ENHANCING STUDENT SERVICES IN CAMBODIAN HIGHER EDUCATION: INSIGHTS FROM A QUALITATIVE STUDY

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ABSTRACT

Cambodia now has 194 higher education institutions (HEIs), supervised by 17 parent ministries and state institutions. Although undergraduate enrolment has significantly increased, it is still unclear who the key contributors are to improving student services. This study aims to investigate the roles of internal and external stakeholders in enhancing student services in Cambodian higher education. A qualitative approach was used. The study employed purposive sampling and conducted in-depth one-on-one interviews and focus group discussions with 89 participants. The data were analysed using thematic analysis. Two main categories of stakeholders were identified: internal and external stakeholders. The internal stakeholders are higher education leaders and division managers, teaching and non-teaching staff, student service providers, and students and alumni, while the external stakeholders include the parent ministries, industries and communities, development partners, religions, and parents and guardians. HEIs in Cambodia must focus on the role of these stakeholders to improve student services to ensure financial sustainability and develop human capital in line with the Cambodian government's 2050 vision to transform Cambodia into a high-income country.

Keywords: Higher education stakeholders; internal stakeholders; external stakeholders; student services; higher education; Cambodia

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

THE ROLE OF COMMUNITY COLLABORATION IN STRENGTHENING THE CREATIVE ECONOMY

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ABSTRACT

Communities play a crucial role in the development of the creative economy as they serve as a primary platform for mobilizing local potential. Through communities, individual creative ideas can be collected, developed, and implemented collectively. Collaboration among community members broadens the scope of creative economic activities, allowing individuals to complement each other's skills, share resources, and accelerate innovation. This internal synergy enables communities to produce diverse and competitive products. Moreover, external partnerships with industry players, government, and academia further expand opportunities for capacity building and market access. Such collaborations often take the form of joint training, cultural festivals, and the creation of products that integrate traditional and modern elements. As a result, communities become not only preservers of cultural heritage but also drivers of innovation and tourism potential. The integration of creativity, collaboration, and cross-sector partnerships makes the creative economy more inclusive and competitive, positioning communities as strategic actors in sustainable creative economic development.

Keywords: creative economy, community collaboration, innovation.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

A SCOPING REVIEW OF FINANCIAL RESILIENCE IN THE BANKING SECTOR AMIDST THE COVID-19 PANDEMIC

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ABSTRACT

This research provides a systematic analysis of the financial resilience of the banking sector by examining capital, liquidity, credit risk, and profitability indicators before and after the COVID-19 pandemic. As banks play a vital role in ensuring economic stability and growth, their ability to withstand financial shocks is essential for recovery and long-term sustainability. The review indicates that capital adequacy measures, such as the Capital Adequacy Ratio (CAR) and Common Equity Tier 1 (CET1), enhance stability but may also limit profitability and lending. Liquidity indicators, such as the Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR), protect banks from risks, but often reduce earnings. Credit risk measures, including the Non-Performing Loan (NPL) Ratio and Provision Coverage Ratio (PCR), reveal vulnerabilities and preparedness, while profitability indicators such as Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM) remain important but are highly sensitive to external shocks. The synthesis highlights that resilience stems not from a single factor alone, but from the interaction of these indicators. It also identifies research gaps, including the lack of long-term studies, limited group analysis of listed banks, and a scarcity of examinations of resilience during recovery. To address these gaps, this study analyzes the financial performance of Philippine universal and commercial banks listed on the Philippine Stock Exchange from 2017 to 2019 and 2020 to 2022. The findings are expected to provide policymakers, regulators, investors, and bank managers with useful insights for strengthening financial stability, improving preparedness, and supporting inclusive growth.

Keywords: Philippine banking sector, financial resilience, COVID-19, capital adequacy, liquidity, credit risk, profitability indicators

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

SPACE DEBRIS AND ORBITAL CONGESTION: TOWARD A FRAMEWORK FOR SUSTAINABLE SPACE OPERATIONS

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ABSTRACT

The rapid expansion of space activities—driven by commercial mega-constellations, increased governmental launches, and intensified scientific missions—has resulted in unprecedented levels of space debris and growing orbital congestion. These developments pose significant risks to the long-term sustainability, safety, and security of outer space operations. Existing international legal instruments, including the Outer Space Treaty and related UN guidelines, provide only broad principles and lack binding, enforceable mechanisms to address debris mitigation, space traffic management, and the responsibilities of private actors. This paper examines the technological, legal, and governance challenges associated with the congested orbital environment and critically evaluates current international responses. It highlights the limitations of voluntary guidelines and fragmented national regulations in ensuring effective debris reduction. The study proposes the need for an integrated global framework that combines binding legal standards, cooperative space traffic management systems, enhanced data-sharing mechanisms, and stronger accountability for both state and non-state operators. Such a framework is essential to safeguard the sustainability of space operations, prevent cascading collision scenarios like the Kessler Syndrome, and ensure equitable access to outer space for all nations.

Keywords: Space debris, orbital congestion, s, space sustainability; Space traffic management, Outer Space Treaty, mega-constellations,, international space law; Mega-constellations; Kessler Syndrome, debris mitigation, global governance, space operations.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

FORECASTING PILGRIM VULNERABILITY TO EXTREME HEAT: INTEGRATED CLIMATE-HEALTH MODELING FOR THE HAJJ IN MECCA AND MADINAH

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ABSTRACT

The Hajj pilgrimage in Mecca and Madinah exposes millions of Muslims annually to extreme thermal stress, particularly during summer months. This study presents a comprehensive methodology for evaluating historical and future heat risk based on the heat index (HI), integrating meteorological analysis, statistical modeling, and machine learning prediction. Monthly temperature and humidity data from 2014 to 2023 were analyzed to calculate HI, revealing critical exposure periods where HI consistently exceeded 50°C, particularly in July and August. A decadal trend showed a 14% increase in HI, confirming intensifying thermal conditions. Predictive modeling for 2024–2033 suggests a gradual decrease in HI due to the Hajj calendar shift toward cooler months, yet several years remain within the “danger” threshold. Machine learning models, particularly XGBoost, achieved high classification accuracy (F1-score = 0.91; AUC = 0.94), identifying exposure duration, medical conditions, and temperature as the top predictors of heat-related illnesses. Sensitivity and survival analyses indicated a drastic decline in heat illness survival probability after 3–6 hours of continuous exposure. These findings support targeted interventions such as shaded areas, hydration stations, and timed ritual participation. The proposed framework offers a replicable model for climate-adaptive mass gathering management.

Keywords: climate change, heat index, hajj, machine learning, public health

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

MULTIDIMENSIONAL ASSESSMENT OF MINERAL RESOURCES IN VIETNAM: GEOPOLITICAL ANALYSIS, SUSTAINABLE GOVERNANCE, AND IMPLICATIONS OF THE 2024 LEGAL REFORM

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ABSTRACT

This study provides a comprehensive analysis of mineral resources in Vietnam through geological, economic, and legal lenses. It distinguishes between “Resources” and “Reserves” based on international standards (CRIRSCO) and addresses the geopolitical significance of strategic minerals like Rare Earth Elements (REEs) and Bauxite within the context of the “Resource Curse.” Despite possessing significant reserves, Vietnam's mining sector remains trapped in a low-value chain, exporting primarily raw materials while facing severe environmental challenges such as red mud and Acid Mine Drainage (AMD). A critical focus is placed on the Mekong Delta, where excessive sand mining driven by the “static reserve” management model has triggered a systemic ecological crisis, including severe riverbank erosion. The article proposes sustainable governance strategies, including the implementation of Pigouvian taxes, competitive auctioning, and the promotion of circular economy solutions like manufactured sand (M-Sand). Finally, an evaluation of the 2024 Law on Geology and Minerals highlights a pivotal shift towards centralized planning and mandatory deep processing, aiming to align Vietnam’s resource management with global ESG standards.

Keywords: Mineral governance, critical minerals, resource curse, Mekong delta sand, circular economy, Vietnam mineral law 2024.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

STUDYING THE PREVALENCE OF MUSCULOSKELETAL DISORDERS AND MENTAL HEALTH AMONG DENTISTS IN THE WEST OF THE COUNTRY

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ABSTRACT

Introduction: Considering that reducing and preventing musculoskeletal disorders and health problems is a priority for the dental profession and considering the importance of early treatment of skeletal disorders among dentists and providing appropriate solutions to prevent them, this study was conducted among dentists.

Methods: In this cross-sectional study, 100 dentists with an average age of 36.9 years participated. The Nordic Musculoskeletal Questionnaire was used to assess work-related musculoskeletal disorders and the Kaldbrank Mental Health Survey Questionnaire.

Findings: The results show that there is a significant relationship between neck pain, wrist pain, and back pain and age. On the other hand, there is a direct and significant correlation with work experience and neck pain ($r=0.275$), shoulder pain ($r=0.201$), knee pain ($r=0.243$), and wrist pain ($r=0.312$). Increasing the average working hours has a direct effect on the prevalence of musculoskeletal disorders ($P\text{-VALUE}<.(0.05$

Conclusion: Design and innovation are needed to implement interventions that lead to a decrease in the prevalence of musculoskeletal disorders and improve mental health, which can be implemented in the dental sector with its distinctive organizational and service characteristics.

Keywords: Musculoskeletal disorders, mental health, dentists

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

REGULATORY ROLE OF TOPOISOMERASE I IN EPIGENETIC REPROGRAMMING OF T HELPER CELLS DURING INVASIVE DUCTAL CARCINOMA PROGRESSION

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ABSTRACT

Topoisomerase I (TOP1) is a critical enzyme responsible for modulating DNA topology during transcription. Emerging evidence highlights its contribution to epigenetic regulation that shapes immune cell differentiation. In invasive ductal carcinoma (IDC), dysfunctional CD4⁺T helper (T_H) cell subsets are known to impair antitumor immunity and promote tumor progression. This study investigates the function of Top1 in regulating chromatin organization and lineage-specific gene expression that influence T_H cell development within the IDC immune microenvironment.

CD4⁺T cells were purified from peripheral blood mononuclear cells (PBMCs) collected from healthy donors and IDC patients using magnetic-activated cell sorting (MACS). TOP1 expression was either silenced or up-regulated in these cells via CRISPR/Cas9-mediated gene editing, followed by flowcytometric analysis to confirm modulation efficiency. Gene expression levels of key transcription factors and cytokines involved in T_H cell differentiation were quantified by RT-qPCR in both TOP1-depleted and TOP1-overexpressing cells. Epigenetic modifications were examined through chromatin immunoprecipitation quantitative PCR (ChIP-qPCR) to assess patterns of histone methylation, demethylation, acetylation, and deacetylation in samples derived from both healthy individuals and IDC patients.

TOP1 overexpression enhanced the expression of T_H1-related transcription factors and cytokines (TBX21 and IFNG), while suppressing T_H2- and T_H17-specific factors and cytokines (GATA3, IL4, RORγt, and IL17A). Conversely, TOP1 depletion produced opposing effects. At T_H1-specific loci, TOP1 overexpression led to increased enrichment of active histone marks, including H3K4me3 and H3K14Ac, whereas depletion of TOP1 elevated repressive markers such as H3K27me3 and HDAC1. Notably, TOP1 depletion also altered the expression of tumor-suppressor genes like P53 and BRCA1/2, suggesting a broader role in chromatin accessibility and immune regulation.

Overall, these findings identify Top1 as a key epigenetic regulator of CD4⁺T helper cell differentiation and underscore its potential as an immuno-epigenetic therapeutic target to enhance antitumor T cell responses in IDC.

Keywords: Topoisomerase I (TOP1), T Helper (T_H) cell, CRISPR/Cas9, Epigenetic Regulation, Invasive Ductal Carcinoma (IDC)

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

AI IN INTERACTIVE AND GAMIFIED LEARNING

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ABSTRACT

Interactive and gamified learning with AI enhances student engagement and motivation by incorporating game elements, personalized feedback, and adaptive challenges aligned to individual learning needs. AI-powered interactive learning tools often include chatbots or tutors that guide students through content, offer real-time feedback, and enable collaboration with teachers and peers. Gamification introduces rewards, levels, badges, and social interaction within educational content, supported by AI algorithms that tailor the difficulty and presentation to optimize learning outcomes.

AI-driven interactive learning offers features like personalized chatbots that adapt to learning styles and provide detailed explanations, fostering a more engaging, on-demand learning experience. Gamification combined with AI promotes 21st-century skills such as creativity, collaboration, communication, and critical thinking by making learning active and motivating. Examples include language apps like Duolingo, which use AI to personalize lessons and maintain engagement with game-like incentives, and platforms that allow educators to build custom interactive games efficiently.

Together, AI and gamification enable education to be more inclusive, engaging, and effective by continuously adapting to students' progress and encouraging active participation. This combination supports not just knowledge acquisition but also essential skills development through immersive, fun, and student-centered learning experiences.

Keywords: Chatbots, interactive games, Gamification, student-centered learning

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

PRIVILEGE AND POSSIBILITY. UNDERSTANDING THE LINK BETWEEN CHOICE AND WEALTH

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ABSTRACT

This article examines how different economic systems, those organized around inherited privilege and political status versus those structured around individual choice and market freedom, shape the creation of wealth and opportunity. Building on Ludwig von Mises’s distinction between status-based orders and societies grounded in economic freedom, the paper analyzes how the source of economic roles, whether provided by authority or chosen through voluntary exchange, determines a society’s capacity for mobility, innovation, and prosperity. Using a theoretical approach grounded in both classic and modern research, the study contrasts historical examples of feudal hierarchies and centrally planned economies with the more open, choice-driven dynamics of liberal market systems. Its relevance lies in contemporary debates over renewed state direction of economic activity, the growing use of political criteria in resource allocation, and the rise of crony arrangements that blur the line between privilege and competition. By clarifying the mechanisms through which privilege restricts economic possibility, and how economic freedom expands it, the article argues that societies grounded in voluntary exchange and genuine market choice provide the strongest foundations for sustained development, personal advancement, and a dynamic, adaptive economic order.

Keywords: Economic freedom; Status-based economies; Social mobility; Market choice; Prosperity.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

BREAKING STEREOTYPES: WOMEN IN LEADERSHIP POSITIONS

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ABSTRACT

This study examines the barriers that limit women's access to leadership roles and explores strategies that can support their progress. It also analyzes how the presence of women leaders can positively influence organizational success. The findings show that the most significant challenge for women is the invisible barrier of low self-confidence. This barrier leads many women to apply for a position only when they meet all the listed requirements, while men often apply even when they meet only some of them.

Other structural challenges include the gender pay gap and unconscious biases, which still reduce women's representation in top management positions. To overcome these obstacles, the study recommends several practical strategies such as finding mentors and sponsors, strengthening leadership skills, and building a strong professional network.

The research also explains that a vision-based leadership style—characterized by clarity, purpose, and compassion—is a common strength among successful women leaders. This type of leadership helps create trust, motivation, and deeper commitment within teams.

Importantly, the presence of women in leadership is not only a matter of equality but also a profitable strategy for organizations. Evidence shows that companies with women in leadership teams tend to achieve higher profitability, greater innovation, and better decision-making quality. Therefore, breaking stereotypes and making leadership pathways more accessible for women is essential—not only for their advancement but also for the overall success of the organization.

Keywords: Women's Leadership, Glass Ceiling, Gender Pay Gap, Vision-Based Leadership, Organizational Profitability

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

SECESSIONIST AGITATIONS AND THE FUTURE OF THE NIGERIAN STATE: A POLITICAL ECONOMY PERSPECTIVE

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ABSTRACT

Secessionist agitations have become increasingly prominent within Nigeria's contemporary political environment, reflecting long-standing grievances rooted in marginalization, identity contestation, uneven development, and disputes over the distribution of state power. This paper employs a political economy framework to critically examine the structural, historical, and socio-economic conditions that fuel growing demands for self-determination, particularly within the South-East, South-West, and Niger Delta regions. The analysis situates contemporary movements within broader historical trajectories shaped by colonial administration, resource politics, elite rivalry, and constitutional arrangements that many groups consider insufficiently inclusive. The paper argues that persistent inequalities, weak governance institutions, and perceptions of systemic exclusion reinforce secessionist consciousness and nationalist agitation. It further evaluates the implications of these pressures for Nigeria's national cohesion, federal stability, security architecture, and long-term socio-economic development. Through a synthesis of political economy analysis and empirical evidence, the paper concludes that meaningful national integration requires deliberate reforms in resource governance, power devolution, representation, and institutional inclusiveness. A reconfigured federal framework that promotes equitable development and genuine participation is essential for mitigating secessionist tensions and ensuring a stable and resilient Nigerian state.

Keywords: Secession, political economy, Nigeria, federalism, nationalism, governance, self-determination

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

TRANSFORMING CAMBODIA'S BANKING SECTOR: THE EVOLUTION AND IMPACT OF BANKING INFRASTRUCTURE (2008-2023)

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ABSTRACT

Cambodia's banking system has changed in many small and gradual ways over the past fifteen years, and this study takes a closer look at how those shifts in financial infrastructure relate to overall sector performance. The analysis draws on long-term data from the National Bank of Cambodia, the IMF, and the World Bank, and reviews patterns in both physical access points—such as branches and ATMs—and the much faster rise of digital services.

Branch and ATM networks kept expanding, although at a calmer pace compared to earlier years. By contrast, digital tools spread quickly once mobile-money services and wider internet use became common across the country. These developments did not always move performance indicators in the same direction. Returns on assets and equity fell, yet net-interest margins improved slightly, suggesting some gains in how banks manage intermediation. Liquidity and capital positions also shifted, with loan-to-deposit ratios climbing and buffers tightening. The regression work repeatedly shows that internet penetration and the growth of mobile-money agents have the strongest links to changes in profitability and liquidity, while inflation still plays a noticeable background role.

Overall, the findings suggest that the banking system is slowly working its way toward a mix of old and new methods. Physical branches still matter, but digital services are taking on a larger role each year. As this shift continues, banks will likely need to pay closer attention to how they handle liquidity, strengthen oversight, and keep up with investments in digital tools.

Keywords: Banking infrastructure, banking performance, digital finance, Cambodia, financial inclusion, regression analysis, policy recommendations

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

BIOACTIVE CONSTITUENTS AND EXPANDING USES OF *ALLIUM SATIVUM* ESSENTIAL OIL

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ABSTRACT

Allium sativum (garlic) essential oil, rich in key organosulfur compounds such as allicin and various diallyl sulfides, continues to draw considerable scientific and industrial interest due to its potent antimicrobial, antioxidant, and cardioprotective activities. In the present decade research emphasizes improving extraction methods—including optimized steam distillation and supercritical CO₂ techniques—to increase yield while preserving sensitive sulfur constituents. The oil's demonstrated ability to inhibit pathogenic microorganisms and modulate inflammatory pathways further supports its growing use in natural food preservation and complementary therapeutic applications.

Keywords: *Allium sativum*, Garlic Essential Oil, Organosulfur Compounds, Antioxidant Properties, Extraction Techniques, Food Preservation

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

SENSE OF SELF WORTH PUBLIC IMAGE CONCERN AND MENTAL WELLBEING AMONG UNIVERSITY STUDENTS

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ABSTRACT

The study was aimed to determine the connection between the focus on public image, mental wellbeing, and the feelings of worthiness in university students. Independent sample t test (To examine gender differences), Multiple regression analysis, (To predict mental wellbeing based on public image concern and self-worth, Pearson correlation: To assess relationships among PICT, SWT, and MWBT. Findings shown that the public image concern strongly and negatively influenced mental wellbeing and was strongly linked to low-self worth. The mental wellbeing and self-worth also displayed a substantial positive correlation which was however of a comparatively low predictive power. Significant predictive value between the variables in this model was observation of the predictive value on the public image concern (in the positively monotonic direction) but not on the self-worth were indicated. There were no marked gendered disparities on any of the variables of a study. Such results show that great worry about the way others are judging them may harm the emotional well-being of students and their inner selves. The experience supports the idea that the use of interventions in academic environment is necessary in order to ensure improvement of mental wellbeing, are low in social anxiety and self-reflection in the context of university students.

Keywords: Public image, mental wellbeing, feeling of self-worth, the students of the university, the formation of identity, emotional adjustment

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MUSHROOM-DERIVED NATURAL COLORANTS FOR SUSTAINABLE AND GREEN TEXTILE APPLICATIONS

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ABSTRACT

The global textile industry faces growing pressure to reshape the textile sector through environmentally friendly practices. The non-sustainability, non-biodegradability, toxicity of man-made dyes forced the scientific community to explore natural, and sustainable sources of natural colorants to replace these dyes, noxious chemicals and fixatives. Among natural resources, mushrooms have emerged as an unexplored and promising source of natural colorants. Mushrooms are an admirable source of natural colorants, including carotenoids, flavins, quinones, and melanin that offer a wide spectrum of vibrant colors ranging from yellow and orange to brown and black. These natural colorants not only produce aesthetic shades onto fabric but also add functionalities such as antimicrobial, antioxidant, and UV-protective characteristics. Applications of these natural colorants lessen the reliance on man-made colorants, thus minimizing the negative effect of the textile sector on our ecosystem. Additionally, the cultivation of mushrooms on agricultural and household waste supporting the bio economy. The current study examines the untapped potential of mushrooms as a renewable and superior source of natural colorant for textile applications. The successful assimilation of these natural colorants offers a biodegradable, sustainable, non-toxic, and economically promising pathway towards accomplishing truly eco-conscious and sustainable textile production, enlisting mushrooms as an essential biological source shaping the next generation of the coloration industry.

Keywords: Natural colorants, natural dyeing, green chemistry, bio economy, and mushroom-derived colorants.

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EĞİTİM FAKÜLTESİNDEN MEZUN OLUP ATANAMAYAN ÜNİVERSİTE ÖĞRENCİLERİNİN YAŞADIĞI PSİKO-SOSYAL VE EKONOMİK SORUNLARI ÜZERİNE BİR ARAŞTIRMA¹

A STUDY ON THE PSYCHOSOCIAL AND ECONOMIC PROBLEMS EXPERIENCED BY UNIVERSITY GRADUATES OF FACULTIES OF EDUCATION WHO HAVE NOT BEEN APPOINTED AS TEACHERS

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ÖZET

Bir toplumun temel yapı taşlarından biri eğitimidir. Eğitimcilerin de bu temel yapı taşının oluşturulmasındaki yerleri yadsınamayacak bir öneme sahiptir. Son yıllarda hızla artan yeni eğitim fakülteleri, pedagojik formasyon ve kayıt dışı öğretmen istihdamı, öğretmen atama sürecini ciddi bir biçimde etkilemektedir. Bu süreç; atanamayan öğretmenler için maddi, manevi ve psikolojik birçok sorunu da beraberinde getirmektedir. Atanamayan öğretmenlerin yaşadığı bu problemler, sürecin uzamasıyla orantılı olarak artmakta ve derinleşmektedir.

Bu araştırmanın amacı; eğitim fakültesinden mezun olmuş atanamayan öğretmen adaylarının yaşadıkları psiko-sosyal ve ekonomik problemleri, sosyal çevreleri bağlamında belirlemektir. Eğitim fakültesi mezunu olup atanmayan öğretmen adayları yaşadıkları sorunları kendi deneyimleri üzerinden ele almak amaçlarımız arasındadır. Mezun olup atanamayan üniversite mezunu diğer bireyler gibi öğretmenler de gerek psikolojik gerekse ekonomik olarak bu süreçten olumsuz yönde etkilenmektedir. Bu çalışma aktif istihdam sürecinde atanamayan öğretmenlerin yaşadıkları işsizlik ve işsizliğin beraberinde getirdiği sosyal ve ekonomik sorunlara dikkat çekmeyi hedeflemektedir. Eğitim fakültesinden mezun olup atanamayan öğretmen adayları iş bulamadıkları için ekonomik sıkıntılar, sosyal ve psikolojik sorunlar yaşamaktadırlar. Bir alanda belli bir eğitim aldıktan sonra meslek alanında yeterli ücret ve güvenceli olarak çalışamama durumu söz konusu öğretmenlerin, hayatlarını olumsuz

¹ Bu araştırma TÜBİTAK Bilim İnsanı Destek Programları Başkanlığı (BİDEB) tarafından yürütülen, 2209-A Üniversite Öğrencileri Araştırma Projeleri Destekleme Programı kapsamında desteklenmektedir.

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etkilemektedir. Bu olumsuzluğun boyutlarını görmek, araştırmanın önemini ortaya koyan unsurlardan birisidir.

Anahtar Kelimeler: Atanamayan Öğretmenler, Kayıt dışı İstihdam, Psiko-sosyal Sorunlar, İşsizlik, Güvencesiz Çalışma, Aşırı Eğitimlilik

ABSTRACT

Education is one of the fundamental building blocks of a society, and educators hold an undeniable place in shaping this foundation. In recent years, the rapid increase in new faculties of education, pedagogical formation programs, and informal teacher employment has significantly affected the teacher appointment process. This process has brought along numerous financial, emotional, and psychological problems for teachers who are unable to secure appointments. The challenges faced by these unappointed teachers increase and intensify in proportion to the length of the waiting period. The aim of this study is to identify the psychosocial and economic problems experienced by graduates of faculties of education who have not been appointed as teachers, within the context of their social environment. One of the objectives is to examine the problems encountered by unappointed teacher candidates through their own experiences. Similar to other unemployed university graduates, unappointed teachers are negatively affected both psychologically and economically by this process. This study aims to draw attention to the issues of unemployment and the resulting social and economic difficulties experienced by unappointed teachers within the context of active employment. Graduates of faculties of education who cannot find employment experience economic hardship as well as social and psychological distress. After receiving training in a specific professional field, the inability to work in a secure position with adequate pay adversely affects their lives. Understanding the extent of this adversity is one of the elements that highlights the significance of this research.

Keywords: Unappointed Teachers, Informal Employment, Psychosocial Problems, Unemployment, Insecure Work, Overeducation.

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ÖĞRETMEN GÖRÜŞLERİNE GÖRE OKUL ÖNCESİNDE FİNANSAL OKURYAZARLIK EĞİTİMİ VE TÜKETİM BİLİNCİ²

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ÖZET

Bu çalışmanın amacı, okul öncesinde finansal okuryazarlık eğitimi ve tüketim bilincine ilişkin öğretmen görüşlerini ortaya koymaktır. Araştırma, nitel araştırma yöntemlerinden olgubilim (fenomenoloji) deseniyle yürütülmüştür. Çalışma grubunu, 2024–2025 eğitim-öğretim yılında Siirt il merkezinde bir anasınıfında görev yapan 10 okul öncesi öğretmeni oluşturmaktadır. Veriler, araştırmacılar tarafından geliştirilen yarı yapılandırılmış görüşme formu aracılığıyla toplanmış; ses kayıtları yazıya dökülmüş ve içerik analiziyle değerlendirilmiştir. Bulgular, öğretmenlerin finansal okuryazarlığı çocuklara kazandırılması gereken temel bir yaşam becerisi olarak gördüğünü göstermektedir. Katılımcılar, bu becerilerin kazandırılmasında oyun temelli etkinlikler, hikâye anlatımı, drama, yaşantı temelli çalışmalar ve görsel materyallerin etkili olduğunu belirtmiştir. Katılımcıların çoğu aile katılımını sürecin önemli bir bileşeni olarak değerlendirmiş; ailelerdeki düşük finansal farkındalık düzeyinin okulda verilen eğitimin evde pekişmesini zorlaştırdığını ifade etmiştir. Ayrıca katılımcılar, materyal desteği sağlanması ve aile katılımını teşvik eden çalışmalar yürütülmesinin sürecin etkililiğini artıracaklarını belirtmiştir. Çalışma bulguları, finansal okuryazarlık ve tüketim bilincinin okul öncesi eğitim programlarında planlı ve kapsamlı biçimde ele alınması gerektiğini ortaya koymaktadır. Bu doğrultuda öğretmenlerin mesleki yeterliklerinin geliştirilmesi, aile katılımını destekleyen uygulamaların yaygınlaştırılması ve erken yaşta ekonomik farkındalık kazandıran etkinliklerin sistemli biçimde yürütülmesi önerilmektedir.

Anahtar Kelimeler: Finansal okuryazarlık, tüketim bilinci, okul öncesi eğitim, öğretmen görüşleri, nitel araştırma.

ABSTRACT

The aim of this study is to reveal preschool teachers' views on financial literacy education and consumer awareness in early childhood. The research was conducted using a phenomenological design, one of the qualitative research methods. The study group consisted of 10 preschool teachers working in a public kindergarten in the central district of Siirt during the 2024–2025 academic year. Data were collected through a semi-structured interview form developed by the researchers, transcribed from audio recordings, and analyzed using content analysis. Findings indicate that teachers view financial literacy as a fundamental life skill that should be gained in early childhood. Participants stated that play-based activities, storytelling, drama, experiential learning practices, and visual materials are effective in teaching financial concepts. Many teachers emphasized that family involvement is a key component of

²Bu çalışma ikinci yazarın danışmanlığında birinci yazarın hazırlamış olduğu yayımlanmamış yüksek lisans tezinden üretilmiştir.

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the process and noted that low levels of financial knowledge and awareness among parents hinder the reinforcement of school-based learning at home. Participants also suggested that providing material support and implementing activities that encourage family involvement would enhance the effectiveness of financial literacy education. Overall, the study demonstrates the necessity of systematically integrating financial literacy and consumer awareness into preschool education programs. It is recommended that teachers' professional competencies be strengthened, family involvement practices be expanded, and activities aimed at fostering economic awareness in early childhood be implemented in a structured manner.

Keywords: Financial literacy, consumption awareness, preschool education, teachers' views, qualitative research.

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

EXACT TRAVELLING WAVE SOLUTIONS FOR A GENERALIZED FORM OF THE BURGERS EQUATION

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ABSTRACT

The generalized Burgers equation is a powerful tool used to describe many types of nonlinear waves that appear in areas like fluid flow, acoustics, plasma physics, and even traffic movement. In this work, we focus on finding new travelling wave solutions that help us better understand how such waves behave under different conditions. By using a suitable mathematical transformation, the original complex equation is simplified into a more manageable form, allowing us to derive clear analytical solutions. Our findings show how factors like nonlinearity and diffusion influence the speed and height of these waves. Overall, this study adds fresh solutions to the existing literature and provides useful references for numerical simulations as well as a deeper understanding of nonlinear wave processes.

Keywords: Generalized Burgers equation; Travelling wave solutions; Nonlinear wave propagation; Analytical solutions

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STATIONARY SOLUTIONS OF THE GENERALIZED BURGERS EQUATION: ANALYTICAL INSIGHTS AND NUMERICAL INVESTIGATION

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ABSTRACT

The Generalized Burgers Equation (GBE) serves as a fundamental model for describing nonlinear wave motion, diffusion, and transport phenomena in fields ranging from fluid mechanics to traffic flow. This study focuses on the stationary (time-independent) solutions of the GBE and complements the analytical findings with a detailed numerical investigation. By reducing the governing equation to an ordinary differential form, we examine how nonlinear convection, diffusion, and variable coefficients shape steady-state flow patterns. Numerical simulations are then employed to validate the analytical results and to visualize the behaviour of stationary profiles under different parameter settings. The combined analysis provides a clearer understanding of the conditions under which smooth, stable stationary solutions arise and when sharp gradients or shock-like structures may form. Overall, this work bridges mathematical insight with computational verification, offering a more complete picture of the stationary dynamics of the generalized Burgers equation.

Keywords: Generalized Burgers equation; stationary solution; numerical simulation; nonlinear dynamics; steady-state analysis

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

MOBILE BANKING'S CONTRIBUTION IN PROMOTING SUSTAINABLE CONSUMPTION IN URBAN INDIA

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ABSTRACT

The increasing adoption of mobile banking provides a unique opportunity to promote sustainable financial conduct. This study looks into the relationship between mobile banking usage and sustainability awareness, the impact of financial incentives in adopting green financial products, and how demographics influence sustainability perception. The findings reveal a substantial link between mobile banking and sustainability awareness, implying that digital banking systems might be used to improve financial literacy about environmental issues. Financial incentives appear as the key motivator for the adoption of green financial solutions, with mobile banking usage and perceived environmental impact being insufficient motivators. While age has no substantial effect on sustainability perception, there are slight gender disparities. These findings underline the importance of financial institutions combining financial rewards with sustainability education to ensure that digital banking successfully contributes to sustainable financial behaviour. The paper makes significant recommendations for politicians and financial institutions to create targeted interventions that encourage environmentally responsible financial choices.

Keywords: Mobile Banking, Sustainability Awareness, Green Financial Products, Financial Incentives

14. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS

DIGITAL TWIN-DRIVEN PREDICTIVE MAINTENANCE: A USE CASE STUDY FOR SMART INDUSTRIAL OPERATIONS

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ABSTRACT

In the context of Industry 4.0, it is essential to have an optimized system capable of detecting equipment failure in advance. Digital Twins provide a real-time representation of the physical machine and generate data, such as asset degradation, which the predictive maintenance algorithm can use. This work addresses a Digital Twin-driven predictive maintenance approach demonstrated through an industrial use case. A virtual model simulates both normal and fault conditions, generating data to train machine learning models for early fault detection and health monitoring. The results enable proactive, condition-based maintenance, reducing downtime and operational costs. This approach highlights the potential of Digital Twins to accelerate predictive maintenance and adapt to changing operational conditions.

Keywords— Digital Twin, Predictive Maintenance, Machine Learning, Fault Detection, Condition Monitoring, Industry 4.0

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14. INTERNATIONAL GAP SUMMIT SCIENTIFIC RESEARCH CONGRESS

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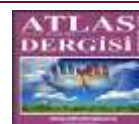
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Bilgilerinize arz edilir,

Saygılarımla,

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