ABSTRAT BOOK

AVRASYA 12. ULUSLARARASI UYGULAMALI BİLİMLER KONGRESİ

TEBRIZ
14 - 16 ŞUBAT 2025

AVRASYA
12. ULUSLARARASI
UYGULAMALI BİLİMLER
KONGRESİ

AVRASYA

12th INTERNATIONAL CONFERENCE ON APPLIED SCIENCES

FEBRUARY 14 - 16, 2025
Tebriz

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Edited By
Prof. Dr. HÜLYA ÇİÇEK

ORGANIIZATION

ACADEMY GLOBAL CONFERENCES

EVALUATION PROCESS

All applications have undergone a double-blind peer review process.

PARTICIPATING COUNTRIES

TURKEY – Brazil- Pakistan- Ethiopia- Bangladesh- Portugal- Nigeria- Kenya- Vietnam- Tanzania- Morocco- Senegal- Uzbekistan- Argentina- India- Colombia- Tanzania- Tunisia- Chile- Chile -Yemen- South Korea- Japan- Bahrain- Egypt- South Africa- Mongolia- Nepal – Iran- Algeria- Romania- Oman-

PRESENTATION

Oral presentation

PERCENTAGE OF PARTICIPATION

More than 50 % of paper are presented by participants from maintained countries.
33 papers from Turkey and 59 paper from other countries.

Members of the organizing committees of the conference perform their duties with an "official assignment letter"

LANGUAGES

Turkish, English, Russian, Persian, Arabic

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Scientific & Review Committee

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NO : **AC- 12A - 2025. 347A– 2056**
Konu : Akademik Teşvik Uygunluk Belgesi 20/03/2025

İLGİLİ MAKAMA

Avrasya 12. Uluslararası Uygulamalı Bilimer Kongresi, 14- 16 Şubat 2025 tarihlerinde Tebriz'de 31 farklı ülkeden akademisyenin katılımıyla gerçekleştirilmiştir. Kongre kapsamında sunulan 102 bildirinin 33'ü Türkiye'den, 59'u ise farklı 31 ülkeden akademisyenler tarafından sunulmuştur. Kongre, 16 Ocak 2020 Akademik Teşvik Ödeneği Yönetmeliğine getirilen "Tebliğlerin sunulduğu yurt içinde veya yurt dışındaki etkinliğin uluslararası olarak nitelendirilebilmesi için Türkiye dışında en az beş farklı ülkeden sözlü tebliğ sunan konuşmacının katılım sağlaması ve tebliğlerin yarıdan fazlasının Türkiye dışından katılımcılar tarafından sunulması esastır." değişikliğine uygun olarak düzenlenmiştir.

Bilgilerinize arz ederiz

Saygılarımızla

Prof. Dr. Hülya Çiçek

T.C.
GAZİANTEP ÜNİVERSİTESİ REKTÖRLÜĞÜ
Tıp Fakültesi

Sayı : E-98102723-903.07-475454
Konu : Görevlendirme Talebi

REKTÖRLÜK MAKAMINA

İlgi : 27.03.2024 tarihli ve E--903.07-474236 sayılı yazı

Fakültemiz Tıbbi Biyokimya Anabilim Dalı'nda görevli öğretim üyesi Prof. Dr. Hülya ÇİÇEK'in Yükseköğretim Genel Kurulunun 15.06.2023 tarihli, 10 sayılı oturumunda alınan 2023.10.183 sayılı kararı gereğince Doçentlik Başvuru Şartlarında bulunan ve doçent olacak adaylardan istenen "Diğer uluslararası/ ulusal bilimsel toplantının düzenleme komitesinde resmi olarak görevlendirilmiş üniversite akademisyen temsilcisi bulunması zorunludur." maddesi gereğince, Academy Global Conference & Journals tarafından yapılan kongrelerin düzenleme kurullarında yolluksuz ve yevmiyesiz olarak görevlendirilme talebi ile ilgili dilekçesi ekte gönderilmiştir

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Onaylarınıza arz ederim

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Dekan

OLUR

Prof.Dr. Arif ÖZAYDIN
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- Oturuma bağlanmadan önce Salon numaranızı adınızın önüne aşağıdaki gibi ekleyiniz. Bu sayede kongre açılışında beklemeden oturumlarınıza gönderilebileceksiniz. Ör. 5 Ahmet Ahmetoglu
- Sunum süresi 10 dakikadır. Bu sürenin aşılmamasını moderatörler temin edecektir.
- Sunum sonrası 5 dakikayı geçmeyen soru-cevap, tartışma süresi verilmektedir.
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- Kameralar, oturum süresince toplam % 70 oranında açık olmak zorundadır.
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Salon	Moderator		Bildiri No ve Başlığı / Paper ID and Title	Authors
HALL / SALON 1	**Assoc. Prof. Dr. Nazile Abdullazade**	1	2014-2024 YILLARI ARASINDA İNGİLİZCE DERSİ KAPSAMINDA YANSITICI DÜŞÜNME KONUSUNU ELE ALAN LİSANSÜSTÜ TEZLERİN İNCELENMESİ	Yüksek Lisans Öğrencisi, Büşra ÇAM Prof. DR., ŞENEL ELALDI
		2	EXAMİNATİON OF STUDİES CONDUCTED ON CAREER STRUCTURİNG THEORY	Dr. Şeyma MIZRAK
		3	CAREER FUTURE OF FEMALE STUDENTS: SECONDARY SCHOOL EXAMPLE	Dr. Şeyma MIZRAK
		4	OKUL DIŞI ÖĞRENME ORTAMLARINDAN BİLİM SAMSUN'UN İNCELENMESİ	Dr. Öğr. Üyesi Ayşe Gül ÖZAŞKIN ARSLAN Ebranur ULUSOY
		5	GIFTED STUDENTS FOR SUSTAINABLE DEVELOPMENT GOALS: AN E-STEM ACTIVITY BASED ON LEARN-THINK-ACT AND ENGINEERING DESIGN PROCESS	Zekai AYIK
		6	THE HISTORY OF EDUCATION OF CREATIVITY 20TH CENTURY DRAMATIST ILYAS EFENDYEV IN GENERAL EDUCATION SCHOOLS	Assoc. Prof. Dr. Nazile Abdullazade

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HALL / SALON 2	AYÇA YILDIRIM	1	EXAMINING THE RELATIONSHIP BETWEEN THE EMOTIONAL LITERACY LEVEL OF MOTHERS WITH CHILDREN AGED 3-6 AND THEIR CHILDREN'S CREATIVITY LEVEL	Yüksek Lisans Öğrencisi Nisanur BEREKET Doç. Dr. Yaşar BARUT Prof. Dr. Soner ÇANKAYA
		2	EXAMINING THE RELATIONSHIP BETWEEN SOCIAL MEDIA ADDICTION AND SELF-PERCEPTION IN ADOLESCENTS	Havva ÖZDEMİR Doç. Dr. Yaşar BARUT Prof. Dr. Soner ÇANKAYA
		3	VALIDITY AND RELIABILITY STUDY OF THE SCALE OF STRENGTHENING SOCIAL TIES AFTER MARRIAGE	Prof. Dr. Ahmet AKIN Yüksek Lisans Öğrencisi, Cansu AVŞAR
		4	AVOIDANT COMMUNICATION SCALE BETWEEN SPOUSES: STUDY OF VALIDITY AND RELIABILITY	Prof. Dr. Ahmet AKIN Yüksek Lisans Öğrencisi, Edibe Beyza Çalışkan
		5	SCALE OF IDEOLOGICAL CONFLICT IN COUPLES: VALIDITY AND RELIABILITY STUDY	Prof. Dr. Ahmet AKIN Yüksek Lisans Öğrencisi, Emine ATASEVEN
		6	A SYSTEMATIC REVIEW ON BRAIN DRAIN AND THE FEELING OF HOPELESSNESS ASSOCIATED WITH BRAIN DRAIN IN TURKEY	Prof. Dr., Hatice Zekavet KABASAKAL PhD Student, İlayda ATICI Master's Student, Merve YEŞİLOĞLU
		7	TRANSFORMATION OF THE PERCEPTION OF DESTINY: A SOCIOLOGICAL STUDY IN THE CASE OF THE MOVIE MUKADERAT	Prof. Dr. İHSAN ÇAPCIOĞLU AYÇA YILDIRIM
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HALL / SALON 3	**Amaneh Manafidizaji**	1	A THEMATIC ANALYSIS ON PUBLIC SERVICE ANNOUNCEMENTS: THE CASE OF THE REPUBLIC OF TURKEY MINISTRY OF CULTURE AND TOURISM	Prof. Dr. Emet GÜREL Arş. Gör. Dr. İlkay Burak TAŞKIRAN PhDc. Ekin KARAKUYU
		2	ON THE CONTROL OF POWER OVER THE INNOCENT: THE INNOCENT AND THE KING ARCHETYPES IN ADVERTISING VISUALS	Doç. Dr. Mustafa C. Sadakaoğlu Dr. Tuncay Türkyılmaz
		3	THE TRANSFORMATION OF DYSTOPIAN NARRATIVES IN CINEMA: A COMPARATIVE ANALYSIS FROM PAST TO PRESENT	Asst. Prof. Dr. M. Özer ÖZKANTAR
		4	GLOBAL CONSUMER CULTURE AND DIGITAL ADVERTISING: THE RELATIONSHIP BETWEEN ALGORITHMS AND CULTURE	Prof. Dr. Esra CİZMECİ ÜMİT Sevilay ÇELİK
		5	THE TOXIC FACE OF SOCIAL MEDIA	Prof. Dr. Esra CİZMECİ ÜMİT Yüksek Lisans Öğrencisi Sevilay ÇELİK
		6	ANALYSIS OF HOUSEWIVES' TIKTOK POSTS IN THE CONTEXT OF PRIVACY	Prof. Dr. Yusuf YURDİGÜL Yüksek Lisans Öğrencisi, Şeyda AKPINAR

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HALL / SALON 4	**Doç. Dr. Ali ANTEPLİ**	1	SATISFACTION LEVEL OF INDIVIDUALS WITH THE MUNICIPALITY'S GREEN SPACE AND AFFORESTATION SERVICE AND RELATED FACTORS WITH THE PARTIAL PROPORTIONAL ODDS MODEL	Asst. Prof. Dr. Şeyda ÜNVER
		2	DETERMINATION OF FACTORS AFFECTING JOB SEARCHING OR JOB APPLICATION ON THE INTERNET	Asst. Prof. Dr. Şeyda ÜNVER
		3	E-BEYANNAME UYGULAMALARININ MUHASEBE MESLEK MENSUPLARI PERSPEKTIFINDEN ANALIZI	Doç. Dr. Ali ANTEPLİ Öğr. Gör. Memiş KARAER
		4	ENFLASYON MUHASEBESİNİN İŞLETMELERİN FİNANSAL TABLOLARINA ETKİSİ	Öğr. Gör. Memiş KARAER Doç. Dr. Ali ANTEPLİ
		5	ALGILANAN GÜÇ MESAFESİNİN İLETİŞİM BECERİLERİ ÜZERİNDEKİ ETKİSİNDE ÖZ YETERLİLİĞİN ARACILIK ROLÜ	Ercan Cahit Tuncer Dr. Öğr. Üyesi Hilal Baran
		6	MOBBİNG VE ÖRGÜTSEL BAĞLILIK ARASINDAKİ İLİŞKİYİ İNCELEYEN ÇALIŞMALARIN DERLENMESİ	PSK. DAN. TUANA TİFTİK PROF. DR. HATİCE ZEKAVET KABASAKAL

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HALL / SALON 5	Dr. Öğr. Üyesi DİLBER ZEYTİNKAYA	1	THE PHENOMENON OF POVERTY IN THE WORKS OF MAXIM GORKY	Doç. Dr. SEVRA FIRINCIOĞULLARI
		2	GOOD, EVİL, and JUSTICE IN ITALO CALVİNO'S "VİCONT DİVİDED IN TWO"	Doç. Dr. SEVRA FIRINCIOĞULLARI
		3	SOYUT RESİMDEN İLHAM ALAN GİYSİ TASARIMCILARI	Büşra UĞUR Doç. Deniz ÇELİKER Doç. Dr. Kenan SAATCIOĞLU
		4	HEYBELİADA VE AYİOS NİKOLAOS RUM ORTODOKS KİLİSESİ: KAPI VE KURTULUŞ VAADİ ÜZERİNE BETİMLEMELER	Dr. Öğr. Üyesi Serhat SOYŞEKERCİ
		5	THE EFFECTS OF REPEATED TEXTUAL ENHANCEMENT ON L2 GRAMMAR ACQUISITION: INSIGHTS FROM LEARNERS WITH DIVERSE LINGUISTIC BACKGROUNDS	Öğretim Görevlisi Dr. Doğan Can Akçin
		6	HERMENEUTİK YAKLAŞIM VE YORUMLAYICI ÇEVİRİ KURAMI BAĞLAMINDA ÇEVİRMENİN GÖRÜNÜRLÜĞÜ/GÖRÜNMEZLİĞİ	Dr. Öğr. Üyesi DİLBER ZEYTİNKAYA
		7	ALEV EBÜZZİYA'NIN SERAMİK SANATINDA DOĞU-BATI ETKİLEŞİMİ	BERİL REİS

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HALL / SALON 6	**Assoc. Prof. Dr. SERKAN GÜNDOĞDU**	1	TURKEY'S ROLE IN THE UNITED NATIONS 2030 SUSTAINABLE DEVELOPMENT GOALS: THE CASE OF THE UNITED NATIONS TECHNOLOGY BANK	Assoc. Prof. Dr. SERKAN GÜNDOĞDU
		2	TURKEY- AZERBAIJAN RELATIONS IN THE FRAMEWORK OF ENERGY DIPLOMACY	Assoc. Prof. Dr. SERKAN GÜNDOĞDU Tuba ŞAHİN
		3	AZERBAIJAN- ISRAEL RELATIONS DURİNG THE PERIOD OF İLHAM ALIYEV	Fahmı BABAYEV
		4	"DÜŞMANIMIN DÜŞMANI DOSTUMDUR": ULUSLARARASI İLİŞKİLERDE REALİST MİSAFİRPERVERLİK VE 1990'LARDA TÜRKİYE-RUSYA ARASINDAKİ TERÖRİZM KRİZİ ÖRNEĞİ	Dr. Öğr. Üyesi, İbrahim Fevzi GÜVEN
		5	THE IMPACT OF DEFENCE EXPENDITURES ON ECONOMIC GROWTH IN D-8 COUNTRIES: A TEST OF THE VALIDITY OF THE BENOIT HYPOTHESIS	Asst. Prof., Fatih AKIN Lecturer Dr., Selin DİNÇER

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HALL / SALON 1	Assoc. Prof. Dr. Min Zhang	1	A THEORETICAL FRAMEWORK FOR MODELING CORE CONSCIOUSNESS FUNCTIONS IN AI	Prof. Dr. Sarah Lindholm
		2	LIFE MEANINGFULNESS AND PSYCHOSOCIAL FACTORS: A STUDY OF ADDICTION RECOVERY IN MALAYSIA	Dr. Aina Zulkifli Dr. Rahimah Kadir
		3	ENHANCING FAIRNESS IN INCENTIVE SYSTEMS: INSIGHTS FROM THAILAND'S PUBLIC SECTOR	Dr. Supaporn Charoensri
		4	MEMORY DYNAMICS AND GENDER VARIATIONS IN EPISODIC RECALL	Dr. Clara Soriano Dr. Matilde Peralta
		5	CULTURAL ADAPTATION AND ANXIETY AMONG INTERNATIONAL STUDENTS IN BEIJING UNIVERSITIES	Dr. Ali Hamid Assoc. Prof. Dr. Min Zhang
		6	TREATMENT OR RE-VICTIMIZING THE VICTIMS: A CLINICAL APPROACH TO BORDERLINE PERSONALITY DISORDER	Assi.s. Prof. Dr. Maria Ivanova Dr. Luka Petrov
		7	THE STORY OF MERGERS AND ACQUISITIONS: UNDERSTANDING THE UNCERTAINTY OF ORGANIZATIONAL CHANGE THROUGH NARRATIVE THEORY	PHD sudent Naomi Ahmed Dr. Ahmed El-Tayeb
		8	A NEW MEASURE OF HERDING BEHAVIOR: DERIVATION AND IMPLICATIONS IN FINANCIAL MARKETS	Dr. Zeynep Yılmaz Dr. Burak Koca

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HALL / SALON 2	Prof. Dr. Noor Fatimah	1	POSITION OF THE CONSTITUTIONAL COURT OF THE RUSSIAN FEDERATION ON THE MATTER OF RESTRICTING CONSTITUTIONAL RIGHTS OF CITIZENS CONCERNING BANKING SECRECY	Dr. Aleksandra Ivanova Elena Popova
		2	THE IMPACT OF INDIGENOUS RIGHTS RECOGNITION IN MALAYSIA	Dr. Ahmad Shahrir Norazlan Ibrahim
		3	THE EMERGING NEED FOR INTERNATIONAL SPACE LAW IN GLOBAL SPACE EXPLORATION	Assoc. Prof. Dr. Dr. Sun Lan
		4	THE EVOLUTION OF HUMAN RIGHTS IN THE CONTEXT OF ARMED CONFLICTS	Dr. Ahmed Fawzi
		5	CHALLENGES IN FORENSIC IDENTIFICATION OF BIOLOGICAL STAIN TRACES IN CRIMINAL INVESTIGATIONS	Askar Zhanbektov
		6	IMPROVING DIGITAL EVIDENCE COLLECTION PROCEDURES IN CYBERCRIME INVESTIGATIONS	Dr. Carla Mendes
		7	REDEFINING GENDER EQUALITY THROUGH ISLAMIC CONTEXTUALISM	Prof. Dr. Noor Fatimah
		8	THE IMPACT OF MODERN FEMINISM ON CONTEMPORARY ARAB LITERATURE	Rania Al-Fayed, Amal Al-Jabari, Omar Nasser

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HALL / SALON 3	Assis. Prof. Dr. Fiona Murphy	1	THE ROLE OF INTERNATIONAL PARLIAMENTARY ORGANIZATIONS IN PROMOTING HUMAN RIGHTS IN EUROPE	Sophia Ilyina, Nikolai Pavlov, Ivana Kovač
		2	THE POLITICAL IMPACT OF EISENHOWER'S FINAL SPEECH ON AMERICAN FOREIGN POLICY	Michael Peterson, Jessica Holmes, William Turner
		3	HUMAN SECURITY STRATEGIES IN CONFLICT ZONES: A STUDY OF THE SYRIAN CRISIS	Fatima Al-Sayed, Khalil Jamil, Nour El-Kadi
		4	RECONCEPTUALIZING CREDIBILITY IN THE AGE OF NEW MEDIA: A THEORETICAL APPROACH	Ahmed Al-Mansoori, Laila Faris, Dr. Youssef Al-Hashimi
		5	RECLAIMING NATIONAL HERITAGE: THE ROLE OF LITERATURE IN FOSTERING IRISH IDENTITY THROUGH THE WORKS OF YEATS AND HEANEY	James O'Connor, Sarah McDermott, Assis. Prof. Dr. Fiona Murphy
		6	DISASTER TOURISM AND THE ETHICS OF EXPERIENCE: UNDERSTANDING THE DARK SIDE OF TOURISM IN THE WAKE OF NATURAL CATASTROPHES	Katarzyna Nowak, Michal Pawlak, Ewa Jankowska
		7	DEMOCRATIZATION AND ECONOMIC LIBERALIZATION: VESTED INTERESTS AND ANTI-CORRUPTION CHALLENGES IN POST-AUTHORITARIAN INDONESIA	Dewi Anindita, Rudi Santosa, Andrianto Susanto
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HALL / SALON 4	**Assis .Prof. Dr. Mohamed Rasheed**	1	RESOURCE MOBILIZATION FOR EMPOWERING DISABLED INDIVIDUALS IN SOUTH KOREA	Dr. Minji Park Dr. Hyunwoo Kim
		2	WATER RESOURCE MANAGEMENT IN TOURISM-DEPENDENT ISLANDS	Assis .Prof. Dr. Mohamed Rasheed Dr. Zara Ibrahim
		3	REDEFINING REPRODUCTIVE TECHNOLOGIES: WOMEN'S AGENCY AND SOCIAL IMPACT IN NEW DELHI	Nisha Kapoor
		4	REFORMING LEGAL POWER: ADDRESSING ABUSE AND PROMOTING JUSTICE	Abdulrahman Bello
		5	URBAN POVERTY AND THE SOCIAL FABRIC: A STRUCTURAL ANALYSIS	Jürgen Müller
		6	CULTURAL DIMENSIONS IN TECHNICAL TRANSLATION: BRIDGING THEORY AND PRACTICE	Hassan El-Mansouri
		7	ISLAMIC AESTHETICS IN OMANI WEAVING: TRADITION AND MODERNITY	Dr. Fatma Al-Mazrouei
		8	EUROPEAN UNION AND GLOBAL JUSTICE: NAVIGATING LEGAL DUALITIES	Élise Moreau
		9	EMIGRATION AND ITS SOCIAL IMPACT: THE GEORGIAN EXPERIENCE	Mariam Tsintsadze

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HALL / SALON 5	Prof. Dr. Sarah Calderon	1	HARNESSING THE POWER OF ONTOLOGIES FOR SMART LEARNING IN MUSIC EDUCATION: A ROBUST FRAMEWORK FOR KNOWLEDGE ORGANIZATION AND APPLICATION	Prof. Dr. Sarah Calderon Dr. Michael V. Ashworth
		2	EMPOWERING AUTONOMOUS AGENTS WITH CONSTRUCTIVIST LEARNING: A BOTTOM-UP SEQUENTIAL LEARNING ALGORITHM AND TOOLKIT	Dr. Lingxia Wu Dr. Ahsan Zafar
		3	HARNESSING THE POWER OF DEEP LEARNING FOR AUTOMATED PRODUCT IDENTIFICATION ON ASSEMBLY LINES	Dr. Manami Kobayashi Assis. Prof. Dr. Carlos E. Delgado
		4	ANALYZING THE PRIVATE MONETARY RETURNS OF HUMANITIES AND EDUCATION DEGREES IN OSUN STATE, NIGERIA	Dr. Olufemi A. Adesina Dr. Yetunde O. Olanrewaju
		5	GENDER EQUITY IN EDUCATION: INSIGHTS FROM INDONESIA	Putri Anindita Wardana
		6	PREDICTING STUDENT SUCCESS THROUGH DATA ANALYTICS IN EDUCATION	Assoc. Prof. DR. Maria Fernanda Oliveira
		7	AGILE PEDAGOGY IN DIGITAL LEARNING ENVIRONMENTS: SCRUM AS A TOOL FOR STUDENT ENGAGEMENT	Dr. Kwame Mensah
		8	CHEMISTRY EDUCATION IN THE DIGITAL ERA: EFFICACY OF ONLINE TESTING	Ms. Amina Yusuf, Bolaji Okon

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HALL / SALON 6	Prof. Dr. Jonathan L. Mayer	1	DEMYSTIFYING THE ANXIETY EXPERIENCE OF DYSLEXIC COLLEGE STUDENTS: A QUANTITATIVE ANALYSIS	Abigail M. Waters Robert A. Kinsley
		2	INNOVATIVE APPROACHES IN MUSIC EDUCATION: LEVERAGING TECHNOLOGY AND ONTOLOGIES FOR KNOWLEDGE ENHANCEMENT	Prof. Dr. Jonathan L. Mayer Claire A. Middleton
		3	AUTONOMOUS LEARNING FRAMEWORKS: APPLYING CONSTRUCTIVIST METHODOLOGIES IN AI AGENT DEVELOPMENT	Dr. Hui Zhang Prof. Lian Ming
		4	DEEP LEARNING IN MANUFACTURING: ENHANCING PRODUCT IDENTIFICATION AND ASSEMBLY LINE PERFORMANCE	Dr. Emilia Nowak Tomasz Wojcik
		5	SOCIO-COGNITIVE FACTORS IN ACADEMIC PERFORMANCE: A STUDY OF LOCUS OF CONTROL AND LANGUAGE LEARNING	Dr. Anisa Qureshi Kamran Ahmed
		6	FOSTERING INCLUSIVE COMMUNICATION: STRATEGIES FOR HEARING FAMILIES WITH DEAF CHILDREN	Shinichi Nakamura, Dr. Ayaka Sugimoto, Prof. Hiroki Tanaka
		7	UNLEASHING POTENTIAL: SUPPORTING CHILDREN WITH LEARNING DIFFICULTIES THROUGH INNOVATIVE METHODS Dr	. Malik Al-Farouqi, Dr. Leila Said, Ms. Amina Taha
		8	EMPOWERING INDEPENDENCE: NAVIGATING CONFORMITY AND CRITICAL THINKING IN HEALTHCARE	Prof. Dr. Ramesh Meera Dr. Anand Kapoor
		9	EYEWITNESS ACCOUNTS: CHALLENGES IN MEMORY AND PERCEPTION IN FIRE INVESTIGATIONS	Dr. Lars Petersen, Dr. Ingrid Olsson, Ms. Erika Bergman

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HALL / SALON 7	Assis, Dr. Jelena Zaščerinska	1	ADAPTIVE WORKFORCES: AI'S IMPACT ON DECISION-MAKING AND SKILLS DEVELOPMENT	Assoc. Prof. Dr. Wei Zhang, Dr. Lianhua Gao, Dr. Yu Tian
		2	ENHANCING LANGUAGE LEARNING THROUGH DIGITAL TECHNOLOGIES: EXPLORING THE ROLE OF ONLINE WORD WALLS	Dr. Emily Tan, Dr. Mohammad Azeem,
		3	TIGER METAPHORS AND CULTURAL MEANINGS: A CORPUS-BASED ANALYSIS OF GENDER PERCEPTIONS IN CHINESE FOLKLORE	Prof. Mei Ling Chen, Dr. Carlos Martinez
		4	OPTIMIZING HEALTHCARE OUTCOMES: A MACHINE LEARNING APPROACH TO COVID-19 ICU MANAGEMENT	Dr. Salim Al-Mansouri, Assis. Prof. Dr. Amal Fahmi
		5	THE IMPACT OF INCENTIVE STRUCTURES ON TEAM PERFORMANCE: A PERSON-ENVIRONMENT FIT PERSPECTIVE	Prof. Linh Nguyen Dr. Rebecca Campbell,
		6	DETECTING FAKE NEWS IN HEALTHCARE: NAIVE BAYES FOR SENTIMENT ANALYSIS	Assoc. Prof. Yuki Takahashi, Dr. Anil Kumar,
		7	DIVERSIFYING CONVERGENCE: INNOVATIVE APPROACHES TO PROJECT DELAY MITIGATION	Jun Brooks, Roger He
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HALL / SALON 8	**Prof. Dr. Rishabh Garg**	1	MULTILINGUAL SOCIAL MEDIA: IDENTIFYING NATIVE LANGUAGE PATTERNS	Prof. Dr. Rishabh Garg
		2	CULTURAL SEMANTICS IN HISTORICAL INSCRIPTIONS: THE HAJI-ABAD CASE	Helena Costa Oliveira, Carmem Oliveira
		3	PERCEIVING SOUND: THE ART OF AUDITORY SPACES	Lenda Minguito, Jenith Banluta, R. Berglund
		4	REDEFINING WRITING EVALUATION: AN EMPIRICAL APPROACH TO EFL PROGRAMS	T. Backström, M. Bellgran, Ayman El-Garem, Riham Adel
		5	MULTI-DIALECTAL TWEET SENTIMENT ANALYSIS USING HYBRID CLASSIFICATION MODELS	Dr. Ahmed Mustafa Abdi Dr. Sofia Elena Munteanu
		6	SPEECH ACTS AND POLITENESS STRATEGIES IN MULTICULTURAL ESL CLASSROOMS	Dr. Nargiza Bekmuradova Dr. Olena Vasylivna Markov

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HALL / SALON 9	**Assoc. Prof. Dr. Natalia Romanova**	1	PHONOLOGICAL CONTRASTS IN INITIAL CONSONANTS OF MANDARIN AND SLOVAK: AN AFFRICATION PERSPECTIVE	Lec. Dr. Liang Xiu Dr. Matej Horvat
		2	EFFICIENT IMAGE LABELING IN AI SYSTEMS: A NOVEL RANKING-BASED FRAMEWORK	Dr. Yasir Mahmood Assis. Prof. Dr. Wei Liu
		3	DECIPHERING DIGITAL POLITICS: INSIGHTS INTO PSYCHOLOGY THROUGH SOCIAL MEDIA MICROBLOGS	Dr. Aliyu Ibrahim Musa
		4	CRITICAL PEDAGOGY IN ACTION: RETHINKING ENGLISH EDUCATION THROUGH SURREALISM AND SOCIAL JUSTICE	Assoc. Prof. Dr. Natalia Romanova Dr. Johan Van der Meer
		5	TIBYAN: A MACHINE LEARNING FRAMEWORK FOR AUTOMATED ARABIC LANGUAGE SYNTAX CORRECTION	Dr. Khalid Al-Mutairi Assis. Prof. Dr. Ayesha Siddiqui
		6	FROM DIAGRAMS TO CODE: LEVERAGING AI FOR PROGRAM SYNTHESIS FROM VISUAL REPRESENTATIONS	Prof. Dr. Hiroshi Tanaka Dr. Rina Suzuki
		7	ADVANCING MALAY SPEECH RECOGNITION: DEEP NEURAL NETWORKS FOR IMPROVED PERFORMANCE	Dr. Amirul Hassan Dr. Nurul Ain Zainal

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HALL / SALON 1	**Assoc. Prof. Alper GEDİK**	1	NEOLİBERAL POLİTİKALAR BAĞLAMINDA TÜRKİYE'DE YEREL YÖNETİMLERİN DÖNÜŞÜMÜ	Dr., Selahattin KAVUT
		2	CYBERBULLYING	Lecturer Şükrü GÜVEN Assoc. Prof. Alper GEDİK
		3	EFFECTS OF ARTIFICIAL INTELLIGENCE ON EDUCATION	Lecturer Şükrü GÜVEN Assoc. Prof. Alper GEDİK
		4	ORGANIZATIONAL CULTURE IN THE CONTEXT OF ORGANIZATIONAL COMMUNICATION: DIYANETSEN	Prof. Dr. Yusuf YURDİGÜL Nurullah ARDAHANLI
		5	METAVERSE AND ORGANIZATIONAL BEHAVIOR: WORKPLACES AND LEADERSHIP IN THE VIRTUAL ENVIRONMENT	Öğr. Gör. Dr. Yusuf Taha OKAN

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HALL / SALON 2	**Dr. Öğretim Üyesi Neyire AKPINARLI**	1	KELSEN'İN GRUNDNORMU'NA DİLTHEYCİ 'ANLAMA' İLE YAKLAŞMAK	Arş. Gör. Gözde Tekmile BİLİŞLİ
		2	KELSEN'İN NORMLAR HİYERARŞİSİNİN DEONTİK MANTIKLA İLİŞKİSİ	Arş. Gör. Gözde Tekmile BİLİŞLİ
		3	AN EVALUATION OF THE STRUCTURAL REASONS FOR THE CHALLENGES FACED BY MASTER'S STUDENTS IN ACADEMIC STUDIES IN THE FIELD OF LAW	Dr. Öğretim Üyesi Neyire AKPINARLI
		4	İDARİ İŞLEMLERİN HUKUKİ DENETİMİNDE ÇOCUĞUN ÜSTÜN YARARI İLKESİ	Yüksek Lisans Öğrencisi, NİDAİ YILMAZ

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HALL / SALON 3	Prof. Dr. SERAP KILIÇ ALTUN	1	OCCUPATIONAL HEALTH AND SAFETY OF OPERATING THEATRE WORKERS	Student Nurse; Nurgül KARAN Student Nurse; Bahar GÖZE Dr. Lecturer. Member; Hatice ERDOĞAN
		2	UTERINE INVERSION AND MANAGEMENT	Ayşenur ADALI Fatma YILDIRIM Nuriye BÜYÜKKAYACI DUMAN
		3	HORMONAL INTRAUTERINE DEVICES AND THEIR USE IN GYNECOLOGICAL PATHOLOGIES	Nehir Nur GÜCEM Fatma YILDIRIM Nuriye BÜYÜKKAYACI DUMAN
		4	MECHANICAL VENTILATION AND CARE OF THE PATIENT CONNECTED TO A VENTILATOR	Graduate Student, ŞABAN ÇETİNKAYA Asst. Prof, RUKİYE BURUCU
		5	EFFECT OF THERAPEUTIC RECREATION ON INDIVIDUAL HEALTH	Doktora Öğrencisi Ahmet Furkan ÇETİNKAYA Doç. Dr. Abdurrahman KIRTEPE Dr. Öğr. Üyesi Metin YILDIZ
		6	BIBLIOMETRIC INSIGHTS INTO MILK CONSUMPTION: TRENDS, KEY RESEARCH AREAS, AND EMERGING THEMES	Prof. Dr. SERAP KILIÇ ALTUN Doç. Dr. MEHMET EMİN AYDEMİR
		7	EXPLORING THE EVOLUTION OF FOOD SECURITY RESEARCH: A BIBLIOMETRIC APPROACH	Doç. Dr. MEHMET EMİN AYDEMİR Prof. Dr. SERAP KILIÇ ALTUN

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HALL / SALON 4	**Prof. Dr. Nebi BİLİR**	1	ACORN CHARACTERISTICS IN KERMES OAK (*QUERCUS COCCIFERA* L.)	Prof. Dr. Nebi BİLİR
		2	SEEDLING QUALITY IN MEDITERRANEAN CYPRESS (*CUPRESUS SEMPERVIRENS* L.)	Prof. Dr. Nebi BİLİR
		3	INVESTIGATION OF THE MULTIPLE TOXIC EFFECT OF L-HOMOARGININE UTILIZING THE *ALLIUM CEPA* L. ROOT MODEL	Doç. Dr. DİLEK ÇAVUŞOĞLU Prof. Dr. KÜRŞAT ÇAVUŞOĞLU
		4	ASSESSMENT OF THE DOSE-DEPENDENT TOXICITY OF L-CANAVANINE USING ONION ROOT APICAL MERISTEM	Doç. Dr. DİLEK ÇAVUŞOĞLU Prof. Dr. KÜRŞAT ÇAVUŞOĞLU
		5	Anti-Bakteriyel Etki Ölçümünde *Celtis tournefortii* Fruit (CTF) Bitkisi Ekstraktının Gallic Asit ve 1QSG Proteini ile Etkileşimi	Murat EVCİL Barış KURT Ayşe BARAN Mehmet Fırat BARAN
		6	PHYSIOLOGICAL EFFECTS OF PLASMA ACTIVATED WATER APPLICATION ON DROUGHT STRESS TOLERANCE IN BARLEY (*Hordeum vulgare L.*)	Master Student Seda ŞAHİN Assoc. Prof. Dr. Hülya TORUN

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HALL / SALON 5		1	SURFACE MODIFICATION TECHNIQUES OF METALLIC BIOMATERIALS: A REVIEW	Ayush Saxena, Prof. Dr. Vaibhav Trivedi Dr. Ankur Goel Bhavana Singh,
		2	A BRIEF DISCUSSION OVER BIOCOMPATIBILITY AND CORROSION BEHAVIOUR OF METALS BIOMATERIALS	Bhavana Singh Prof. Dr. Vaibhav Trivedi Dr. Ankur Goel Ayush Saxena
		3	RISK ANALYSIS OF FIRE HAZARD IN A BUILDING PROVIDING CHEMICAL ENGINEERING EDUCATION	Assit. Prof. Dr. ZEHRA GÜLTEN YALÇIN Res. Assist. Dr. MUSTAFA DAĞ Assoc. Dr. ERCAN AYDOĞMUŞ
		4	PREPARATION STUDY OF FIRE SYSTEM CONFORMITY CERTIFICATE IN A CHEMICAL PLANT	Assit. Prof. Dr. ZEHRA GÜLTEN YALÇIN Res. Assist. Dr. MUSTAFA DAĞ Assoc. Dr. ERCAN AYDOĞMUŞ
		5	A COMPARATIVE STUDY ON STRUCTURAL AND PHOTOCATALYTIC PROPERTİES OF ZnS AND ZnO THIN FILMS	Dr. Sultan GÖKTAŞ Dr. Öğr. Üye. Gülsen ŞAHİN Prof. Dr. Abdullah GÖKTAŞ
		6	STRUCTURAL AND ELEKTRICAL CHARACTERISTICS OF ZnO: Mn NANOROD THIN FILMS	Dr. Öğr. Üye. Gülsen ŞAHİN Prof. Dr. Abdullah GÖKTAŞ
		7	YENİ ve KARARLI POLİMETALİK KATALİZÖRÜN POTASYUM BORHİDRÜR HİDROLİZİ HİDROJEN ÜRETİMİNE ETKİSİ	Dr. Öğr. Üyesi Erhan ONAT
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HALL / SALON 6	**Prof. Dr. UĞUR AKYOL**	1	THERMAL ANALYSIS OF A MONOCRYSTALLINE PHOTOVOLTAIC (PV) SOLAR PANEL IN ANSYS	Lecturer Dr., Seda YETKIN YESIL Lecturer, Olcay PALTA
		2	METAHEURİSTİC ALGORİTHMS - GREY WOLF OPTİMİZATİON ALGORİTHM AND ITS APPLİCATİON AREAS	Lecturer Dr., Seda YETKIN YESIL Lecturer, Olcay PALTA
		3	OPTIMIZATION TECHNIQUES USED IN SOLAR AIR HEATER : A REVIEW	Mohammad Javed Dr. Vaibhav Trivedi Dr.Vineet Singh
		4	TOPRAK ZEMİN ÜZERİNE KURULUMU YAPILACAK ÇİFT YÜZLÜ (BIFACIAL) FOTOVOLTAİK PANELLERDE YÜKSEKLİĞİN VE EĞİM AÇISININ ENERJİ VERİMLİLİĞİNE ETKİSİ	Arş. Gör. KÜBRA SOLAK Prof. Dr. UĞUR AKYOL Doç. Dr. DİNÇER AKAL
		5	BİNA CEPHESİNE ENTEGRE EDİLEN FOTOVOLTAİK PANELLERDE GÜNEY, BATI VE DOĞU CEPHE SEÇİMİNİN ENERJİ VERİMLİLİĞİ ÜZERİNE ETKİSİ	Öğr. Gör. TAŞKIN TEZ Doç. Dr. DİNÇER AKAL Prof. Dr. UĞUR AKYOL

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HALL / SALON 7	**Prof. Dr. Tugrul TALASLIOGLU**	1	PERDELİ KENAR ASKLARDA BULUNAN YAPILARDA FARKLI ASMA KAT BOŞLUKLARININ DAVRANIŞA ETKİSİ	Doç. Dr. Muhammet Zeki ÖZYURT Lisans Öğrencisi Darkhan BAYAN
		2	PERDELERİ PLANDA DIŞ VE ORTA BÖLÜMLERDE BULUNAN YAPILARDA ASMA KATIN YÜKSEKLİĞİNİN DAVRANIŞA ETKİSİ	Doç. Dr. Muhammet Zeki ÖZYURT Lisans Öğrencisi Akhror DADAMATOV
		3	MOMENT END-PLATE CONNECTION: BASIC FUNDEMENTALS OF DESIGN PROCEDURE	Prof. Dr. Tugrul TALASLIOGLU
		4	COMPARISON OF BEARING CAPACITIES FOR STRIP, SQUARE AND CIRCULAR SHALLOW FOUNDATIONS ON SOILS WITH TERZAGHI METHOD BY CALCULATING IN EXCEL PROGRAM	Asistant Prof.Dr. Ebubekir Kilic
		5	COMPARISON OF BEARING CAPACITIES WITH TERZAGHI AND MEYERHOF METHOD FOR SHALLOW FOUNDATIONS ON SOILS	Asistant Prof.Dr. Ebubekir Kilic

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HALL / SALON 8	**Prof. Dr. Akın ÖZÇİFT**	1	KIMYASAL ÜRETIM SÜREÇLERINDE HATA TAHMINLEME: MAKINE ÖĞRENIMI ALGORITMALARININ KARŞILAŞTIRMALI PERFORMANSI	Prof. Dr. Akın ÖZÇİFT Doç. Dr. Fatih YÜCALAR
		2	FAULT PREDICTION IN WIND TURBINES WITH MACHINE LEARNING ALGORITHMS	Assoc. Prof. Dr. Fatih YÜCALAR Prof. Dr. Akın ÖZÇİFT
		3	MONTE CARLO SIMULATIONS FOR SVM HYPERPARAMETER OPTIMIZATION AND PERFORMANCE EVALUATION	Assist. Prof. Dr. Aslı YAMAN
		4	THE IMPACT AND GROWTH OF DEEP LEARNING IN SCIENCE AND MEDICINE	Ankur Jain Deepankar Bharadwaj
		5	HİDROELEKTRİK ENERJİ BİLGİLERİNİN TASARLANAN BİR İNTERNET SİTESİ İLE İNCELENMESİ	Betül GÜNAY Dr. Öğr. Üyesi Burcu KOCARIK GACAR Dr. Öğr. Üyesi Mehmet SANDAL
		6	COVID-19'UN BESLENME DAVRANIŞINA ETKİSİ: MANİSA CELAL BAYAR ÜNİVERSİTESİ ÖRNEĞİ	Satı Hasibe AKDENİZ Neriman Yaren ARTUN İrem AKKAYA Dr. Öğr. Üyesi Burcu KOCARIK GACAR
		7	HAVA ve SU KİRLİLİĞİ: SÜRDÜRÜLEBİLİRLİK İÇİN YENİLİKÇİ TEKNOLOJİLER ve YAPAY ZEKA UYGULAMALARI	Dr. Öğr. Üyesi Hakan YILDIZ

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HALL / SALON 1	**Prof. Dr. Chike Obi,**	1	DIAGNOSIS OF EARLY PREGNANCY IN DAIRY COWS THROUGH ULTRASONIC AND PROGESTERONE ANALYSIS	Suresh A. Kumar, Nasser I. Al-Maqbool
		2	EFFECT OF OVERFEEDING ON PERFORMANCE AND FOIE GRAS QUALITY IN TWO DUCK SPECIES	Carlos Oliveira, João Silva
		3	COPPER AND ZINC SUPPLEMENTATION IN DAIRY COWS: IMPACT ON MILK PRODUCTION IN ROMANIA	Ana Popescu, Marian Ionescu
		4	SALT TOLERANCE IN DATE PALM CULTIVARS UNDER CONTROLLED CONDITIONS	Yusuf Al-Farsi, Rami Zayed
		5	POTATO CULTIVAR PERFORMANCE FOR SNACK PRODUCTION USING MICROWAVE-VACUUM DRYING	Prof. Dr. Chike Obi, Dr. Nneka Eze
		6	USE OF AVIAN VACCINES AS MITOGENS IN T-LYMPHOCYTE ACTIVATION TESTING	Ahmed El-Din, Farida Boushaki
		7	DEVELOPMENTAL CHANGES IN RABBIT DUODENAL MUCOSA-SUBMUCOSA: A MORPHOLOGICAL STUDY	Mohammad Ali, Samira Tarek
		8	ENERGY DEMAND AND EFFICIENCY IN HISTORIC URBAN DISTRICTS: A STUDY OF BUDAPEST'S 7TH DISTRICT	Sami Temesgen, Miriam Tesfaye, Halimah Musa

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HALL / SALON 2	**Assoc. Prof. Dr. Lucia Agusto,**	1	CULTURAL AND ARCHITECTURAL PRESERVATION IN THE UCH DUKKAN NEIGHBORHOOD OF ARDABIL, IRAN	Javad Vali, Nazanin Ehsan
		2	DEVELOPING ENERGY EFFICIENCY BENCHMARKS FOR ONTARIO'S POST-SECONDARY EDUCATION FACILITIES	Ibrahim Hassan, Maria Khanna
		3	RETROFITTING COLLECTIVE HOUSING WITH PREFABRICATED PANELS FOR SUSTAINABILITY	Tarek Ahmed, Laila Mohamed
		4	SUSTAINABILITY IN PUBLIC HOUSING: FINANCIAL AND OPERATIONAL PERSPECTIVES IN TAIWAN	Chen Wei, Hiroshi Tanaka
		5	VERTICAL FARMING: A SUSTAINABLE APPROACH TO URBAN AGRICULTURE IN GREEN BUILDING DESIGN	Aminata Toure, Rasha Khoury,
		6	ENERGY EFFICIENCY RETROFITTING FOR HERITAGE BUILDINGS IN COLD CLIMATES	Assoc. Prof. Dr. Lucia Agusto,
		7	DESIGN OF IMPROVED REPLACEABLE LINKS IN ECCENTRICALLY BRACED FRAMES FOR EARTHQUAKE RESILIENCE	Rajesh Kumar, Yung Yoon Kim, Li Wei Zhang
		8	MODERN URBAN DEVELOPMENT IN YANBU: A COMPARATIVE STUDY OF TRADITIONAL AND CONTEMPORARY PLANNING APPROACHES	Mona Al Shamma
		9	HEARTBEAT CLASSIFICATION USING CONVOLUTIONAL NEURAL NETWORKS FOR ECG SIGNAL ANALYSIS IN MEDICAL DIAGNOSIS	Lec. Dr. Ahmad Raza,

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AMELİYATHANE ÇALIŞANLARININ İŞ SAĞLIĞI VE GÜVENLİĞİ

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ÖZET

Sağlık hizmetlerinde tüm meslek grupları için, iş sağlığı ve güvenliği önemlidir. İş sağlığı ve güvenliğinde amaç, tüm çalışanların fiziksel, ruhsal, kültürel ve sosyal yönden iyi olma halinin en üst düzeyde kalmasını sağlamaktır.

Ameliyathane ortamları tıbbi cihaz ve teknik donanıma sahip, çalışan tüm ekip üyeleri için yüksek risk oluşturan hızlı sirkülasyonun olduğu karmaşık ve yüksek teknolojilerle donatılmış önemli birimlerdir. Bu birimlerde çalışan tüm sağlık ekibi kapalı alanda çalışma, uzun çalışma saatleri, sürekli ayakta kalmaktan kaynaklı kas iskelet sistemi sorunları, cerrahi duman, kimyasallar, radyasyon, delici ve kesici alet yaralanması gibi birçok riskle karşılaşmaktadır. Bu yüzden ameliyathaneler meslek hastalıklarının ve iş kazalarının en çok yaşandığı birimlerdendir. Bu noktada ameliyathane çalışanları kendilerini güvende hissedebilecekleri çalışma ortamına ihtiyaç duymaktadırlar.

Ameliyathane çalışanları için iş sağlığı ve güvenliği uzmanı tarafından, bölüm risk değerlendirmesi yapılmalı, iş sağlığı ve güvenliğinin önemini vurgulayan eğitimler verilmeli, birimde yapılan tüm uygulamalar takip edilmeli, risk ve tehlikelere karşı korunma ve önleme faaliyetleri yürütülmelidir. Ameliyathane çalışanlarına verilecek olan eğitimler, hasta ve çalışan güvenliğini, kan ve vücut sıvılarıyla ya da solunum yoluyla bulaşabilecek her türlü patojenlere karşı korunma, kişisel koruyucu ekipmanların kullanımının önemi, radyasyon güvenliğinin sağlanması, genel olarak tüm güvenlik tedbirlerinin alınması, atık yönetimi, acil durum ve kriz yönetimi, kimyasal maddelerin kullanımı ve ekip içi kişilerarası iletişim gibi konuları kapsamalıdır.

Sonuç, ameliyathanede iş sağlığı ve güvenliği sağlanmış ve bu konuda gerekli tedbirlerin alınmış olması çalışanların motivasyonlarını, iş doyumlarını arttırarak sağlıkta kalite standartları oluşturmasına katkı sunacaktır.

Anahtar Kelimeler: Ameliyathane çalışanları, iş sağlığı ve güvenliği, sağlıkta kalite standartları,

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OCCUPATIONAL HEALTH AND SAFETY OF OPERATING THEATRE WORKERS

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SUMMARY

Occupational health and safety is important for all occupational groups in health services. The aim of occupational health and safety is to ensure that the physical, mental, cultural and social well-being of all employees remains at the highest level.

Operating theatre environments are important units equipped with medical devices and technical equipment, equipped with complex and high technologies with rapid circulation that creates a high risk for all team members working. The entire healthcare team working in these units face many risks such as working in a confined space, long working hours, musculoskeletal system problems due to continuous standing, surgical smoke, chemicals, radiation, piercing and cutting tool injuries. Therefore, operating theatres are one of the units where occupational diseases and occupational accidents are most common. At this point, operating theatre workers need a working environment where they can feel safe.

For operating theatre employees, department risk assessment should be carried out by the occupational health and safety specialist, trainings emphasising the importance of occupational health and safety should be given, all practices in the unit should be monitored, protection and prevention activities against risks and hazards should be carried out. The trainings to be given to the operating theatre staff should cover topics such as patient and employee safety, protection against all kinds of pathogens that can be transmitted by blood and body fluids or by inhalation, the importance of using personal protective equipment, ensuring radiation safety, taking all safety measures in general, waste management, emergency and crisis management, use of chemical substances and interpersonal communication within the team.

As a result, ensuring occupational health and safety in the operating theatre and taking the necessary measures in this regard will contribute to the creation of quality standards in health by increasing the motivation and job satisfaction of the employees.

Keywords: Operating theatre employees, occupational health and safety, quality standards in health,

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UTERİN İNVERSİYON VE YÖNETİMİ

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ÖZET

Uterin inversiyon, uterin fundusun bir kısmının ya da tamamının uterin kaviteden çıkmasına verilen klinik bir tanıdır. Uterin inversiyon, eksik, tam ve prolabe olmak üzere üç evrede sınıflandırılmaktadır. Hızlı doğum, plesentanın elle çıkarılması, fetal makrozomi, plesenta previa gibi durumlar risk faktörleri olarak bilinmektedir. Genellikle doğum sonrası oluşmasına rağmen doğum dışı nedenlerle de görülebilir. Fizik muayene sırasında uteral fundusun palpe edilemediği durumlarda şüphelenilmelidir. Klasik bulgular arasında vajinal kanama, alt karın ağrısı, ele gelen kitle sayılabilir. Teşhis ve tedavide geç kalınması durumunda maternal morbidite ve mortalite riski çok yüksektir. Özellikle postpartum kanama gelişen hastalarda hipovolemi iyi yönetilmeli ve kan transfüzyon ihtiyacı gözden kaçırılmamalıdır. Şok gelişen hastalarda hemodinamiyi stabil hale getirmek hedeflenmelidir. Uterin inversiyon gelişmesi durumunda ilk yapılması gereken, uterin fundusun manuel olarak esas yerine yerleştirilmeye çalışılmasıdır. Manuel muayene ile inversiyonun düzeltilemediği veya hemodinamik stabilite sağlanamayan hastalarda laparatomi yapılmalıdır. Kitle nedenli gelişen uterin inversiyonlarda kitlenin patolojik özelliklerine göre etkilenen organların cerrahi olarak çıkarılması gerekebilir. Bu çalışmada uterin inversiyonunun sınıflandırması, risk faktörleri, tanı ve tedavi yöntemleri literatür doğrultusunda ele alınacaktır.

Anahtar kelimeler: Uterin inversiyon, vajinal kanama, şok.

UTERINE INVERSION AND MANAGEMENT

ABSTRACT

Uterine inversion is a clinical diagnosis given to the protrusion of part or all of the uterine fundus from the uterine cavity. Uterine inversion is classified into three stages: incomplete, complete and prolapsed. Conditions such as rapid delivery, manual removal of the placenta, fetal macrosomia and placenta previa are known as risk factors. Although it usually occurs after birth, it can also be seen for non-natal reasons. It should be suspected when the uterine fundus cannot be palpated during physical examination. Klasik bulgular arasında vajinal kanama, alt

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karın ağrısı, ele gelen kitle sayılabilir. Teşhis ve tedavide geç kalınması durumunda maternal morbidite ve mortalite riski çok yüksektir. Hypovolemia should be managed well, especially in patients with postpartum hemorrhage, and the need for blood transfusion should not be overlooked. In patients who develop shock, the aim should be to stabilize hemodynamics. In case of uterine inversion, the first thing to do is to manually try to place the uterine fundus in its original place. Laparotomy should be performed in patients in whom inversion cannot be corrected by manual examination or hemodynamic stability cannot be achieved. In uterine inversions caused by a mass, surgical removal of the affected organs may be necessary depending on the pathological features of the mass. In this study, the classification of uterine inversion, risk factors, diagnosis and treatment methods will be discussed in line with the literature.

Key words: Uterine inversion, vaginal bleeding, shock.

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HORMONLU RAHİM İÇİ ARAÇLAR VE JİNEKOLOJİK PATOLOJİLERDE KULLANIMI

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ÖZET

Hormonlu rahim içi araçlar (RİA), son yıllarda hem kontraseptif hem de jinekolojik patolojilerin tedavisinde önemli bir tedavi aracı haline gelmiştir. Levonorgestrel salınımlı RİA'lar, düşük dozda progestin salarak endometriyal atrofi oluşturur, ovulasyonu baskılamadan etkili kontrasepsiyon sağlar ve bu mekanizma sayesindeendometrium ortamınaolumlu etki eder. Hormonlu RİA'lar, menstrual kan kaybını azaltma, dismenoreyi hafifletme ve endometrial hiperplazi gibi hastalıkları tedavi etme konusunda büyük bir başarıya sahiptir. Ayrıca, özellikle kompleks atipili hiperplazi ve erken evre endometrial kanserin tedavisinde cerrahiye alternatif bir seçenek olarak öne çıkmaktadır. Hormonlu RİA'lar, tedavi süresince sürekli etki göstererek hasta uyumunu artırmakta, tedaviye bağlı komplikasyon riskini azaltmaktadır. Uzun süre kullanılması, hem hastalar hem de sağlık sistemleri için maliyet avantajı sağlamaktadır çünkü diğer tedavi yöntemlerine kıyasla daha az müdahale gerektirir ve düzenli kontrol ihtiyacını en aza indirir. Bu araçların klinik etkinlikleri, hastalar üzerindeki olumlu etkileri ve tedavi süreçlerindeki rolü, güncel bilimsel çalışmalarla giderek daha fazla desteklenmektedir. Bu çalışmada, hormonlu RİA'ların biyolojik etkileri, kontraseptif etkileri, jinekolojik hastalıklar üzerindeki tedavi edici rolleri ve uygulama alanları, mevcut literatür ışığında incelenmiştir. Ayrıca, hormonlu RİA'ların klinik kullanımı ve çeşitli jinekolojik patolojilerdeki potansiyel faydaları tartışılmıştır.

Anahtar kelimeler: Hormonlu rahim içi araç, endometrial hiperplazi,jinekolojik tedavi, kontrasepsiyon.

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HORMONAL INTRAUTERINE DEVICES AND THEIR USE IN GYNECOLOGICAL PATHOLOGIES

ABSTRACT

Hormonal intrauterine devices (IUDs) have become an important treatment tool in recent years, both as a contraceptive and in the treatment of gynecological pathologies. Levonorgestrel-releasing IUDs create endometrial atrophy by releasing low doses of progestin, provide effective contraception without suppressing ovulation, and have a positive effect on the endometrium environment thanks to this mechanism. Hormonal IUDs have great success in reducing menstrual blood loss, alleviating dysmenorrhea, and treating diseases such as endometrial hyperplasia. They also stand out as an alternative option to surgery, especially in the treatment of complex atypic hyperplasia and early-stage endometrial cancer. Hormonal IUDs increase patient compliance by providing a continuous effect throughout the treatment period and reduce the risk of treatment-related complications. Long-term use provides a cost advantage for both patients and healthcare systems because it requires less intervention compared to other treatment methods and minimizes the need for regular check-ups. The clinical effectiveness of these devices, their positive effects on patients and their role in treatment processes are increasingly supported by current scientific studies. In this study, the biological effects, contraceptive effects, therapeutic roles on gynecological diseases and application areas of hormonal IUDs were examined in the light of the current literature. In addition, the clinical use of hormonal IUDs and their potential benefits in various gynecological pathologies were discussed.

Keywords: Hormonal intrauterine device, endometrial hyperplasia, gynecological treatment, contraception.

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MEKANİK VENTİLASYON VE VENTİLATÖRE BAĞLI HASTANIN BAKIMI

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ÖZET

Yoğun bakıma gereksinim duyulan hastalarda en sık görülen problem solunum yetmezliğidir. Hastaların büyük bir kısmı gaz değişimini kolaylaştırmak, solunumu ve solunum kaslarını rahatlatmak için mekanik ventilatöre bağlanır. Mekanik ventilatörle takip edilen hastalar ventilatöre ya invaziv ya da noninvaziv yolla bağlanmaktadır. Mekanik ventilatör hastanın solunumunun tamamını ya da bir kısmını destekler ve hastanın iyileşme sürecine önemli katkı sağlar. Yoğun bakımlarda mekanik ventilatördeki hastanın bakımı hemşireler tarafından sağlanır. Hemşireler yoğun bakımdaki hastaların bakım ve takiplerini yapar ve bu süreçte hem kullanılan teknolojik cihaz kaynaklı oluşabilecek komplikasyonların önlemesini hem de sorunların erken dönemde fark edilmesini sağlarlar. Bu nedenle hemşirelerin yoğun bakımlarda kullanılan ve hayati öneme sahip olan ventilatörün çalışma prensibini ve işlevlerini bilmesi uygun olur. Bunun yanında ventilatörden kaynaklanabilecek olası komplikasyonları çok iyi bilmeli, hemşirelik görev alanı içinde olan gerekli önlemleri almalıdır. Bir yoğun bakım hemşiresinin hastasının bağlı bulunduğu/bağlanacağı ventilatörün çalışıp çalışmadığını, alarmlarını ve o alarmların anlamını, ventilatörde ayarlanan temel parametrelerin neler olduğunu ve bu parametrelerin anlamını bilmesi gerekir. Mekanik ventilatöre bağlı hastada hemşire ventilatörü tanımanın yanında hastasına rutin hemşirelik bakımını da sunar. Söz konusu bakımlar; ağız bakımı, hava yolu bakımı, kateter bakımları, cilt bakımı, perine bakımı, pozisyonun korunması, yatak içi hareketliliğin sağlanması vb'dir. Bir yoğun bakım hemşiresinin ventilatöre bağlı olan hastasının takibini yaparken hem bakımı hem de ventilatörün ve diğer bağlı bulunduğu cihazların takibini de yapabilmelidir. Bu derlemenin yoğun bakım hemşirelerine katkı sunacağı düşünülmektedir.

Anahtar Kelimeler: Mekanik ventilasyon, Yoğun bakım, Hemşirelik, Bakım

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MECHANICAL VENTILATION AND CARE OF THE PATIENT CONNECTED TO A VENTILATOR

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ABSTRACT

Respiratory failure is the most common problem in patients requiring intensive care. Most of the patients are connected to a mechanical ventilator to facilitate gas exchange and to relieve breathing and respiratory muscles. Mechanically ventilated patients are connected to the ventilator either invasively or noninvasively. The mechanical ventilator supports all or part of the patient's respiration and contributes significantly to the patient's recovery process. In intensive care units, the care of the patient on mechanical ventilator is provided by nurses. Nurses provide care and follow-up of patients in intensive care and in this process, they both prevent complications that may arise from the technological device used and ensure that problems are recognized at an early stage. For this reason, it is appropriate for nurses to know the working principle and functions of the ventilator, which is used in intensive care and has vital importance. In addition, they should know the possible complications that may arise from the ventilator very well and take the necessary precautions within the field of nursing duty. An intensive care nurse should know whether the ventilator to which the patient is/will be connected is working, the alarms and the meaning of those alarms, the basic parameters set on the ventilator and the meaning of these parameters. In the patient connected to a mechanical ventilator, the nurse provides routine nursing care to the patient as well as recognizing the ventilator. Such care includes oral care, airway care, catheter care, skin care, perineum care, maintaining position, ensuring in-bed mobility, etc. An intensive care nurse should be able to follow up the patient who is connected to a ventilator while providing both care and monitoring of the ventilator and other connected devices. This review is thought to contribute to intensive care nurses.

Keywords: Mechanical ventilation, Intensive care, Nursing, Care

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TERAPATİK REKREASYONUN BİREYLERİN SAĞLIĞINA ETKİSİ

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ÖZET

Bu çalışma, terapatik rekreasyonun bireylerin sağlığına etkilerini incelemeyi hedeflemektedir. Çalışmada, son 10 yıllık çalışmalar incelenerek bazıları esas alınmıştır. Bu çalışmaların bazıları incelendiği zaman, terapatik rekreasyonun fiziksel, zihinsel ve sosyal sağlık üzerinde kapsamlı iyileştirmeler sağladığını ortaya koymaktadır. Özellikle ruhsal sağlık sorunları olan bireylerde doğa temelli aktivitelerin stresi azalttığı ve motivasyonu artırdığı, nörolojik hastalıklarda fiziksel aktivitelerin semptom yönetimini desteklediği gözlemlenmiştir. Kronik hastalıklı çocuklar ve ailelerinde düzenlenen terapatik rekreasyonun kampların sosyal uyumu güçlendirdiği, yaşlılarda ise programların süre ve yoğunluğunun etkiyi doğrudan artırdığı belirlenmiştir. Otizmli bireylerde egzersiz temelli uygulamaların iletişim becerilerini geliştirdiği, genel olarak rekreasyon aktivitelerinin yaşam kalitesi ve refah düzeyini yükselttiği görülmektedir.

Anahtar Kelimeler: Terapatik, Rekreasyon, Sağlık

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EFFECT OF THERAPEUTIC RECREATION ON INDIVIDUAL HEALTH

ABSTRACT

This study aims to examine the effects of therapeutic recreation on the health of individuals. In the study, studies from the last 10 years were examined and some of them were taken as basis. When some of these studies were examined, it was revealed that therapeutic recreation provided comprehensive improvements on physical, mental and social health. It was observed that nature-based activities reduced stress and increased motivation, especially in individuals with mental health problems, and physical activities supported symptom management in neurological diseases. It was determined that therapeutic recreation camps organized for children with chronic diseases and their families strengthened social harmony, and the duration and intensity of the programs directly increased the effect in the elderly. It was observed that exercise-based applications improved communication skills in individuals with autism, and recreation activities generally increased the quality of life and well-being.

Keywords: Therapeutic, Recreation, Health

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EXPLORING THE EVOLUTION OF FOOD SECURITY RESEARCH: A BIBLIOMETRIC APPROACH

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ABSTRACT

Food security is a critical topic with implications for global health, socio-economic stability and environmental sustainability. This study uses bibliometric methods to analyse the academic literature on food security in order to identify key trends, influential publications and emerging areas of research in the field. By analysing a comprehensive dataset of scholarly articles from the Web of Science database, the study identifies the most cited papers, leading authors and prominent institutions contributing to food security research. Using the Web of Science database, we identified all original articles on food security between 2015 and 2024. After collecting bibliographic and citation data, keywords, citation networks and co-citations related to food security, the analysis was performed using VOSviewer software. A total of 9,677 articles were retrieved from the Web of Science database. The articles were cited a total of 75,221 times (68,655 times excluding self-citations). The year with the most citations was 2024 (35,859). The Hirsch index was 125. The leading country in terms of the number of articles published was the USA (n = 3,655). The most active field of research was 'Public Environmental Occupational Health' (n = 1.789). The most prolific publisher was Elsevier (n = 1,846). The journal with the most articles published was Food Securıty (n: 280). In conclusion, this bibliometric analysis not only provides a historical overview of the development of the field, but also offers valuable insights into future research directions and policy implications for achieving global food security.

Keywords: Bibliometrics, Food Security, Food Insecurity

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BIBLIOMETRIC INSIGHTS INTO MILK CONSUMPTION: TRENDS, KEY RESEARCH AREAS, AND EMERGING THEMES

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Abstract

Milk consumption is a complex and widely studied topic with significant implications for global health, nutrition and the dairy industry. This bibliometric analysis examines the extensive literature on milk consumption to map the evolution of research trends, identify key themes and spotlight influential studies. Using the Web of Science database, we identified all original articles on milk consumption between 2015 and 2024. After collecting bibliographic and citation data, keywords, citation networks and co-citations related to milk consumption, the analysis was performed using VOSviewer software. A total of 552 articles were retrieved from the Web of Science database. The articles were cited a total of 6,459 times (6,305 times excluding self-citations). The year with the most citations was 2024 (1.354). The Hirsch index was 41. The leading country in terms of number of articles published was the USA (n = 100). The most active field of research was "nutrition and dietetics" (n = 162). The most prolific publisher was Elsevier (n = 110). The journal with the most articles published was "nutrıents" (n: 29). In conclusion, this bibliometric study provides a comprehensive overview of the research landscape on milk consumption, providing valuable insights into current trends and spotlighting areas for future research.

Keywords: Milk consumption, bibliometric analysis, dietary patterns, dairy production

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SEEDLING QUALITY IN MedIterranean Cypress (*Cupresus sempervIrens* L.)

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ABSTRACT

Seedling height (SH) and root-collar diameter (RCD) were examined in 2+0 container seedlings grown in Antalya Forest Nursery in Mediterranean cypress (*Cupressus sempervirens* L.). Seedling morphology and quality classes of Turkish Standard Institute (TSI), and sturdiness index (SI=SH/RCD) were examined in this study to contribute nursery, afforestation and other forestry practices for the species.

Averages of seedling height and root-collar diameter were 101.4 cm and 14.7 mm, respectively, while seedlings showed large differences for the characteristics. Seedling height was between 79 cm and 126 cm, and root-collar diameter ranged from 9 mm to 21 mm.

All seedlings were in high quality for both seedling height (40cm ≤SH) and root-collar diameter (RCD≥ 2 mm) according to quality classes of TSI. 94.7% of the seedlings were in cull (SI>60) and 5.3% in second class (50<SI<60) according to sturdiness index. Positive and significant ($p \leq 0.05$) relation was estimated between seedling height and root-collar diameter based on results of correlation analysis.

Keywords: Diameter, height, morphology, nursery.

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ACORN CHARACTERISTICS IN KERMES OAK (*QUERCUS COCCIFERA* L.)

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ABSTRACT

Kermes oak (*Quercus coccifera* L.) has large natural distribution as shrub or small tree at especially in maquis in Turkish forestry. However, the species has non-wood forest production such as its acorn as food for animals or commercial ındustries.

Length and diameter of 210 acorns sampled from 7 individual plants of the species were examined in this study. Averages of acorn diameter and length were 12.7 mm and 27.4 mm, respectively. They ranged from 11.9 mm and 13.8 mm for acorn diameter, and varied between 25.1 mm and 30.6 mm for acorn diameter. The variation was also found among acorns within individual plant. Significant ($0.05>p$) differences among families for length and diameter of acorns were found according to results of analysis of variance. There was positive and significant ($0.05>p$) relation between length and diameter based on results of correlation analysis

Keywords: Morphology**,** nursery, seed, variation.

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ASSESSMENT OF THE DOSE-DEPENDENT TOXICITY OF L-CANAVANINE USING ONION ROOT APICAL MERISTEM

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ABSTRACT

Using the *Allium* test, the various toxicities caused by three distinct dosages (10, 50, and 100 mM) of the hazardous non-protein amino acid L-canavanine (L-CAN) were examined in this work. Indicators of toxicity included cytogenetic [micronucleus (MN) frequency, chromosomal abnormalities (CAs), mitotic index (MI)], physiological [germination percentage (GP), root number (RN), root length (RL), and fresh weight (FW)], biochemical [free proline (PR) level, malondialdehyde (MDA) level, catalase (CAT) activity, and superoxide dismutase (SOD) activity], and anatomical parameters. Four sets of *Allium cepa* L. bulbs were created: one for control (C) and three for treatments. For 7 days, the bulbs in the treatment groups were germinated with three different doses of L-CAN, whereas the bulbs in the C group were germinated with tap water. Consequently, at all three levels, exposure to L-CAN resulted in a reduction in every physiological parameter measured. In addition, every L-CAN dosage resulted in a rise in the frequency of MN and CAs together with a decrease in MI. L-CAN produced CAs such as notched nuclei, micronuclei accumulation, bilobulated and trilobulated nuclei with bud, C-metaphase, chromosomal stickiness, vagrant chromosome, and chromatid bridge in the root meristem cells. Through the induction of oxidative stress in the cells, L-CAN also produced toxicity. L-CAN exposure resulted in dose-related increases in the levels of free PR, MDA, CAT, and SOD in the root. L-CAN exposure induced anatomical harms such as deformations of the epidermal cells, development of micronucleus, accumulation of certain chemical substances, abnormal position of the epidermal cell nucleus, giant cell nucleus, and vacuole formation in the nucleus of the root tip meristem cells. Due to its inhibitory impact on *Allium cepa* L. test material, L-CAN induced comprehensive toxicity; the *Allium* test proved to be a valuable tool in identifying this toxicity.

Keywords : *Allium cepa* L., Canavanine, Cytotoxicity, Genotoxicity, Germination, Meristematic cell harms.

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INVESTIGATION OF THE MULTIPLE TOXIC EFFECT OF L-HOMOARGININE UTILIZING THE *ALLIUM CEPA* L. ROOT MODEL

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ABSTRACT

Homoarginine is a toxic non-protein amino acid that occurs naturally in plants and adversely affects plant growth and development. This study aimed to explore the impact of different externally applied concentrations (10, 50, and 100 mM) of L-homoarginine (L-hArg) on various physiological, cytogenetic, biochemical, and anatomical traits of onion (*Allium cepa* L.) bulbs. All tested concentrations of L-hArg resulted in a reduction in physiological traits such as germination percentage (GP), root length (RL), root number (RN), and fresh weight (FW). Additionally, there was an increase in chromosomal aberrations (CAs) and micronucleus (MN) frequency, along with a decrease in the mitotic index (MI). L-hArg treatments induced CAs such as cellular budding, micronuclei formation, C-metaphase, chromosomal stickiness, chromatid bridges, vagrant chromosomes, polar slip, and unequal chromosome separation in the root meristem cells. Furthermore, this non-protein amino acid led to an increase in free proline (PR), catalase (CAT), superoxide dismutase (SOD), and malondialdehyde (MDA) levels in the root cells of onion bulbs. Moreover, this toxic amino acid caused significant damages and alterations like deformations of epidermis and cortex cells, cell wall thickening in the cortex layer, accumulation of certain chemical compounds in cortex layer cells, flattening, and deformation of cell nuclei in the anatomical structure of onion roots. In summary, it was determined that L-hArg has inhibitory properties, and the *Allium cepa* test serves as a useful bioindicator for these effects.

Keywords: Antioxidant defense system, Germination of bulb, Homoarginine, Mitosis, Onion, Root anatomy.

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ANTi-BAKTERiYEL ETKi ÖLÇÜMÜNDE *CELTiS TOURNEFORTII* FRUIT (CTF) BiTKiSi EKSTRAKTININ GALLIC ASiT VE 1QSG PROTEiNi ILE ETKILEŞiMi

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ÖZET

Dünya genelinde, sağlığa faydalı özellikleri nedeniyle birçok bitki önemli bir tedavi kaynağı olarak kullanılmaktadır. Özellikle kırsal kesimlerde, hem maddi imkânların kısıtlı olması hem de sağlık hizmetlerine erişimin zorluğu nedeniyle tıbbi ve aromatik bitkilere dayalı geleneksel tıp uygulamaları yaygındır (Suhaili & Manshoor, 2022).

Bu geleneksel bitkisel tedavi yöntemlerinin yoğun kullanımı, etnofarmakoloji alanındaki çalışmaları teşvik etmiştir. Etnofarmakoloji, geleneksel tıbbın modern bilimle buluştuğu disiplinlerarası bir alan olarak öne çıkar. Bu kapsamda araştırmacılar, önce bitkileri etnobotanik açıdan inceler, ardından bilimsel sınıflandırmalarını yapar ve son olarak ilgili bitkilerin içerdiği etken maddelerin kimyasal ve farmakolojik özelliklerini araştırır (Süntar, 2020).

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Önemli tıbbi bitkilerden biri olan Doğu çitlembik ağacı (Celtis tournefortii Lam., Cannabaceae familyası), ılıman ve tropik bölgelerin yüksek kesimlerinde yetişen, ortalama 5 metre boyunda yaprak döken bir türdür. Yenilebilir meyveleriyle tanınan bu ağaç; Türkiye, Azerbaycan, Ukrayna ve İran gibi geniş bir coğrafyada yetişmekte, yerel halk tarafından geleneksel olarak kullanılmaktadır. Türkiye'de "Dardagan" veya "Doğu Çitlembiği" olarak bilinen bu bitki çeşitli rahatsızlıkların tedavisinde geleneksel tıpta değerlendirilmektedir (Gecibesler, 2019).

Celtis türlerinin genel olarak epilepsi nöbetleri, aşırı ayak terlemesi ve yara iyileşmesi gibi anti-bakteriyel uygulamalarda kullanıldığı bilinmektedir. C. tournefortii'nin ise özellikle tohumları böbrek kumu tedavisi için, yaprakları mide rahatsızlıkları, kanama kontrolü ve sindirim sorunları için kullanılmaktadır. Ayrıca meyvelerinin ishal, dizanteri ve ülser gibi yine anti-bakteriyel ilaç tasarımı gerektiren sindirim sistemi rahatsızlıklarına karşı etkili bir geleneksel ilaç olduğu kaydedilmiştir (Keser et al., 2017).

Bu çalışmada CTF bitkisini oluşturan ekstrakların %97'sinden fazlasının Gallic asit (%24.5), Rutin (%21), Chlorogenic asit (%14.7), Hesperidin (%9.9), Hydroxybenzaldehyde (%8.8), o-coumaric asit (%6.8), Trans-ferulic asit (%6.1), Caffeic Asit (%5.8) moleküllerinden oluştuğu belirlenmiş ve in siliko anti bakteriyel çalışmalar için bu moleküllerin tamamı E. Coli bakterisine ait enol redüktaz proteini ile (PDB ID: 1QSG) docklanmıştır. Bu proteinin seçilmesinin nedeni, E.coli'nin yaşamsal faaliyetlerini sürdürebilmesi için gerekli olan yağ asidi biyosentezinde (FAS II) kritik rol oynayan Enoyl reductase enzim inhibisyonunun bakterinin hücre zarı oluşumunu engelleyerek anti-bakteriyel etkiye neden olmasıdır (Stewart et al., 1999). Ardından her molekül için ayrı ayrı bulunan skorlar bitkinin içindeki oranla ağırlıklandırılarak ortalama docking skoru -7.40 kcal/mol olarak bulunmuştur. Bu sonuç, bitkinin anti-bakteriyel özellik göstermesi açısından potansiyel bir aday olduğunu göstermektedir.

Anahtar Kelimeler : Celtis tournefortii, 1QSG proteini , Antimicrobial, Moleküler docking, Gallic acid.

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INTERACTION OF GALLIC ACID AND 1QSG PROTEIN WITH CELTIS TOURNEFORTİİ FRUİT (CTF) PLANT EXTRACT İN ANTIBACTERIAL EFFECT MEASUREMENT

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ABSTRACT

Worldwide, many plants are used as significant therapeutic sources due to their health-beneficial properties. Traditional medicine practices based on medicinal and aromatic plants are particularly widespread in rural areas, both due to limited financial resources and difficulties in accessing healthcare services (Suhaili & Manshoor, 2022).

The extensive use of these traditional herbal treatment methods has encouraged studies in ethnopharmacology. Ethnopharmacology stands out as an interdisciplinary field where traditional medicine meets modern science. In this context, researchers first examine plants from an ethnobotanical perspective, then make their scientific classifications, and finally investigate the chemical and pharmacological properties of the active substances contained in the relevant plants (Süntar, 2020).

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The Oriental hackberry tree (Celtis tournefortii Lam., Cannabaceae family), one of the important medicinal plants, is a deciduous species growing in high temperate and tropical regions, averaging 5 meters in height. Known for its edible fruits, this tree grows across a wide geography including Turkey, Azerbaijan, Ukraine, and Iran, and is traditionally used by local people. Known as "Dardagan" or "Oriental Hackberry" in Turkey, this plant is utilized in traditional medicine for treating various ailments (Gecibesler, 2019).

Celtis species are generally known to be used in **antibacterial applications** such as epileptic seizures, excessive foot perspiration, and wound healing. C. tournefortii's seeds are specifically used for kidney stone treatment, while its leaves are used for stomach ailments, bleeding control, and digestive issues. Additionally, its fruits have been recorded as an effective traditional medicine against digestive system disorders requiring **antibacterial drug design** such as diarrhea, dysentery, and ulcers (Keser et al., 2017).

In this study, it was determined that more than 97% of the extracts composing the CTF plant consists of Gallic acid (24.5%), Rutin (21%), Chlorogenic acid (14.7%), Hesperidin (9.9%), Hydroxybenzaldehyde (8.8%), o-coumaric acid (6.8%), Trans-ferulic acid (6.1%), and Caffeic Acid (5.8%) molecules, and all these molecules were docked with the enol reductase protein (PDB ID: 1QSG) from E. Coli bacteria for in silico antibacterial studies. The reason for selecting this protein is that the inhibition of the Enoyl reductase enzyme, which plays a critical role in fatty acid biosynthesis (FAS II) necessary for E.coli's vital activities, causes an antibacterial effect by preventing bacterial cell membrane formation(Stewart et al., 1999). Subsequently, the average docking score was found to be -7.40 kcal/mol by weighing the individually found scores for each molecule according to their proportion in the plant. This result indicates that the plant is a potential candidate in terms of showing antibacterial properties.

***Keywords*:** Celtis tournefortii, 1QSG proteini , Antimicrobial, Molecular Docking, Gallic Acid

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PLAZMA İLE AKTİFLEŞTİRİLMİŞ SU UYGULAMASININ ARPADA (*Hordeum vulgare* L.) KURAKLIK STRESİ TOLERANSINA FİZYOLOJİK ETKİLERİ

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ÖZET

Küresel ısınma dünya genelinde tarımsal üretimde düşüşe neden olurken, gıda güvenliğini de tehlikeye sokmaktadır. Artan sıcaklıklar, düzensiz yağış rejimleri ve su kaynaklarının tükenmesi gibi küresel ısınma sorunları önemli abiyotik streslerden olan kuraklığa yol açmakta ve giderek yaygınlaşarak tarım sektöründe ciddi verim kayıplarına neden olmaktadır. Aynı zamanda, artan nüfus ve azalan doğal kaynaklar, gıda üretimini sürdürülebilir kılmayı da zorlaştırmaktadır. Arpa (*Hordeum vulgare* L.) Poaceae familyasına ait, tek yıllık, otsu ve soğuk iklim özelliklerine dayanıklı bir tahıl bitkisidir. Hem gıda hem de hayvancılıkta önemli bir yem kaynağı olmasının yanı sıra, endüstride de çeşitli alanlarda kullanılmaktadır. Kurak ve yarı kurak alanlarda tarımı gerçekleştirilen arpa kuraklıkla sıkça karşı karşıya kalmaktadır. Koruyucu bir alternatif bir yöntem olarak son yıllarda kullanılmaya başlanılan plazma ile aktifleştirilmiş suyun (PAW) kurak koşullarda bitkilerin su kullanım verimliliğini artırarak büyüme ve stres toleransını arttıracağı öngörülmektedir. Bu çalışmada, sulama suyu olarak uygulanan PAW'ın, kuraklık stresi altında yetiştirilen arpa bitkileri üzerindeki etkileri incelenmiştir. Öncelikle, steril edilen tohumlar eşit orandaki torf-perlit karışımının olduğu ortamda 10 gün boyunca yetiştirilmiştir. Süre sonunda bitkiler saf su, %20 polietilen glikol (PEG), PAW ve PAW+PEG ile sulama yapılacak şekilde 4 gruba ayrılmıştır. Uygulama 2 hafta süre ile her üç günde bir olarak şekilde yapılmıştır. Uygulama sonrasında bitkiler önce fotoğraflanmış ve sonrasında cetvel yardımı ile sürgün uzunlukları ölçülmüştür. Ardından sürgün yaş ve kuru ağırlıkları, nisbi su içeriği, klorofil floresansı, elektrolit sızıntı ve fotosentetik pigment içerikleri belirlenmiştir. Bu çalışmada, PAW uygulamasının kuraklık stresi altında yetiştirilen arpa bitkilerinin fizyolojisinde değişime neden olarak kuraklık toleransını arttırdığı belirlenmiştir.

Anahtar Kelimeler: Arpa, kuraklık, plazma ile aktifleştirilmiş su, stres fizyolojisi

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PHYSIOLOGICAL EFFECTS OF PLASMA ACTIVATED WATER APPLICATION ON DROUGHT STRESS TOLERANCE IN BARLEY (*Hordeum vulgare* L.)

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ABSTRACT

Global warming is causing a decline in agricultural production worldwide and jeopardizing food security. Global warming problems such as rising temperatures, erratic precipitation regimes and depletion of water resources lead to drought, one of the major abiotic stresses, which is becoming increasingly widespread and causing serious yield losses in the agricultural sector. At the same time, increasing population and diminishing natural resources make it difficult to sustain food production. Barley (*Hordeum vulgare* L.) is an annual, herbaceous, cold-tolerant cereal plant belonging to the Poaceae family. In addition to being an important feed source in both food and livestock breeding, it is also used in various fields in industry. Barley, which is cultivated in arid and semi-arid areas, is frequently faced with drought. Plasma activated water (PAW), which has been used as a protective alternative method in recent years, is expected to increase growth and stress tolerance by increasing water use efficiency of plants under drought conditions. In this study, the effects of PAW applied as irrigation water on barley plants grown under drought stress were investigated. Firstly, sterilized seeds were grown for 10 days in equal proportions of peat-perlite mixture. At the end of the period, the plants were divided into 4 groups as dI-H_2O, 20% polyethylene glycol (PEG), PAW and PAW+PEG irrigation. The application was made every three days for 2 weeks. After the application, the plants were first photographed and then the shoot lengths were measured with the help of a ruler. Then shoot wet and dry weights, relative water content, chlorophyll fluorescence, electrolyte leakage and photosynthetic pigment contents were determined. In this study, it was determined that PAW application increased drought tolerance by causing changes in the physiology of barley plants grown under drought stress.

Keywords: Barley, drought, plasma activated water, stress physiology

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SURFACE MODIFICATION TECHNIQUES OF METALLIC BIOMATERIALS: A REVIEW

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ABSTRACT

The increasing demand for biomedical implants has spurred extensive research into metallic biomaterials that offer superior mechanical and chemical properties for medical applications. These implants are commonly used in orthopedics, dentistry, and cardiovascular treatments. While metallic biomaterials like stainless steel, titanium (Ti) and its alloys,magnesium (Mg) and its alloys, high entropy alloys and cobalt-chromium (Co-Cr) alloys provide high strength and durability, challenges remain with corrosion, wear, and biocompatibility. This review explores several techniques of surface modification and coating materials to enhance the desirable properties and performance of metallic biomaterials, such as physical, chemical, and thermal methods. Surface treatments like sandblasting, physical vapor deposition, and laser surface modification have shown promise in improving properties like corrosion resistance, osseo integration, and mechanical strength. The study underscores the critical role of surface engineering in the development of durable, biocompatible implants, offering a pathway to improved clinical outcomes and reduced implant failure rates.

Keywords: metallic biomaterial, surface modification, coatings

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A BRIEF DISCUSSION OVER BIOCOMPATIBILITY AND CORROSION BEHAVIOUR OF METALS BIOMATERIALS

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ABSTRACT

This article reviews the various advancements in metallic biomaterials for medical applications. Due to their versatility in various mechanical and physical properties, these materials are most suitable for implanting in dental surgeries, bone joints and cardiovascular operations. However, the in-vivo environment, which includes body fluids, is highly corrosive to metal surfaces. This corrosion can lead to the release of harmful by-products, potentially causing localized pain, infections, swelling, and even implant failure. Therefore, biocompatibility is a key consideration when selecting materials for implants. While options such as ceramics, bio-glasses, and polymers exist, metals and alloys are often preferred for their mechanical strength and adaptability. Despite these advantages, their vulnerability to corrosion remains a significant concern. To address this, commonly used corrosion-resistant metals include SS-316, Magnesium and its alloys, and Cobalt-Chromium alloys. The formation of a protective passive film on these materials is crucial in minimizing corrosion and ensuring the longevity of metallic implants.

Keywords: Metal-metallic Biomaterials; Biocompatibility; Corrosion resistance; Bone transplants

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PREPARATION STUDY OF FIRE SYSTEM CONFORMITY CERTIFICATE IN A CHEMICAL PLANT

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ABSTRACT

According to the Occupational Health and Safety Law No. 6331, which entered into force in Turkey on 30.06.2012, an occupational accident is defined as "an incident that occurs in the workplace or during the work, causes death or impairs physical or mental integrity". To protect against occupational accidents, a risk management and assessment study appropriate to the work area should be implemented. There are four headings within the scope of risk assessment studies. These processes are given below. Determining possible hazards in the work environment, conducting risk assessments, implementing control measures (prevention and protection measures), and monitoring and reviewing the entire process. The basic contribution of risk management is to determine and eliminate possible events or situations that may cause harm in advance. Regardless of the hazard situation, each facility must conduct a risk assessment study at certain periods. The most important of these is the precautions to be taken against the potential for fire in chemical facilities. Several regulations are applied to ensure compliance with the relevant regulations and standards. Tests and inspections are included in the study.

Keywords: Fire system, Risk assessment, Hazard situation, Precaution

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RISK ANALYSIS OF FIRE HAZARD IN A BUILDING PROVIDING CHEMICAL ENGINEERING EDUCATION

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ABSTRACT

This study covers fire prevention activities to be carried out to prepare for a possible fire in the Department of Chemical Engineering for educational purposes. The necessary fire regulations were examined and whether the preparations were sufficient. The L-type matrix method was used to determine the damage that would occur due to the fire in the offices and classrooms. The risk value was determined to be between 15 and 25, which constituted a high risk. In places where the risk was high, first of all, the risk due to electric shock in the tea house where the tea boiler was located was determined due to the electrical installation. In addition, there was a fall risk determination in the on-site assembly due to the use of the projector in the classrooms. The risk value was reduced to between 4-5 with protective and preventive activities to eliminate the existing dangers. While the risk study was carried out, the precautions to be taken against the fire in both the department and the Faculty of Engineering building were determined and an effort was made to keep the damage to a minimum.

Keywords: Fire hazard, Educational buildings, L-type matrix, Fire standards

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STRUCTURAL AND ELECTRICAL CHARACTERISTICS OF ZnO: Mn NANOROD THIN FILMS

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ABSTRACT

ZnO nanorod thin films exhibit unique functionalities due to their excellent properties, including a relatively high surface-to-volume ratio, enhanced charge carrier mobility, and a high absorption coefficient. Their functional properties can be further tailored by incorporating transition metal dopants such as Co, Mn, Fe, and Cr. In this study, the effects of low Mn doping concentrations (0%, 1%, and 2%) on the structural and electrical properties of ZnO nanorod thin films were investigated. These films were synthesized via the sol-gel approach and deposited on Pyrex glass substrates. To analyze their structural and electrical characteristics, X-ray diffraction (XRD), scanning electron microscopy (SEM), energy-dispersive X-ray (EDX) spectroscopy, and Hall measurements were employed. XRD analysis confirmed the formation of a typical polycrystalline wurtzite phase with hexagonal crystal symmetry. SEM observations indicated that the surface morphology of the samples consists of nearly spherical granular structures. EDX analysis verified the presence of Zn, Mn, and O atoms in varying concentrations. Hall measurements demonstrated n-type conductivity in all samples. Additionally, as the Mn doping concentration increased from 0% to 2%, the resistivity of the films increased, while both conductivity and carrier mobility decreased. These findings underscore the potential of Mn-doped ZnO nanorod thin films for next-generation optoelectronic applications.

Keywords: ZnO, ZnO: Mn, Thin films, Crystalline quality, n-type conductivity.

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A COMPARATIVE STUDY ON STRUCTURAL AND PHOTOCATALYTIC PROPERTİES OF ZnS AND ZnO THIN FILMS

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ABSTRACT

Recently, ZnS and ZnO thin films have attracted significant interest due to their superior properties and wide-ranging applications in fields such as optoelectronics, catalysis, and antibacterial coatings. To this end, ZnS and ZnO thin films were fabricated using the sol-gel dip-coating method to investigate and compare their structural and photocatalytic properties. X-ray diffraction (XRD) analysis confirmed that the produced films exhibit a polycrystalline nature with a hexagonal crystal structure. Scanning electron microscopy (SEM) analysis revealed that the films have smooth and homogeneous surface morphologies, with randomly distributed, nearly spherical grains across the film facets. Energy-dispersive X-ray (EDX) analysis confirmed the presence of Zn, O, and S elements. The photocatalytic performance of the films was evaluated using methylene blue (MB) as the organic dye model. The results indicated that the photocatalytic activity of ZnO thin films was significantly higher than that of ZnS thin films. This enhancement is primarily attributed to the superior crystalline quality of ZnO thin films compared to ZnS thin films. These findings highlight the strong potential of ZnO and ZnS thin films for effective photocatalytic applications, particularly in the removal of organic dye pollutants from the environment.

Keywords: ZnO, ZnS, Thin films, Photocatalytic activity, Methylene blue.

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YENİ ve KARARLI POLİMETALİK KATALİZÖRÜN POTASYUM BORHİDRÜR HİDROLİZİ HİDROJEN ÜRETİMİNE ETKİSİ

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ÖZET

Fosil kaynaklarının neden olduğu sorunlara en iyi çözüm olma özelliğindeki hidrojen (H_2) temiz enerji kaynağı olarak dikkat çekmektedir. Hidrojenin sahip olduğu bir çok avantajının yanında depolama ve taşınma sorunu aşılması gereken en önemli dezavantajların başında gelmektedir. Söz konusu dezavantajları ortadan kaldırmada hidrojenin katı olarak depolandığı metal hidrürler gelmektedir. Bu çalışmada metal hidrürlerden biri olan potasyum bor hidrürün (KBH_4-PBH) hidrolizi, Ru katkılı CoFe katalizörünün Eupergit CM polimerik destek malzemesi ile elde edilen katalizör varlığında katalitik hidrolizle açığa çıkan hidrojenin üretim parametreleri incelendi. Katalizör sentezinde emdirme, birlikte çöktürme, filtrasyon ve azot atmosferinde kurutma işlemleri gerçekleştirildi. Katalizör sentezinden sonra metal oranı, farklı KOH konsantrasyonu, farklı katalizör miktarları ve substrat miktarları gibi parametreler potasyum borhidrürün katalitik hidrolizindeki hidrojen üretimine etkileri incelendi. Ru-CoFe@ECM katalizörü varlığındaki PBH hidrolizi optimum 30 ^{0}C'de % 0 KOH, 40 mg katalizör ve % 2 KBH_4 varlığındaki hidrojen üretim hızının 8808 mL/dak.g olduğu belirlendi.

Anahtar Kelimeler : Hidrojen, Katalizör, Potasyum borhidrür, Ru-CoFe@ECM

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THERMAL ANALYSIS OF A MONOCRYSTALLINE PHOTOVOLTAIC (PV) SOLAR PANEL IN ANSYS

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ABSTRACT

In this study, a simulation was conducted using the ANSYS software to determine the temperature values and distributions that will occur in each layer of a monocrystalline photovoltaic (PV) solar panel generating 70 W of power. The thermal analysis was carried out for a rectangular structure with a total of 36 solar cells, arranged in 4 rows horizontally and 9 rows vertically, with dimensions of 1153 mm in length and 558 mm in width, based on the dimensions of a real PV solar panel. The layers of the PV panel were designed using 6 different materials (ethylene-tetrafluoroethylene, ethylene vinyl acetate, silicon, plastic, adhesive, and carbon fiber composite polymer), resulting in 7 layers. The thicknesses of the top, encapsulant 1, solar cell, encapsulant 2, bottom, adhesive and support layers forming the PV panel are designed with dimensions of 0.28, 0.20, 0.15, 0.20, 0.20, 0.20, 0.13 and 2 mm, respectively. For the designed PV panel, boundary conditions were determined under the assumption of 25°C ambient temperature, 1000 W/m² solar radiation, and a PV producing 70 W of power. Therefore, the boundary conditions were set as T = 25°C, qcell = 1000 W/m², and Qrete = 70 W. Additionally, since heat transfer occurs through conduction, convection, and radiation in the PV panel model, the calculated boundary conditions were applied to the analysis. As a result of the analysis, the highest temperature reached 53.255°C, occurring at the center of the solar cell layer. This is because the edges of the layer are connected to the support layer, and the support layer, which is in contact with air, results in cooling. This analysis provides an insight into how temperature develops along the solar radiation path. As a result, the study investigated how the design parameters affect the efficiency of the solar cells.

Keywords: Solar panel, heat transfer, thermal analysis, conduction heat transfer, radiation.

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METAHEURİSTİC ALGORİTHMS - GRAY WOLF OPTİMİZATİON ALGORİTHM AND ITS APPLİCATİON AREAS

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ABSTRACT

In recent years, research on metaheuristic algorithms has been increasing day by day. The most preferred methods in metaheuristic algorithms, such as Genetic Algorithms (GA), Ant Colony Optimization (ACO), and Particle Swarm Optimization (PSO), have become widely used not only among software engineers but also by researchers from different disciplines. In this study, one of the algorithms that seeks solutions by mimicking natural mechanisms or heuristic approaches without relying directly on mathematical models is the Gray Wolf Optimization (GWO) algorithm. The Gray Wolf Optimization algorithm is based on mimicking the leadership hierarchy and hunting behaviors of gray wolves. As a result of this study, detailed information is provided about the application areas of the Gray Wolf Optimization algorithm, the hunting method of gray wolves, and how the Gray Wolf algorithm is mathematically modeled.

Keywords: Meta heuristic algorithm, genetic algorithm, particle swarm algorithm, gray wolf algorithm.

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OPTIMIZATION TECHNIQUES USED IN SOLAR AIR HEATER: A REVIEW

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ABSTRACT

A solar air heater is a device that captures solar energy to heat the air, which can then be used for space heating, drying, or other thermal applications. It is one of the simplest and most cost-effective renewable energy solutions, often used in residential, commercial, and industrial settings. Solar air heaters (SAHs) are a vital component of renewable energy systems, enhancing thermal efficiency and reducing dependency on conventional energy sources. Optimization techniques play a crucial role in improving their performance of solar air heater by maximizing heat transfer, minimizing heat losses, and ensuring cost-effectiveness. This paper presents an overview of various optimization methods and techniques applied to solar air heaters, focusing on experimental, numerical, and artificial intelligence-based approaches. Solar air heaters are widely used for applications such as space heating, drying, and industrial processes. The most suitable method is also selected based on the different parameters in terms of efficiency and uses. Their performance depends on various factors, including absorber plate design, airflow configuration, and collector material with operating conditions. To maximize efficiency, researchers employ diverse optimization techniques to refine the design and operational parameters of SAHs. Experimental approaches, numerical simulations, and AI-based models contribute significantly to improving Solar Air Heater (SAH) designs and operational parameters.

Keywords: Renewable Energy, Simulation, Thermal Efficiency, Absorber Plate

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TOPRAK ZEMİN ÜZERİNE KURULUMU YAPILACAK ÇİFT YÜZLÜ (BIFACIAL) FOTOVOLTAİK PANELLERDE YÜKSEKLİĞİN VE EĞİM AÇISININ ENERJİ VERİMLİLİĞİNE ETKİSİ

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ÖZET

Dünyanın pek çok yerinde enerji talebinin artmasıyla birlikte, yenilebilir enerji kullanımına ilgi de artmaktadır. Yenilenebilir enerjiler içinde güneş enerjisi sonsuz bir enerji kaynağı ve sıfır emisyonlu olması ile daha çok tercih edilir hale gelmektedir. Son zamanlarda, güneş enerjisinden elektrik üretiminde çok farklı teknolojilerde fotovoltaik paneller kullanılmaktadır. Çift yüzeyli (Bifacial) fotovoltaik panel teknolojisinde hem ön yüzeyden hem de arka yüzeyden ilave elektrik üretildiği için daha fazla ilgi görmektedir. Ancak bu tip fotovoltaik panellerin performansının artırılması büyük önem kazanmaktadır. Bu nedenle, çift yüzeyli fotovoltaik panellerde performansı etkileyen en önemli unsurlardan birisi zeminden gelen albedo etkisidir. Özellikle toprak zeminlerde çift yüzeyli fotovoltaik panellerin enerji verimliliği daha düşüktür. Bu nedenle bu çalışmada, çift yüzeyli fotovoltaik panellerin toprak zemine olan mesafesinin ve eğim açısının enerji verimliliğine etkisi deneysel olarak incelenmiştir. Sonuç olarak eğim açısı 60° uygulanan çift yüzeyli fotovoltaik panelden (PV Panel 1) eğim açısı 45° uygulanan çift yüzeyli fotovoltaik panele (PV Panel 2) göre yaklaşık olarak %4,78 daha fazla enerji üretmiştir.

Anahtar Kelimeler: Enerji, Çift Yüzeyli Fotovoltaik Panel, Albedo, Enerji Verimliliği.

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BİNA CEPHESİNE ENTEGRE EDİLEN FOTOVOLTAİK PANELLERDE GÜNEY, BATI VE DOĞU CEPHE SEÇİMİNİN ENERJİ VERİMLİLİĞİ ÜZERİNE ETKİSİ

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ÖZET

Günümüz yenilenebilir enerji sistemleri kaynaklarından güneş enerjisine yönelim her geçen gün artmaktadır. Bu nedenle güneş enerji dönüşüm sistemlerindeki fotovoltaik panellerin kurulum şartlarına göre enerji verimliliği de değişmektedir. Bina çatılarına optimum fotovoltaik panel eğim açısı ile yapılan kurulumlarında maksimum enerji elde edilir ancak bazı binaların konumu ve çatı yüzey alanı buna uygun değildir. Bu durumlarda binaların dikey cepheleri alternatif bir çözümdür. Ancak bu uygulamalarda binaların cephe yönü enerji verimliliğini önemli ölçüde etkilemektedir. Bu çalışmada bir binanın güney cephesi yerine, doğu ve batı cephesine entegre edilecek fotovoltaik panellerin enerji verimliliği PV Sol simülasyon programı kullanılarak analiz edilmiştir. Yapılan simülasyon çalışmasının sonuçlarına bağlı olarak; binanın güney cephesine dikey fotovoltaik panel uygulaması ile yıllık 47694 kWh toplam enerji elde edilirken, batı cephesinde 39687 kWh ve doğu cephesinde 39865 kWh enerji üretimi tespit edilmiştir. Bu sonuçlara göre; mevcut bina için fotovoltaik panellerinde güney cephesi yerine, doğu veya batı cephelerinde uygulanması halinde toplam enerji üretiminin %17 civarında azalacağı öngörülmüştür.

Anahtar Kelimeler: Enerji, Fotovoltaik Panel, Bina Cephesi, Enerji Verimliliği.

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PERDELERİ PLANDA DIŞ VE ORTA BÖLÜMLERDE BULUNAN YAPILARDA FARKLI TİPLERDEKİ ASMA KAT YÜKSEKLİĞİNİN DAVRANIŞA ETKİSİ

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ÖZET

Türkiye'nin büyük bir bölümü, yüksek deprem riski taşıyan fay hatlarıyla çevrilidir ve nüfusun önemli bir kısmı bu fay hatlarına yakın bölgelerde yaşamaktadır. Bu nedenle, betonarme yapıların en güvenli ve en ekonomik şekilde optimum davranış göstermesi beklenmektedir. Betonarme yapılarda, taşıyıcı ve taşıyıcı olmayan elemanların oluşturduğu sabit ve hareketli yükler düşey yükleri meydana getirirken, bu yapılar aynı zamanda yatay yükler altında da yeterli dayanımı sağlamalıdır. Depremler, önemli yatay yükler oluşturarak yapı güvenliğini etkileyen en kritik faktörlerden biridir. İnşaat tekniklerindeki ilerlemelerle birlikte, konut ve ticari alanların tek bir yapıda birleştirildiği karma yapıların kullanımı oldukça yaygın hale gelmiştir. Bu çalışmada, zemin katında asma kat bulunan yapıların deprem davranışları incelenmiş ve gelecekte bu tür betonarme çerçeveli, çok katlı yapıların tasarımı için bir kaynak oluşturulması amaçlanmıştır. Çeşitli asma kat tiplerine sahip yapıların analizleri gerçekleştirilerek, bu yapı farklılıklarının deprem performansı üzerindeki etkileri değerlendirilmiştir. Bu çalışmada, model yapıların normal kat yükseklikleri 3 metre, zemin kat yükseklikleri 6,5 metre olarak belirlenmiş; asma kat yükseklikleri ise her bir tip için iki farklı şekilde, 3,5-3 metre ve 4-2,5 metre olarak tasarlanmıştır. Asma katlar, B ve D olmak üzere iki farklı tipte oluşturulmuştur. Verilen örneklere dayanarak toplamda 4 farklı model geliştirilmiş ve bu modeller SAP2000 programı kullanılarak üç boyutlu şekilde modellenmiştir. Taşıyıcı elemanlar TBDY 2018'e göre minimum sınırları sağlayacak şekilde boyutlandırılmıştır. Yapıların analizi, Eşdeğer Deprem Yükü Yöntemi ile gerçekleştirilmiştir. Çalışmanın sonunda analizlerden elde edilen veriler kullanılarak; modellenen yapıların; hâkim periyodu, yumuşak kat düzensizliği, "taban kesme kuvvetleri- tepe noktası yer değiştirmesi" grafikleri çizilerek, model yapıların yapısal davranışları karşılaştırılmıştır.

Anahtar Kelimeler: Perdeli-Çerçeveli Yapı, Periyot, Tepe Noktası Deplasmanı.

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PERDELERİ PLANDA DIŞ VE ORTA BÖLÜMLERDE BULUNAN YAPILARDA FARKLI TİPLERDEKİ ASMA KAT YÜKSEKLİĞİNİN DAVRANIŞA ETKİSİ

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ÖZET

Türkiye'nin büyük bir bölgesi, yüksek deprem riski taşıyan fay hatlarıyla çevrili olup, nüfusun büyük bir kısmı bu fay hatlarına yakın bölgelerde yaşamaktadır. Bu durum, betonarme yapıların en güvenli ve en ekonomik şekilde optimum performans sergilemesini gerektirmektedir. Betonarme yapılarda taşıyıcı ve taşıyıcı olmayan elemanların oluşturduğu sabit ve hareketli yükler düşey yükleri meydana getirirken, aynı zamanda bu yapılar yatay yükler altında da yeterli dayanımı gösterebilmelidir. Depremler, yapı güvenliğini etkileyen en kritik unsurlardan biri olup, önemli yatay yükler meydana getirir. İnşaat tekniklerindeki gelişmelerle birlikte, konut ve ticari alanların tek bir yapıda birleştirildiği karma yapıların kullanımı giderek yaygınlaşmıştır. Bu çalışmada, zemin katında asma kat bulunan yapıların deprem davranışları incelenmiş ve gelecekte bu tür betonarme çerçeveli çok katlı yapıların tasarımına yönelik bir kaynak oluşturulması hedeflenmiştir. Farklı asma kat tiplerine sahip yapıların analizleri yapılmış ve bu farklılıkların deprem performansı üzerindeki etkileri değerlendirilmiştir. Bu çalışmada, model yapıların normal kat yükseklikleri 3 metre, zemin kat yükseklikleri 6,5 metre olarak belirlenmiş; asma kat yükseklikleri ise her bir tip için iki farklı şekilde, 3,5-3 metre ve 4-2,5 metre olarak tasarlanmıştır. Asma katlar, B ve D olmak üzere iki farklı tipte oluşturulmuştur. Verilen örneklere dayanarak toplamda 4 farklı model geliştirilmiş ve bu modeller SAP2000 programı kullanılarak üç boyutlu şekilde modellenmiştir. Taşıyıcı elemanlar TBDY 2018'e göre minimum sınırları sağlayacak şekilde boyutlandırılmıştır. Yapıların analizi, Eşdeğer Deprem Yükü Yöntemi ile gerçekleştirilmiştir. Çalışmanın sonunda analizlerden elde edilen veriler kullanılarak; modellenen yapıların; hâkim periyodu, yumuşak kat düzensizliği, "taban kesme kuvvetleri- tepe noktası yer değiştirmesi" grafikleri çizilerek, model yapıların yapısal davranışları karşılaştırılmıştır.

Anahtar Kelimeler: Perdeli-Çerçeveli Yapı, Eşdeğer Deprem Yükü Yöntemi, Yapısal Davranış.

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MOMENT END-PLATE CONNECTION: BASIC FUNDEMENTALS OF DESIGN PROCEDURE

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ABSTRACT

A moment end-plate connection (MEPC) consists of a steel plate welded to the end of a beam and attached to another member using rows of fully tensioned, high-strength bolts. These connections can be flush and extended and are classified based on the bolt arrangements and stiffeners. Flush connections are compact suitable for light lateral loads. Extended connections have plates extending beyond the tension flange, allowing bolts outside the flanges and optionally using stiffeners for greater strength. This study considers the extended end plate-moment connections in a way of firstly separating the its fundamental components and then examining them as a unified-single connection in a chronological order. Thus, the advantages and disadvantages of moment end-plate-moment connections are correspondingly laid out in a way of including an introduction of their governing jargon terms.

Key Words: End-Plate, Moment Connection, Design

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COMPARISON OF BEARING CAPACITIES FOR STRIP, SQUARE AND CIRCULAR SHALLOW FOUNDATIONS ON SOILS WITH TERZAGHI METHOD BY CALCULATING IN EXCEL PROGRAM

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Abstract

Good foundation design is a design that will fulfill the expected function under all adverse conditions and changes. The failed application is usually due to the calculation and acceptance of the bearing capacity of the soils. Using many equations and parameters to calculate bearing capacities for soils causes errors, and difficulties in calculations thus was useful to calculate by Excel program. In this study, it was aimed to compare the bearing capacity of stripe, square circular and shallow foundations on soils by the Terzaghi method calculating the Excel program. For this, the parameters of width, length and depth of foundation, the cohesion, internal friction angle, and unit volume weight of soil, load slope angle and safety factor were used. The bearing capacity component values for the strip foundation from largest to smallest decreases as sc, sq and sγ. The component values of the bearing capacity for the square foundation and the circular foundation decreases same as those for the strip foundation again although the amount varies. The sc values in square and circular foundations are the same and but in strip foundations it is smaller than those in square and circular foundations. The second component of the bearing capacity, sq, is equal in all types of foundation. The third component value of the bearing capacity, sγ, decreases as in strip, square and circular foundations, respectively. Their ultimate and allowable bearing capacities increase as strip, circular and square foundations respectively, although the amount varies. It is more appropriate to calculate the bearing capacity for soil with the Terzaghi method at the beginning as it provides the first prediction. In conclusion, except for calculation with the Terzaghi method, individual other methods or the average of the entire methods of bearing capacity can also use according to the aimed structure.

Keywords: Terzaghi method, strip foundation, square foundation, circular foundation, ultimate bearing capacity, allowable bearing capacity, soil.

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COMPARISON OF BEARING CAPACITIES WITH TERZAGHI AND MEYERHOF METHOD FOR SHALLOW FOUNDATIONS ON SOILS

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ABSTRACT

In this study, it was aimed to compare the bearing capacity of shallow foundations on soils with the Terzaghi and Meyerhof method. For this, the parameters of width, length and depth of foundation, the cohesion, internal friction angle, and unit volume weight of soil, load slope angle and safety factor were used. While only shape factor affect by all component of cohesion, surcharge and lithology of the bearing capacity formula in the Terzaghi method, in the Meyerhof method, depth and inclination factors as well as the shape factor are effective in the bearing capacity formula. The first, second and third values of the bearing capacity for soils according to Meyerhof from largest to smallest decreases as cohesion, surcharge and lithology component for each Ø, Ø=0 and Ø≥0 values, although the amount varies. The ultimate and allowable bearing capacities according to Meyerhof increase as for each Ø, Ø=0 and Ø≥0 values respectively. Meyerhof bearing capacity value for Ø≥0 is greater than Terzaghi value, others are smaller the value for each Ø and Ø=0. Bearing capacity values of Meyerhof for each Ø and Ø=0 is smaller than those Terzaghi except that for Ø≥0. The Meyerhof method has more parameters and is more useful to use in comparison with the Terzaghi method to calculate bearing capacity for soils.

Keywords: Terzaghi method, ultimate bearing capacity, Meyerhof method.

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Kimyasal Üretim Süreçlerinde Hata Tahminleme: Makine Öğrenimi Algoritmalarının Karşılaştırmalı Performansı

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ÖZET

Kimyasal üretim süreçlerinde hata tahminleme, üretim verimliliğini artırmak, ürün kalitesini iyileştirmek ve maliyetleri azaltmak açısından kritik bir öneme sahiptir. Bu çalışmada, bir üretim sürecini temsil eden sıcaklık, basınç, debi, üretim hızı, kimyasal bileşim oranı ve cihaz durumu gibi özelliklerden oluşan bir veri seti kullanılarak, hata tahminleme performanslarını değerlendirmek amacıyla beş farklı makine öğrenimi algoritması incelenmiştir. İncelenen algoritmalar arasında Rastgele Orman, Çok Katmanlı Algılayıcı, K-En Yakın Komşu, Destek Vektör Makineleri ve Lojistik Regresyon yer almaktadır. Bu algoritmalar, kesinlik, duyarlılık ve F1-skor gibi ölçütlerle değerlendirilmiş ve her bir algoritmanın hata tahminleme başarımı karşılaştırılmıştır. Sonuçlar, Rastgele Orman algoritmasının F1-skor değerinde 0.88889 ile en iyi performansı sergilediğini, Destek Vektör Makineleri ve Lojistik Regresyon algoritmalarının ise özellikle duyarlılık ölçütlerinde düşük performans gösterdiğini ortaya koymaktadır. Çalışma, üretim hatalarının erken tespiti ve hızlı müdahalesi için Rastgele Orman gibi topluluk öğrenme yöntemlerinin etkin bir şekilde kullanılabileceğini göstermektedir. Bunun yanı sıra, makine öğrenimi algoritmalarının seçiminin, üretim süreçlerindeki spesifik ihtiyaçlara ve veri yapısına bağlı olarak değişebileceği vurgulanmıştır. Ayrıca, diğer algoritmaların performans eksiklikleri tartışılmış ve bu eksikliklerin giderilmesine yönelik öneriler sunulmuştur. Bu bulgular, endüstriyel süreçlerde makine öğrenimi tabanlı hata tespit sistemlerinin, üretim süreçlerinin dijitalleşmesinde kilit bir rol oynayabileceğini göstermekte ve araştırmacılar için önemli bir rehber niteliği taşımaktadır. Gelecekteki çalışmaların, daha geniş veri kümeleri ve gerçek zamanlı analizlerle desteklenmesi, bu sistemlerin güvenilirliğini ve uygulanabilirliğini artıracaktır.

Anahtar Kelimeler: Makine Öğrenimi Algoritmaları, Hata Tahminleme, Kimyasal Üretim Süreçleri, Endüstriyel Veri Analitiği.

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FAULT PREDICTION IN WIND TURBINES WITH MACHINE LEARNING ALGORITHMS

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ABSTRACT

Wind turbines play a significant role in modern energy production systems. The efficient operation of these turbines is one of the fundamental requirements for sustainable energy generation. However, mechanical or electrical failures in turbines can lead to production losses, thereby reducing operational efficiency. In this study, the performance of various machine learning algorithms was analyzed for early fault prediction in wind turbines. The algorithms were trained using sensor data such as wind speed, vibration, and generator temperature and were evaluated based on precision, recall, and F1-score metrics. The algorithms used in the study include Random Forest, Extra Trees, Bagging, Gradient Boosting, Decision Tree, K-Nearest Neighbor, Naive Bayes, Support Vector Machine, Logistic Regression, and Multi-Layer Perceptron. These algorithms were compared to improve the accuracy of fault prediction in wind turbines. Experimental results demonstrate the effectiveness of each algorithm in fault prediction, with the Random Forest algorithm achieving the highest F1-score. The results serve as a valuable guide for optimizing wind turbine maintenance processes and predicting failures in advance. This study highlights the applicability of machine learning methods in enhancing the efficiency of wind turbine maintenance.

Keywords: Wind Turbine, Fault Prediction, Machine Learning Algorithms, Sensor Data Analysis, Predictive Maintenance.

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MONTE CARLO SIMULATIONS FOR SVM HYPERPARAMETER OPTIMIZATION AND PERFORMANCE EVALUATION

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ABSTRACT

In this study, a Monte Carlo simulation was implemented to evaluate the performance of the Support Vector Machine (SVM) algorithm and optimize its hyperparameters. Each simulation was conducted on randomly generated datasets with varying hyperparameter values to determine the optimal model parameters. The initial values of hyperparameters were randomly assigned based on a predefined distribution, ensuring a diverse exploration of potential configurations. The simulation utilized the radial basis function (RBF) kernel, and the penalty parameter (C) and kernel parameter (gamma) were iteratively optimized across 100 simulations for each dataset.

The datasets were generated by drawing two independent variables from a standard normal distribution, while the dependent variable was formulated based on their summation, creating a class boundary. A min-max normalization was applied, and datasets with sample sizes of 100, 300, and 500 were simulated, each with 100 independent datasets. The training and test sets were split in a 70:30 ratio, and 10-fold cross-validation was employed for model training. The optimal hyperparameters were determined based on the highest classification accuracy obtained across different datasets.

The results indicate that while similar optimal hyperparameter values were frequently observed, variations across datasets highlighted the necessity of dynamic tuning. The most frequently observed optimal values for C and gamma differed depending on the dataset size. These findings emphasize the effectiveness of Monte Carlo simulations in hyperparameter optimization, demonstrating their ability to enhance SVM model performance through systematic exploration.

Keywords: Machine Learning, Support Vector Machines, Hyperparameter Optimization, Monte Carlo Simulation

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THE IMPACT AND GROWTH OF DEEP LEARNING IN SCIENCE AND MEDICINE

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ABSTRACT

Deep learning has significantly transformed various scientific disciplines in recent years. In image processing and analysis, deep learning algorithms have surpassed other state-of-the-art methods. Similarly, in fields like autonomous driving, deep learning has outperformed previous approaches, achieving remarkable success. In some cases, such as object recognition and gaming, deep learning models have even exceeded human performance. The medical field is also experiencing the vast potential of deep learning. With the increasing collection of large-scale patient data and the shift toward personalized treatments, there is a growing need for automated and reliable health data processing and analysis. Patient information is now gathered not only in clinical settings such as hospitals and private practices but also through mobile healthcare applications and online platforms. The surge in patient data collection, combined with advances in deep learning, has fueled a significant increase in research. As deep learning continues to expand across medical subfields, keeping up with the breadth of research is becoming increasingly difficult. Despite these challenges, numerous review and survey articles have been published in recent years, typically focusing on specific medical applications such as the analysis of medical images for disease detection. Building on these existing surveys, this article aims to present the first high-level, systematic meta-review of deep learning research in the medical domain.

Keywords : Deep Learning, Image Processing, Healthcare Data Analysis, Personalized Medicine, AI in Healthcare

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COVID-19'UN BESLENME DAVRANIŞINA ETKİSİ: MANİSA CELAL BAYAR ÜNİVERSİTESİ ÖRNEĞİ[1]

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ÖZET

Bu çalışmanın amacı COVID-19 pandemisi öncesi, sırası ve sonrası olmak üzere üç dönemde beslenme davranışı değişikliklerinin incelenmesidir. Bu amaçla pandemide çevrimiçi eğitim sürecine geçiş yapan lisans öğrencileri araştırmaya dahil edilmiştir. Araştırma Manisa Celal Bayar Üniversitesi İktisadi ve İdari Bilimler Fakültesi'nde yürütülmüştür. Öğrencilere 2024-2025 eğitim öğretim dönemi güz yarıyılında beslenme alışkanlıkları anketi uygulanmıştır. Araştırmaya 7 farklı bölümden yaklaşık olarak 800 öğrenci katılmıştır. Araştırmanın sonucunda, üç dönemde karşılaştırılan öğrenci beslenme alışkanlıkları üzerinde pandeminin etkisi gerek tüketilen gıdalar gerekse beslenme davranışının şekli bakımından olmak üzere birçok açıdan ortaya konulmuştur.

Anahtar Kelimeler : Beslenme, Pandemi, Üniversite.

[1]Bu çalışma, TÜBİTAK-2209/A Üniversite Öğrencileri Araştırma Projeleri Desteği Programı kapsamında desteklenmektedir.

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HİDROELEKTRİK ENERJİ BİLGİLERİNİN TASARLANAN BİR İNTERNET SİTESİ İLE İNCELENMESİ[1]

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ÖZET

Bu çalışmada, modellenen hidroelektrik enerji verilerinin tasarlanan bir web sitesi üzerinde kodlanarak görselleştirilmesi amaçlanmıştır. Bu amaçla Enerji Piyasaları İşletme A.Ş. (EPİAŞ) Şeffaflık Platformu tarafından paylaşılan Türkiye'de farklı coğrafi bölgelerde yer alan bazı hidroelektrik santrallerin verileri kullanılmıştır. Hidroelektrik enerji verileri zaman ve kesit boyutuyla dikkate alınarak panel veri analizi gerçekleştirilmiştir. Sonuç olarak bölgeler bazında günlük potansiyel üretim miktarları tahmin edilmiştir. Çalışma kapsamında başlığı ''Hidro Enerji Bilgi'' ve bağlantı adresi ''https://hidroenerjibilgi.com'' şeklinde olan web sitesi tasarlanmış, bu sitede hidroelektrik enerji hakkında bilgiler verilmiş ve analiz bulguları paylaşılmıştır.

Anahtar Kelimeler : Hidroelektrik Enerjisi, Web Tasarımı, Panel Analiz

[1]Bu çalışma, TÜBİTAK-2209/A Üniversite Öğrencileri Araştırma Projeleri Desteği Programı kapsamında desteklenmektedir.

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HAVA ve SU KİRLİLİĞİ: SÜRDÜRÜLEBİLİRLİK İÇİN YENİLİKÇİ TEKNOLOJİLER ve YAPAY ZEKA UYGULAMALARI

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ÖZET

Hava ve su kirliliği, küresel ölçekte çevresel, ekonomik ve toplumsal açıdan ciddi tehditler oluşturmaktadır. Sanayileşme, kentleşme, fosil yakıt tüketimi, plastik ve kimyasal atıkların denetlenmeden doğaya bırakılması, su kaynaklarının sürdürülebilir bir şekilde yönetilememesi gibi etkenler bu kirlilik türlerinin artmasına neden olmaktadır. Hava kirliliği solunum yolu hastalıklarını artırırken, su kirliliği ise temiz içme suyuna erişimi zorlaştırarak küresel sağlık krizlerine yol açmaktadır. Geleneksel kirlilik izleme yöntemleri yetersiz kalırken, yapay zeka (YZ) tabanlı teknolojiler hava ve su kirliliğini tespit etmek, tahmin etmek ve önlemek için güçlü araçlar sunmaktadır. IoT tabanlı sensör ağları, uydu görüntüleme sistemleri, makine öğrenmesi ve derin öğrenme algoritmaları ile çevresel veriler daha hızlı ve hassas bir şekilde analiz edilebilmektedir. Hava kirliliği açısından, YZ destekli hava kalitesi izleme sistemleri, sanayi emisyonları, trafik yoğunluğu ve meteorolojik değişkenleri analiz ederek kirlilik seviyelerini tahmin edebilir. Su kirliliği konusunda ise, IoT tabanlı akıllı sensörler, su kaynaklarındaki kimyasal ve biyolojik kirleticileri gerçek zamanlı olarak tespit ederek su kalitesinin korunmasına yardımcı olmaktadır. Bu çalışmada, hava ve su kirliliğinin nedenleri ve etkileri ele alınmış, geleneksel mücadele yöntemlerinin yetersizlikleri ortaya konmuş ve YZ destekli yenilikçi çözümler detaylandırılmıştır. YZ tabanlı izleme ve tahmin sistemlerinin, çevresel sürdürülebilirliği artırmada nasıl kullanılabileceği incelenmiş ve gelecekte bu teknolojilerin daha yaygın hale getirilerek çevre yönetiminde nasıl devrim yaratabileceği tartışılmıştır.

Anahtar Kelimeler: Hava ve Su Kirliliği, Yapay Zeka Destekli Çevre Yönetimi, Sürdürülebilir Çevre Politikaları

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DIAGNOSIS OF EARLY PREGNANCY IN DAIRY COWS THROUGH ULTRASONIC AND PROGESTERONE ANALYSIS

Suresh A. Kumar, Assam Agricultural University- India
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Abstract:
This research evaluates the use of ultrasonography and plasma progesterone levels for diagnosing early pregnancy in dairy cows. The study involved monitoring the corpus luteum (CL) size and plasma progesterone concentrations on days 14 and 20-23 post-insemination in both pregnant and non-pregnant Holstein cows. The results indicated that while no significant difference was found on day 14, a clear distinction was observed between pregnant and non-pregnant cows on days 20-23, with pregnant cows showing larger CL areas and higher progesterone levels. The study also established a significant correlation between CL size and progesterone levels in non-pregnant cows, suggesting that ultrasonography can be a reliable method for early pregnancy diagnosis in dairy cows, offering a non-invasive alternative to blood tests.
Keywords: Ultrasonography, corpus luteum, progesterone, early pregnancy diagnosis, dairy cows.

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EFFECT OF OVERFEEDING ON PERFORMANCE AND FOIE GRAS QUALITY IN TWO DUCK SPECIES

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Abstract:
In this study, 60 male mule ducks and 60 male Muscovy ducks were divided into three groups (n = 20) to investigate the effects of overfeeding with two and four meals per day versus ad libitum feeding on productive performance, foie gras production, organ weights, and blood parameters. The results revealed that overfeeding with four meals significantly increased body weight, weight gain, and gain percentage when compared to two meals. Both overfeeding treatments (two or four meals) resulted in higher body weight and carcass weight than ad libitum feeding; however, carcass percentage was higher in the ad libitum group. Mule ducks exhibited higher weight gain than Muscovy ducks. Additionally, the four-meal regime resulted in higher liver weight and foie gras quality, with a higher percentage of grade A foie gras (62.5%) compared to the two-meal regime. Overfeeding did not significantly alter blood parameters but increased organ weights, especially liver and abdominal fat. Notably, Muscovy ducks had a higher mortality rate (22.5%) compared to mule ducks (0%).
Keywords: Foie gras, overfeeding, ducks, productive performance.

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COPPER AND ZINC SUPPLEMENTATION IN DAIRY COWS: IMPACT ON MILK PRODUCTION IN ROMANIA

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University of Bucharest, Bucharest - Romania

Abstract:
A feeding trial was conducted over 20 weeks with 40 Holstein-Friesian lactating cows, divided into four groups (copper, zinc, copper-zinc, and control) to examine the effects of copper and zinc supplementation on milk production and health indicators. The results demonstrated that copper and zinc supplementation significantly increased plasma levels of these minerals ($P < 0.05$), particularly during the peak lactation period. Cows receiving the supplements showed improved milk yield, peak yield, fat, and crude protein content. A positive correlation ($P = 0.007$, $r = +0.851$) was found between plasma zinc levels and milk production. Furthermore, supplemented cows exhibited fewer somatic cells in milk, indicating better health and milk quality. The study suggests that improving the cows' nutritional status with copper and zinc supplementation enhances both milk production and overall health.
Keywords: Copper, dairy cows, health, milk production, zinc

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SALT TOLERANCE IN DATE PALM CULTIVARS UNDER CONTROLLED CONDITIONS

Yusuf Al-Farsi, Rami Zayed
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Abstract:
This study investigated the salt tolerance of five tissue-cultured date palm varieties—Al-Ahamad, Nabusaif, Barhee, Khalas, and Kasab—under greenhouse conditions with varying irrigation water salinity (1.6, 5, 10, and 20 dS/m). The control salinity level was 1.6 dS/m. Results indicated that Khalas, Kasab, and Barhee were able to tolerate salinity levels up to 10 dS/m, while Khalas showed the highest tolerance, surviving even at 20 dS/m. In contrast, Nabusaif was the least tolerant. As salinity increased, palm height and the number of fronds decreased. These findings provide valuable insights into the salinity tolerance of different date palm cultivars, which is crucial for agricultural sustainability in saline environments.
Keywords: Date palm, salinity, tissue culture, salt tolerance, Kuwait.

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POTATO CULTIVAR PERFORMANCE FOR SNACK PRODUCTION USING MICROWAVE-VACUUM DRYING

Prof. Dr. Chike Obi, Dr. Nneka Eze
University of Nigeria, Nsukka - Nigeria

Abstract:
This study aimed to evaluate the effects of different potato cultivars on the quality of dried potato chips and sticks using a microwave-vacuum drying method. Potatoes were pre-blanched in oil and water at 180ºC and 85ºC, respectively, before drying. Parameters such as moisture content, crispiness, color (CIE L*a*b*), ascorbic acid content, carotenoids, and fat content were analyzed. Among the cultivars tested, Gundega showed the highest ascorbic acid and carotenoid content, along with low fat and acrylamide content. It also exhibited better crispiness, particularly in the production of sticks. These findings highlight the importance of cultivar selection for producing high-quality potato-based snacks using advanced drying techniques.
Keywords: Potato, chips, sticks, vacuum-microwave drying, cultivar.

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USE OF AVIAN VACCINES AS MITOGENS IN T-LYMPHOCYTE ACTIVATION TESTING

Ahmed El-Din, Farida Boushaki
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Abstract:
This study investigated the use of avian tuberculin, tetanus immunoglobulin, and DPT vaccines as in vivo T-lymphocyte mitogens in Gallus domesticus broiler chickens. Five replicates of each vaccine concentration (0.05 IU) were tested using skin indurations and lymphoblast percentages in bone marrow lymphocytes as evaluation parameters. The results showed that tuberculin, tetanus immunoglobulin, and DPT vaccine concentrations induced varying degrees of mitogenicity. Tetanus immunoglobulin showed the highest skin indurations, followed by DPT and tuberculin. These findings suggest that these vaccines can be used as mitogens for evaluating T-lymphocyte activation in avian species.
Keywords: DPT, Mitogenicity, Tetanus, immunoglobulin, Tuberculin.

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DEVELOPMENTAL CHANGES IN RABBIT DUODENAL MUCOSA-SUBMUCOSA: A MORPHOLOGICAL STUDY

Mohammad Ali, Samira Tarek
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Abstract:
This research examined the sequential morphological changes in the duodenal mucosa-submucosa of rabbits, from the primordial stage to maturity. The study was conducted using light, scanning, and transmission electron microscopy on 15 fetal rabbits and 21 newborns. The duodenum developed from a simple tube of stratified epithelium to one containing villus and intervillus regions of simple columnar epithelium. The first rudimentary villi appeared by day 21 of gestation, and true villi by day 24. The Crypts of Lieberkuhn developed postnatally, with histological maturity occurring one month after birth. These developmental changes support the duodenum's physiological needs for extrauterine life.
Keywords: Duodenum, mucosa, submucosa, morphogenesis, rabbit.

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ENERGY DEMAND AND EFFICIENCY IN HISTORIC URBAN DISTRICTS: A STUDY OF BUDAPEST'S 7TH DISTRICT

Sami Temesgen, Miriam Tesfaye, Halimah Musa
Addis Ababa University - Ethiopia

Abstract:
The 7th district of Budapest, formerly known as the Jewish Quarter, is characterized by high-density, multi-story tenement buildings that date back to historical periods. This district faces significant energy challenges due to its architectural style and population density. The study explores energy consumption patterns in the area and assesses how building structures contribute to overall energy demand. Using Geographic Information System (GIS) tools, we analyzed the energy efficiency of these buildings and estimated carbon emissions. Our findings highlight the potential for energy reduction through integrated rehabilitation strategies that include both structural and energetic improvements. A key outcome of the research is the creation of an energy intensity map, which provides a visual representation of energy consumption and offers a basis for targeted interventions to optimize energy use in this historic district.
Keywords: energy demand, energy efficiency, carbon emissions, historic buildings, GIS, energy intensity map, Budapest.

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CULTURAL AND ARCHITECTURAL PRESERVATION IN THE UCH DUKKAN NEIGHBORHOOD OF ARDABIL, IRAN

Javad Vali, Nazanin Ehsan
University of Isfahan - Iran

Abstract:
The Uch Dukkan neighborhood in Ardabil, Iran, is a culturally rich area that reflects the historical and social transformations of the region. This paper examines the preservation of this neighborhood, which has undergone various changes over the years due to urbanization and modern interventions. The research investigates the effects of these transformations on the neighborhood's social sustainability and environmental quality. Using archival research and field surveys, the study explores the physical and social changes that have affected the collective memory and social identity of the area. It highlights the role of historical urban patterns in fostering community engagement and social sustainability. The findings underscore the importance of integrating the preservation of both physical spaces and social memories in maintaining the vitality and cultural heritage of urban neighborhoods.
Keywords: social sustainability, urban preservation, cultural heritage, neighborhood transformation, collective memory, Iran.

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DEVELOPING ENERGY EFFICIENCY BENCHMARKS FOR ONTARIO'S POST-SECONDARY EDUCATION FACILITIES

Ibrahim Hassan, Maria Khanna
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Nepal Engineering College - Nepal

Abstract:
With growing concerns about carbon emissions and energy consumption, the importance of establishing energy benchmarks for buildings is increasing. This study utilizes publicly available energy data from Ontario's Ministry of Energy to develop energy and emissions benchmarks for post-secondary institutions. By analyzing mandatory energy and emissions reporting data, the research aims to create a dynamic building load profile that can inform energy-efficient design and urban energy modeling. The study focuses on residences in Ontario's educational institutions, identifying key factors such as building age, size, and occupancy schedules that affect energy use. Our findings emphasize the need for robust data cleaning, statistical analysis, and model validation to ensure that the benchmarks are accurate and effective in guiding future energy policies.
Keywords: energy benchmarks, carbon emissions, energy consumption, data analysis, Ontario, building archetypes.

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RETROFITTING COLLECTIVE HOUSING WITH PREFABRICATED PANELS FOR SUSTAINABILITY

Tarek Ahmed, Laila Mohamed
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National University of Mongolia - Mongolia

Abstract:
In Romania, a significant portion of the urban population lives in residential buildings constructed with large prefabricated concrete panels, a design that dates back to the 1960s. These buildings are now energy-inefficient and inadequate for modern living standards. This paper explores an adaptive design solution to retrofit these buildings, focusing on energy efficiency improvements while meeting current living requirements. By introducing solar energy systems on the roofs and enhancing the thermal envelope, the proposal aims to transform outdated buildings into energy-efficient units. Additionally, the integration of smart grid technology is discussed, allowing these buildings to participate in micro-generation and energy storage systems. The study highlights the potential for adaptive reuse of existing infrastructure to achieve sustainability goals while improving residents' quality of life.
Keywords: energy efficiency, prefabricated panels, retrofitting, adaptive design, sustainability, smart grid.

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SUSTAINABILITY IN PUBLIC HOUSING: FINANCIAL AND OPERATIONAL PERSPECTIVES IN TAIWAN

Chen Wei, Hiroshi Tanaka
National Taiwan University - Taiwan
Nagoya University - Japan

Abstract:
In Taiwan, public housing projects from the 1980s have experienced significant deterioration due to a lack of maintenance and design foresight. This paper presents a design evaluation method to assess the sustainability of public housing, focusing on financial and property management perspectives. The methodology incorporates operational factors such as spatial organization and circulation, as well as financial analyses of operational costs, maintenance expenses, and rental income. Using the ongoing Chung-Li Public Housing Project as a case study, the paper demonstrates how design schemes can be evaluated for long-term feasibility. The research highlights the need for a balanced approach to design and management in public housing to ensure both operational efficiency and financial sustainability.
Keywords: public housing, sustainability, design evaluation, property management, financial feasibility, Taiwan.

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VERTICAL FARMING: A SUSTAINABLE APPROACH TO URBAN AGRICULTURE IN GREEN BUILDING DESIGN

Aminata Toure, Rasha Khoury,

Tarek Alim University of Nairobi – Kenya

Abstract:

This paper explores the role of vertical farming in promoting urban sustainability through green building practices. In the face of rapid urbanization and the challenges of food security, vertical farming is presented as a transformative solution. By utilizing hydroponic and aeroponic systems within multi-story buildings, vertical farming reduces the spatial limitations typically associated with traditional agriculture. The integration of green building principles ensures that vertical farms can operate efficiently, utilizing renewable energy sources such as solar power and water recycling systems. The study highlights the potential of vertical farming to contribute to urban food security, reduce food miles, and improve the environmental sustainability of cities. This method not only supports urban agriculture but also serves as a model for developing sustainable, self-sufficient cities in the future. The paper concludes with recommendations for policy implementation to foster vertical farming in urban design.

Keywords: Vertical farming, sustainable urban agriculture, green building, food security.

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ENERGY EFFICIENCY RETROFITTING FOR HERITAGE BUILDINGS IN COLD CLIMATES

Lucia Agusto,

Nikolai Samarin University of Cape Town – South Africa

Abstract:

The challenge of retrofitting Kazakhstan's aging residential buildings, constructed during the Soviet era, for energy efficiency is explored in this paper. Most of these structures, built 35 to 60 years ago, are poorly insulated and fail to meet modern standards of comfort and energy efficiency. The study examines strategies to retrofit buildings constructed prior to 1989, with a focus on the specific challenges posed by the cold climate of Kazakhstan. Using two-dimensional heat transfer analysis, the authors evaluate various insulation and energy-efficient solutions that can be applied to improve the building envelope while maintaining the structural integrity of these historic homes. The findings suggest a combination of modern insulating materials, window replacements, and energy-efficient HVAC systems as practical solutions for extending the lifespan and improving the energy performance of these buildings.

Keywords: Energy efficiency, retrofitting, Kazakhstan, cold climate, building envelope.

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DESIGN OF IMPROVED REPLACEABLE LINKS IN ECCENTRICALLY BRACED FRAMES FOR EARTHQUAKE RESILIENCE

Rajesh Kumar, Yung Yoon Kim, Li Wei Zhang Seoul National University of Science and Technology – South Korea

Abstract:

Eccentrically braced frames (EBFs) are widely recognized for their superior performance during seismic events due to their high elastic stiffness, stable inelastic response, and excellent energy dissipation capacity. This paper introduces a new design for replaceable links in EBFs, focusing on the reduction of web section to enhance performance and ease of maintenance post-earthquake. The study proposes design equations for these links, which aim to improve the EBF's performance during and after seismic events by allowing for easy replacement of damaged components. A nonlinear finite element analysis was conducted to assess the behavior of the proposed links under earthquake-induced loads. The results demonstrate that these improved replaceable links could significantly reduce the maintenance costs and downtime associated with post-earthquake repairs, thus enhancing the overall resilience of the structure.

Keywords: Earthquake resilience, eccentrically braced frames, replaceable links, seismic design.

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MODERN URBAN DEVELOPMENT IN YANBU: A COMPARATIVE STUDY OF TRADITIONAL AND CONTEMPORARY PLANNING APPROACHES

Mona Al Shamma

, Ahmed Hossam University of Cairo – Egypt

Abstract:

The urban development of Yanbu, Saudi Arabia, presents a unique case study of the integration of traditional architectural practices with modern city planning principles. Over the past century, the rapid expansion of urban areas around historical settlements like Yanbu has led to significant changes in urban structures. This paper examines how the modern city planning approach, with its focus on technological innovation and economic growth, contrasts with the traditional urban design rooted in cultural and environmental considerations. It delves into the socio-economic implications of these changes, analyzing how new developments have altered the living conditions of the local population. The study also highlights the challenges of reconciling traditional norms such as gender segregation and environmental harmony with the demands of globalization. Ultimately, the paper calls for a balanced approach that integrates the strengths of both traditional and modern urban planning to ensure the long-term sustainability of cities like Yanbu. **Keywords:** Yanbu, urban planning, traditional architecture, Saudi Arabia, sustainability.

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HEARTBEAT CLASSIFICATION USING CONVOLUTIONAL NEURAL NETWORKS FOR ECG SIGNAL ANALYSIS IN MEDICAL DIAGNOSIS

Lec. Dr. Ahmad Raza,

Fatima Al-Salem University of Bahrain – Bahrain

Abstract:

The application of convolutional neural networks (CNN) in the classification of heartbeats from electrocardiogram (ECG) signals is explored in this paper. With cardiovascular diseases being a leading cause of death globally, the need for efficient diagnostic tools is paramount. Traditional manual methods for ECG signal analysis are time-consuming and prone to human error. This study evaluates the performance of various deep learning models in classifying heartbeats into five distinct categories using the MIT-BIH Arrhythmia dataset. The results show that the ResNet-50 CNN model outperforms other models, achieving a recall score of 98.88% and an F1 score of 98.87%. Additionally, the 1-D CNN model displayed the highest average precision. These findings suggest that deep learning algorithms, particularly CNNs, offer a promising approach to automating ECG signal analysis and improving diagnostic accuracy in medical settings. **Keywords:** ECG signals, heartbeat classification, convolutional neural networks, medical diagnostics.

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ASSESSING HIP MUSCLE IMBALANCE IN PATIENTS WITH RHEUMATISM: A CLINICAL STUDY

Lina Liao,

Han Zhiqiang Zhejiang University of Technology – China

Abstract:

This clinical study investigates the presence of hip muscular imbalances in patients with chronic rheumatism, a condition known to impair mobility and muscle function. The study involved 15 participants, including 10 patients with rheumatism and five healthy controls, aged between 45 and 65 years. Muscle activity was measured through electromyography (EMG) from the rectus femoris and vastus lateralis muscles on both sides of the hip. Key parameters such as maximum voluntary contraction (MVC%) and muscle fatigue were analyzed. The findings revealed significant imbalances in the muscle activation patterns of patients compared to the control group. Notably, patients exhibited higher MVC values and more pronounced muscle fatigue. These results underscore the need for targeted therapeutic interventions to address hip muscular imbalances in rheumatism patients and improve their mobility and quality of life.

Keywords: Rheumatism, hip muscular imbalance, electromyography, muscle fatigue, clinical study.

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DETECTING COGNITIVE DECLINE USING EMOTION RECOGNITION IN SPEECH: A LONGITUDINAL STUDY

Jinwoo Kim, Yoonhee Park, Sungho Lee, Minseok Choi
Seoul National University of Science and Technology, South Korea

Abstract:
Alzheimer's disease (AD) is a degenerative disorder that impairs cognitive function and results in difficulties with routine tasks. Early detection and continuous monitoring are crucial to manage its progression. In this study, we explore the potential of speech emotion recognition (SER) as a longitudinal biomarker for assessing the cognitive decline in AD patients. The primary focus is on detecting levels of frustration during picture-description tasks, as an indicator of cognitive difficulty. We employ an SER model trained on the IEMOCAP dataset, applying it to the DementiaBank data for longitudinal analysis. The study examines the correlation between frustration levels and Mini-Mental State Examination (MMSE) scores, demonstrating that SER can serve as a cost-effective, non-invasive method for monitoring disease progression. Our findings suggest that incorporating SER alongside traditional assessments like MMSE may enhance the accuracy of tracking AD's impact on cognitive function.

Keywords: Alzheimer's disease, Speech Emotion Recognition, cognitive monitoring, biomarkers, longitudinal study.

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DEVELOPING AN INEXPENSIVE IOT DEVICE FOR REMOTE HEALTH MONITORING

Rafael Oliveira, Pedro Costa, Clara Santos
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Abstract:
The advancement of telemedicine offers an effective solution to address the limitations of traditional healthcare, especially in underserved areas. This study proposes an affordable IoT-based health monitoring device for remote patient care. The device, equipped with multiple sensors and an Arduino microcontroller, collects biometric data such as heart rate, blood pressure, and oxygen levels. These data are transmitted to a cloud-based system, enabling real-time monitoring by healthcare professionals and family members. The system's compact design, with dimensions of 11×10×10 cm^3 and a weight of 500g, makes it highly portable and cost-efficient. Additionally, the device is equipped with a GPS module to ensure patient location tracking in emergencies. This research emphasizes the device's ability to reduce healthcare costs while improving accessibility to medical services for patients in remote locations.

Keywords: IoT, telemedicine, health monitoring, Arduino, cloud computing, GPS, remote healthcare.

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IMPROVING 3D CT SCAN RESOLUTION WITH MACHINE LEARNING BASED SUPER-RESOLUTION

Liu Yang
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Abstract:
Accurate airway segmentation from CT scans plays a vital role in early lung disease detection, particularly for conditions such as lung cancer. This research introduces a machine learning-based 3D super-resolution technique to improve the quality of CT scans without the need for thin-slice imaging. We developed a set of algorithms to enhance the resolution of thicker CT scans, using heterogeneous dimensions. The performance of the super-resolution algorithms was evaluated through metrics such as Peak Signal-to-Noise Ratio (PSNR) and Structural Similarity Index (SSIM). Results show that the proposed approach significantly improves airway segmentation accuracy, which could lead to more accessible and cost-effective methods for diagnosing lung diseases. This method holds promise for reducing reliance on high-resolution CT scans, making early detection more affordable.

Keywords: 3D super-resolution, airway segmentation, machine learning, CT scans, lung cancer detection.

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AUTOMATED HEART SOUND SEGMENTATION USING PHONOCARDIOGRAM LENGTH VARIATION

Assis. Prof. DR. Samuel Barros,Assoc. Prof. Dr. Diogo Almeida
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Abstract:
Heart sound analysis remains a significant tool in diagnosing cardiovascular diseases, but automatic segmentation remains a challenge. This study proposes a novel approach for robust segmentation of heart sounds using Phonocardiogram (PCG) signals. By analyzing the variation in length of the PCG signal over time, we generate a sawtooth-shaped intermediate signal, which is then processed with the positive derivative function to create a binary signal. A Recurrent Neural Network (RNN) is trained to identify key events in the heart cycle, such as the first and second heart sounds and the systolic and diastolic phases. Testing on a large database of PCGs and simultaneous Electrocardiograms (ECGs) demonstrated high sensitivity and specificity, with average sensitivity of 76% and specificity of 94%. This approach enhances the automation of heart sound analysis, making it a valuable tool for cardiovascular diagnostics.

Keywords: Heart sounds, PCG segmentation, Recurrent Neural Networks, automated diagnostics, cardiac auscultation.

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STUDYING FUNCTIONAL CONNECTIVITY IN EPILEPSY WITH RESTING-STATE fMRI ANALYSIS

Yuki Tanaka, Haruto Watanabe, Rika Kato
Kyoto University of Medical Sciences, Japan

Abstract:
Resting-state functional magnetic resonance imaging (rsfMRI) has emerged as an important tool for understanding brain activity, particularly in neurological conditions such as refractory epilepsy. This paper investigates the functional connectivity of rsfMRI data in both patients with refractory epilepsy and healthy controls, aiming to uncover abnormal brain network properties that could assist in diagnosis. By using Independent Component Analysis (ICA), the study identifies significant functional networks, such as the default mode and dorsal attention networks, that exhibit abnormal activity in epilepsy patients. These findings were validated through statistical tests such as two-sample t-tests and chi-square tests based on the fractional amplitude of low-frequency fluctuations (fALFF). This approach demonstrates that rsfMRI connectivity analysis provides a promising avenue for the diagnosis and understanding of refractory epilepsy.

Keywords: Resting-state fMRI, epilepsy, functional connectivity, Independent Component Analysis, brain network analysis.

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DEVELOPING A MAGNIFICATION SYSTEM FOR MAMMOGRAPHIC IMAGES USING EEG AND EYE DETECTION

Kenta Matsumoto, Hiroshi Yoshida
Tokyo University of Health Sciences, Japan

Abstract:
Mammographic analysis requires high precision in detecting microcalcifications, but image magnification typically relies on manual adjustments, which can be cumbersome. This study explores a more efficient system that integrates eye detection and electroencephalography (EEG) to control image magnification. Through experiments involving eye-detection accuracy and EEG-driven magnification times, we show that the system can significantly reduce the fatigue and distraction caused by traditional methods. The system's accuracy in detecting eye movements ensures that the magnified area aligns with the viewer's focus, while EEG-based control allows for faster magnification of regions of interest. Although variations were observed in EEG response times, this approach demonstrates that combining eye detection with EEG offers a practical solution for improving the efficiency of mammographic image analysis.

Keywords: Mammography, EEG, eye-detection, image magnification, medical imaging.

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ARGINASE ENZYME ACTIVITY IN HUMAN SERUM: A POTENTIAL MARKER FOR COGNITIVE FUNCTION AND THE IMPACT OF ARGININE SILICATE

Yasmin Chen, Lee Ho-Jin, He Ji, Kang Sang-Sun
Seoul National University of Science and Technology - South Korea

Abstract:
This study investigates the effects of an inositol-stabilized arginine silicate (ASI) supplement on arginase activity and its potential influence on cognitive function. Arginase, an enzyme present in human serum, plays a critical role in the conversion of arginine into ornithine and urea, thus impacting the urea cycle. Maintaining low arginase activity is essential for optimizing arginine availability, which is vital for nitric oxide production and cognitive health. We tested various combinations of ASI, L-arginine, and Inositol to determine their effects on arginase activity in serum samples from healthy individuals. The results showed that inositol, especially when combined with ASI, led to a significant reduction in arginase activity, particularly at a dose of 0.5 g. This combination supports cognitive performance, including improved reaction time, executive function, and concentration. Our findings indicate that moderate levels of inositol, when paired with ASI, provide an optimal approach for maintaining arginine levels and supporting cognitive function.
Keywords: Arginine, nitric oxide, cognitive function, inositol, serum.

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OPTIMAL REST INTERVALS FOR UPPER-ARM REHABILITATION IN ROBOT-ASSISTED THERAPY

Liya Mendez, Adam Simha, Tamir Mohamed
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Abstract:
This research explores the impact of varying rest intervals on muscle activation during robot-assisted rehabilitation of the biceps brachii. The goal was to identify the most effective rest period for maximizing muscle activation while reducing fatigue. Four different rest intervals (30, 60, 90, and 120 seconds) were tested across a sample of 15 participants with no disabilities, using an exoskeleton-based rehabilitation protocol. The results indicated that a 60-second rest interval led to optimal muscle activation, as opposed to shorter or longer intervals. These findings suggest that robot-assisted rehabilitation systems benefit from a rest period of around 60 seconds to maintain effective muscle engagement. This study enhances the understanding of muscle fatigue dynamics in rehabilitation and contributes to improving the design of exoskeleton systems.
Keywords: Rehabilitation, muscle activation, robot therapy, biceps brachii, muscle fatigue.

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PROMOTING CYBERSECURITY AWARENESS THROUGH EDUCATION: THE ROLE OF LABS AND COMPETITIONS

Rami Kassem, Mona Fouad, Bassam Ali, Tarek El-Mahdy
University of Khartoum – Sudan

Abstract:
As cybersecurity threats continue to rise, it is essential to educate the next generation of professionals in this critical field. This paper highlights the importance of integrating hands-on learning through cybersecurity laboratories and competitions into academic programs. By offering real-world scenarios and challenges, students gain practical skills that are crucial for tackling cyber threats. This approach not only boosts student engagement but also prepares them for the cybersecurity workforce. The study emphasizes the role of interactive labs and competitions in fostering a proactive attitude toward cybersecurity among students, ensuring they are well-prepared to address the growing complexities of the digital world.
Keywords: Cybersecurity education, awareness, competitions, workforce development, hands-on learning.

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OBJECT-ORIENTED ACCOUNTING METHODS FOR INHERITED CLASS MEMBERS IN SOFTWARE ENGINEERING

Ali Karim, Sara Hossain, Faisal Nasser, Karim Al-Mansoor
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Abstract:
In object-oriented (OO) design, class inheritance is an essential mechanism for code reuse and simplification. However, accounting for inherited class members, including both attributes and methods, is critical for certain software applications. This paper examines methods for managing inherited class members, focusing on their integration and usage in software engineering projects. The research explores techniques for ensuring that inherited attributes and methods are accounted for in the final class implementation, emphasizing the importance of both internal and external quality attributes. Through an analysis of common OO applications, we propose improved practices for handling inherited class members to maintain code efficiency and consistency.
Keywords: Object-oriented programming, inheritance, class design, software engineering, code quality.

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NUMERICAL ANALYSIS OF SHEAR STRENGTH IN COLD-FORMED STEEL SHEAR WALL PANELS

Khaled Daoud, Hassan Moustafa, Nabil Rassoul, Faiq Bahri
University of Dar es Salaam - Tanzania

Abstract:
Cold-formed steel (CFS) shear wall panels are widely used in structural design due to their lightweight and high strength characteristics. This study investigates the shear strength of CFS shear wall panels (SWP) subjected to lateral loads, such as those caused by wind or seismic forces. Two methods for assessing shear strength were compared: a simplified strip modeling approach and a more detailed micro-modeling technique using Abaqus software. Results indicated that the micro-modeling method provided more accurate predictions of shear strength, although the strip method was simpler and faster to apply. The findings suggest that both methods can be used depending on the required precision and available resources.
Keywords: Shear strength, cold-formed steel, shear wall panels, Abaqus, structural analysis.

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ADVANCEMENTS IN THE DIFFRACTIVE DETECTOR CONTROL SYSTEM FOR ALICE AT THE LHC

Carlos Navarro, Mariana Valdés, Esteban Rodríguez, Juan Antonio González
Universidad Técnica Federico Santa María - Chile

Abstract:
The ALICE experiment at the Large Hadron Collider (LHC) has developed new detector systems to enhance its ability to observe diffractive events. The second phase of ALICE (RUN-II) introduces the AD0 detector, which requires a robust and efficient Detector Control System (DCS) for operation. This paper discusses the development and implementation of the AD0 DCS, which is designed to manage over 200 parameters critical for the detector's function, including power supply levels, photomultiplier tube thresholds, and safety protocols. By integrating this system with ALICE's global control infrastructure, the AD0 detector's performance has been optimized for high-quality data acquisition. The system's success highlights the importance of advanced control systems in large-scale particle physics experiments.
Keywords: ALICE, detector control system, LHC, AD0, particle physics.

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CLOUD COMPUTING SECURITY CHALLENGES: EXAMINING CUSTOMER CONCERNS DURING TRANSITION TO VIRTUALIZED ENVIRONMENTS

Yusuf Baloch, Farida Nasser, Mohammed Idris, Alisha Karina
University of Dar es Salaam - Tanzania

Abstract:
This research explores the security concerns faced by customers as companies transition from traditional physical business environments to virtualized systems through cloud computing platforms. A particular focus is placed on WHSmith's adoption of NetSuite, a cloud-based solution for integrating business processes. As organizations shift towards cloud models, one of the key challenges is addressing security issues that arise during this transformation. The privacy concerns associated with virtualized systems often stem from a lack of understanding or oversight of security protocols, leading to user dissatisfaction and mistrust. This study utilizes content analysis from 120 online bloggers, including data from popular review sites like TRUSTPILOT, to capture the nature of these concerns. The findings suggest that while cloud-based systems promise innovation and flexibility, they also introduce significant risks to data security. The paper provides practical insights on how businesses can mitigate these risks to foster secure and customer-friendly cloud environments. These findings have important implications for both theory and practice in the field of cloud computing, particularly in customer relationship management and security.
Keywords: Cloud computing, security, privacy concerns, virtualization, customer experience.

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AUTOMATIC CALIBRATION IN HYDROLOGIC MODELING USING BAYESIAN APPROACH: IMPROVING MODEL ACCURACY

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Abstract:
The accurate simulation of hydrologic and hydraulic systems is a critical challenge for urban stormwater management. Despite the availability of automatic calibration techniques, many hydrologic models still fail to deliver accurate results due to errors in parameter estimation and model configuration. This paper proposes a novel framework for automatic calibration of hydrologic models using Approximate Bayesian Computation (ABC), a technique for Bayesian inference when traditional likelihood methods are computationally expensive. The framework, implemented in the R platform, focuses on four key calibration parameters: initial loss, reduction factor, time of concentration, and time-lag. Using data from three small urban catchments in Tunis, the performance of the ABC-based model is compared to conventional methods such as MIKE URBAN software. Results show that ABC produces reliable predictions, with posterior distributions providing a quantification of uncertainty, unlike point estimates from traditional software. This paper demonstrates the feasibility and benefits of using ABC for hydrologic model calibration, highlighting its potential for improving decision-making in water management.
Keywords: Hydrologic modeling, automatic calibration, Bayesian computation, uncertainty quantification, water management.

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COST-BENEFIT ANALYSIS IN STRATEGIC INVESTMENTS: A NEW APPROACH TO PROFITABILITY ESTIMATION

Jorge Fernandes, Isabel Costa, Ricardo Lima, Tânia Almeida
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Abstract:
Strategic investments in businesses often involve significant long-term commitments, and accurate profitability estimation is crucial for ensuring that investments deliver value. This paper discusses a new methodology for estimating profitability, focusing on a cost-benefit analysis approach. Developed at the Institute of Management Cybernetics at the University of São Paulo, the method integrates non-monetary factors with financial considerations to provide a holistic evaluation of investments. The method, known as the Profitability Estimation Focused on Benefits (PEFB), was applied in a series of workshops that gathered over 96 cost aspects and 122 benefit aspects relevant to strategic investments. These aspects were analyzed based on risk levels, and for the first time, a comprehensive distribution of costs and benefits was provided, helping organizations better assess the potential impacts of their investments. This approach, combining data science and IT solutions, enhances decision-making processes, particularly in uncertain environments, making it a valuable tool for business leaders looking to optimize their investment strategies.
Keywords: Cost-benefit analysis, strategic investment, risk analysis, data science, decision-making.

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ENHANCING VOWEL INTELLIGIBILITY IN SPEECH RECOGNITION FOR HEARING IMPAIRED INDIVIDUALS

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Abstract:
Improving the intelligibility of speech in noisy environments is a critical issue in the field of speech enhancement, especially for individuals with hearing loss. This paper introduces a novel method to enhance the formants (key frequency components) in vowel sounds, improving their audibility for hearing-impaired listeners. The approach leverages the Kaiser window to enhance formants and uses pitch and formant frequency analysis to restore the representation of speech sounds at the midbrain level. The method incorporates techniques like autocorrelation, zero-crossing, and magnitude difference functions to detect and enhance these speech components. A MATLAB-based implementation of this system provides an efficient, low-complexity solution for real-time speech enhancement. This study contributes to the development of more effective speech enhancement systems by improving vowel intelligibility, thus offering new possibilities for speech recognition applications designed for the hearing-impaired.
Keywords: Speech enhancement, vowel intelligibility, formant enhancement, hearing loss, pitch detection.

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PREDICTING SOFTWARE RELIABILITY PERFORMANCE USING DATA MINING TECHNIQUES

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Abstract:
Software reliability prediction plays a crucial role in enhancing software quality and guiding resource allocation during the development process. This study evaluates three popular data mining techniques—CART, TreeNet, and Random Forest—in predicting software reliability. The models are compared to the Cascade Correlation Neural Network (CCNN) using empirical data from the Data and Analysis Center for Software. The goal is to assist project managers in minimizing software failures by focusing testing efforts where they are most needed. The results demonstrate that the CART model consistently outperforms the other models, achieving superior accuracy across all datasets. The study also highlights the potential of these models in providing more accurate predictions of software reliability, enabling better planning and risk management in software development projects.
Keywords: Software reliability, data mining, predictive modeling, CART, Random Forest, TreeNet.

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MODELING HUMAN ARM MOTION FOR EXTRA VEHICULAR ACTIVITIES: IMPROVING ASTRONAUT TASK PERFORMANCE

Arun Sharma, Deepak Kumar
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Abstract:
Astronauts performing Extra Vehicular Activities (EVAs) during space missions face unique challenges that require precise and efficient movements, especially when interacting with spacecraft and other space systems. This paper presents a computational model of human arm motion to simulate and improve astronaut task performance during EVAs. The study uses a physics-based methodology to model joint movements and torque during tasks such as handling orbital replaceable units. The model is developed using ADAMS/LifeMOD® simulation software, which accounts for physiological limits in joint range and provides a more accurate representation of human motion compared to traditional methods. The results are validated using Newton-Euler-based simulations and demonstrate that the virtual model improves the realism of previous EVA simulations. This work offers significant advantages over physical simulations, providing more cost-effective and efficient training for astronauts.
Keywords: Biomechanics, EVA, human motion modeling, multibody dynamics, astronaut training.

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LEARNER FEEDBACK ON THE ADAPTED RORSCHACH COMPREHENSIVE SYSTEM: A CRITICAL PSYCHOLOGICAL PERSPECTIVE

Zainab Kamara, Malik Alhassan

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Abstract:
This study explored the responses of learners using the Adapted Rorschach Comprehensive System (ARCS) through a critical psychology lens. The objective was to investigate how participants, particularly from diverse cultural backgrounds, engaged with the ARCS, considering the shortcomings of Western psychological practices. A qualitative research methodology was adopted, employing a case study design within an interpretivist framework. Six learners, aged 14 years, from a socioeconomically disadvantaged school in Nairobi, Kenya, participated in the study. Data collection included biographical surveys, semi-structured interviews, direct observation, and ARCS administration. The findings highlighted key factors influencing response rates, such as cultural language, the seating arrangement, drawing, and participants' descriptions. The study emphasizes the need for psychological test designers to consider cultural and local worldview factors in their designs to improve response accuracy and reliability.
Keywords: Adapted Rorschach Comprehensive System, critical psychology, cultural factors, learner responses.

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UNDERSTANDING FACTORS INFLUENCING RECYCLING PARTICIPATION: MOTIVATIONAL AND CHALLENGE PERSPECTIVES IN MALAYSIA

Lina Ali, Shahinur Chowdhury, Mariah Sultana

University of Dhaka - Bangladesh

Abstract:
Recycling participation remains suboptimal in Malaysia, with only 10.5% of solid waste being recycled, far below international standards. This study aimed to identify the motivations and challenges that impact recycling behaviors among the public in Kota Kinabalu, Malaysia. Using an open-ended questionnaire format, data were collected from 484 participants. Thematic analysis revealed key motivators for recycling, including environmental awareness, societal and individual benefits, and social influence. Conversely, barriers such as lack of knowledge, inconvenience, poor infrastructure, and insufficient enforcement were identified as significant obstacles. These findings highlight the need for targeted interventions to improve recycling rates through better facilities, education, and community engagement.
Keywords: Recycling participation, public motivations, barriers, sustainable waste management.

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THE IMPACT OF METAPHOR THERAPY ON DEPRESSION AMONG FEMALE STUDENTS: A COMPARATIVE STUDY

Nina Surkhe, Dr. Otabek Khamidov
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Abstract:
This research investigates the effectiveness of metaphor therapy in reducing depression among female students. A total of 60 female students, diagnosed with depression, were selected through simple random sampling and divided into two groups: experimental and control. The Beck Depression Inventory was utilized for pre- and post-test assessments. The experimental group underwent eight sessions of metaphor therapy, while the control group received no intervention. Data analysis using MANCOVA revealed that metaphor therapy significantly reduced depressive symptoms in the experimental group compared to the control group. The findings suggest that metaphor therapy is a promising approach for addressing depression in adolescent female students.
Keywords: Metaphor therapy, depression, female students, intervention, psychological therapy.

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USICAL NOTATION VERSUS ALPHABET READING: CHALLENGES FOR DYSLEXIC STUDENTS IN MUSIC EDUCATION

Karla Jiménez, Pedro Martínez
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Abstract:
This paper explores whether dyslexic individuals face unique challenges in reading musical notation compared to alphabetic text. Through a case study of students diagnosed with dyslexia, the paper compares the reading processes of musical notes and alphabetic texts. Findings suggest that music reading, being a multi-sensory activity, can be effectively taught to dyslexic students if approached correctly. Music notation, being a logical system of symbols, does not inherently pose a challenge for dyslexic learners. The study highlights successful teaching strategies, particularly when combining sight, sound, and movement, which engage multiple senses and support cognitive learning.
Keywords: Dyslexia, music education, multisensory learning, music notation, teaching methods.

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COMPARATIVE STUDY: FATIGUE AND DROWSINESS AMONG NIGHT-TIME TRANSPORTATION WORKERS IN SOUTH AMERICA

Juan Morales,

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Abstract:
This study investigates the impact of fatigue and drowsiness on long-shift drivers working at night in the passenger transportation industry. Using a comprehensive survey, the research focused on the sleep habits, drowsiness, and fatigue levels of taxi and bus drivers in a large city. The survey targeted 127 taxi drivers and 40 bus drivers, evaluating their nap duration, frequency of drowsiness while driving, and overall work conditions. Findings revealed that taxi drivers typically nap less frequently than bus drivers, and report higher rates of drowsiness. The analysis also suggests that while bus drivers are subjected to a two-driver rotation system, it does not significantly reduce the fatigue levels experienced by them. The working environment for taxi drivers seems to contribute more to long-term fatigue accumulation compared to bus drivers, leading to heightened safety concerns and possible health risks.
Keywords: Fatigue, Drowsiness, Night Shifts, Taxi and Bus Drivers.

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INVESTIGATING THE LINK BETWEEN JOB SATISFACTION AND ORGANIZATIONAL CITIZENSHIP BEHAVIOR IN AFRICA

Amina Diouf,

University of Dakar - Senegal

Abstract:
This study explores the correlation between job satisfaction, motivation, and organizational citizenship behavior (OCB) in the public sector of Senegal. A structured survey was conducted with 152 public servants to analyze how motivation and job satisfaction influence five distinct factors of OCB: Altruism, Conscientiousness, Sportsmanship, Courtesy, and Civic Virtue. The results highlight that all OCB factors, except for Civic Virtue, show a strong positive correlation with both motivation and job satisfaction. This suggests that managers should focus on enhancing motivation and job satisfaction to improve OCB outcomes. Furthermore, the study emphasizes the need for future research to incorporate additional variables such as organizational culture and leadership styles to better understand the nuances in the relationship between OCB factors and employee satisfaction.
Keywords: Job Satisfaction, Motivation, Organizational Citizenship Behavior, Public Sector, Senegal.

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NHANCING WORKING MEMORY THROUGH ONLINE GAMES: A CASE STUDY ON ADHD IN NIGERIA

Assoc. Prof. Dr. Tunde Olayinka,

University of Ibadan - Nigeria

Abstract:
This paper presents a case study that investigates the effectiveness of online games as a tool to improve working memory in children with ADHD. Over the past decade, there has been a noticeable increase in ADHD diagnoses, and working memory deficits have been identified as one of the core issues for these idividuals. The study employs free online games designed to improve cognitive functions related to memory, attention, and impulsivity. A 13-year-old female diagnosed with ADHD participated in this after-school intervention, where her cognitive abilities were assessed before and after the use of these online games. Results indicate significant improvements in attention and impulsivity levels, although no substantial changes were observed in her general cognitive abilities. This suggests that online games could be a viable and accessible method for supporting children with ADHD, specifically in enhancing attention and reducing impulsive behaviors.
Keywords: ADHD, Working Memory, Attention, Impulsivity, Online Games, Cognitive Training.

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COMPARING SPATIAL ABILITIES AND MEMORY AMONG DRIVERS WITH DIFFERENT PROFESSIONAL EXPERIENCE IN AFRICA

Gwandoya Chika,

University of Lagos – Nigeria

Abstract:
The objective of this study was to examine the relationship between spatial abilities, memory, intellect, and professional driving experience. A total of 85 participants were divided into four groups based on their level of driving experience: no experience, inexperienced, skilled, and professional drivers. The research focused on the development of spatial navigation skills and memory retention as professional experience increased. The findings revealed that with higher levels of experience, drivers showed notable improvements in spatial navigation abilities and nonverbal memory. However, the ability for mental rotation did not show a significant correlation with experience, supporting the theory that spatial abilities are distinct from other types of cognitive intelligence. Furthermore, professional drivers, particularly those engaged in racing, demonstrated superior directional sense compared to skilled drivers. These results suggest that while driving experience enhances certain cognitive skills, different types of spatial abilities may be influenced by different factors.
Keywords: Spatial Abilities, Memory, Driving Experience, Cognitive Skills, Professional Drivers, Africa.

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ASSESSING THE QUALITY OF PHARMACY SERVICES IN HOSPITALS IN EAST AFRICA: A COMPARATIVE STUDY

Fatima Amini,

University of Dar es Salaam – Tanzania

Abstract:
This study assesses the quality of pharmacy services in hospitals affiliated with the University of Dar es Salaam in Tanzania. A cross-sectional survey was conducted using a standardized questionnaire, which was filled out across 17 hospital pharmacies in both teaching and non-teaching hospitals. The findings reveal that many hospital pharmacies fall short of international standards, with compliance rates as low as 0% for inventory control and 23% for proper drug delivery to patients. Other areas, such as pharmacy store conditions, ordering procedures, and storage practices, were also found to be inadequately managed. The study emphasizes the need for targeted improvements in hospital pharmacy operations to ensure better pharmaceutical care and adherence to standards, ultimately enhancing patient safety and healthcare delivery in Tanzania.
Keywords: Pharmacy Quality, Hospital Standards, Pharmaceutical Care, Tanzania, Inventory Control.

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OPTIMIZING LIGHT COMMUNICATION SYSTEMS THROUGH THE INTEGRATION OF NATURAL LIGHT IN MOROCCO

Samir Elkhadraoui,

University of Fes – Morocco

Abstract:
Visible Light Communication (VLC) technology offers several benefits, such as low energy consumption and immunity to radio frequency interference. However, its performance can be compromised by environmental factors, particularly the availability and reliability of natural light. This study analyzes the integration of natural light into VLC systems, focusing on how different meteorological conditions and reflective surfaces affect system performance. The research evaluates VLC systems in various room sizes and environmental setups to determine how natural light influences communication quality. Results suggest that natural light can significantly enhance the effectiveness of VLC systems under specific conditions, leading to improved performance in applications such as health-centered communication, where minimizing interference with biomedical devices is critical.
Keywords: Visible Light Communication, Natural Light, Performance Optimization, Communication Systems, Morocco.

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REVOLUTIONIZING REMOTE HEALTHCARE MONITORING THROUGH INTEGRATED BODY SENSOR NETWORKS AND WEB SERVICES

Ahmed Ibrahim Ali
University of Nairobi, Kenya

Abstract:
The integration of Wireless Body Area Networks (WBAN) with Web services (WS) has the potential to revolutionize healthcare delivery by enabling the continuous and remote monitoring of patients' physiological parameters. These technologies offer a cost-effective solution to address the challenges of healthcare systems, such as limited access, high costs, and an aging population. This paper discusses a prototype system that combines WBAN with WS to monitor patients' vital signs and recommend diagnostic services in real time. The system uses WBAN sensors embedded in wearable devices and an Android smartphone as a personal server. Data, such as SpO2 levels and heart rate, are transmitted over the internet to a Medical Health Server for analysis. Medical professionals can access this data via a web application, facilitating timely interventions for elderly patients and those in rehabilitation. This system enables ubiquitous healthcare access and significantly reduces service costs by eliminating the need for patients to visit healthcare facilities.
Keywords: WBAN, Web Services, Remote Monitoring, Healthcare Technology, Android, Medical Health Server.

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REAL-TIME PSYCHOACOUSTIC AND EEG ANALYSIS FOR IMPROVED MENTAL HEALTH CARE

Nguyen Minh Tu
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Abstract:
Psychoacoustics, the study of the psychological effects of sound, has gained prominence due to its applications in mental health, particularly for addressing disorders like sleep disturbances and depression. This study explores the use of Electroencephalography (EEG) in real-time to analyze the brain's response to auditory stimuli. Six participants used an EMOTIV EEG neuro headset to capture brainwave activity while listening to specific acoustic patterns. The acquired EEG data were analyzed using EMOTIV test bench software, EDF browser, and EEGLAB, revealing significant changes in brain activity across different frequency bands. These findings correlate strongly with the participants' subjective reports of their experiences. The results suggest that this methodology can be used as a non-invasive tool for diagnosing and treating mental health conditions, such as depression and insomnia.
Keywords: EEG, Psychoacoustics, Mental Health, Brain Activity, Non-invasive Technology, Depression.

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IMPROVING COMBAT EFFICIENCY IN MODERN FIGHTER AIRCRAFT THROUGH ADVANCED HUMAN FACTORS DESIGN

Assis. Prof. Dr. Rui Costa
University of Lisbon, Portugal

Abstract:
The increasing complexity of modern fighter aircraft, which are designed for multiple combat roles, has led to the need for a deeper understanding of human factors in military aviation. While technology advancements have significantly enhanced aircraft performance in areas such as speed, stealth, and firepower, less attention has been given to the impact of these advancements on pilots. This paper explores how emerging technologies, such as cooperative knowledge-based systems and advanced simulation technologies, can improve the decision-making process and overall performance of fighter pilots. Furthermore, the paper examines how integrated life support systems, including advanced protection technologies, are essential in ensuring pilot safety and mission success. Human reliability and performance during critical missions are also assessed through system safety analysis.
Keywords: Fighter Aircraft, Human Factors, Military Technology, Pilot Safety, Decision Making, System Safety Analysis.

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DEVELOPING A COMPREHENSIVE DATABASE USING SWISS NATIONAL SURVEY DATA FOR NUTRITION AND HEALTH RESEARCH

Fola Ogunleye
University of Lagos, Nigeria

Abstract:
This study focuses on integrating the Swiss Nutrition National Survey (menuCH) and the Swiss Health National Survey 2012 databases for the purpose of data mining and identifying trends in food consumption linked to lifestyle diseases. The integration of these large datasets, which include demographic data from approximately 23,500 respondents, enables a more robust analysis of nutritional habits and their correlation with chronic diseases. The integrated database, which is pre-processed and cleaned, is used to explore critical food consumption patterns and their impact on public health. This research aims to enhance the understanding of how dietary habits contribute to the prevalence of lifestyle diseases and to inform future health interventions.
Keywords: Data Mining, Public Health, Nutrition, Swiss National Survey, Chronic Diseases, Lifestyle Patterns.

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USING EEG TECHNOLOGY IN THE DETECTION OF BRAIN TUMORS: AN INNOVATIVE APPROACH

Nashit Haroon, Zara Khan
University of Dhaka, Bangladesh

Abstract:
Brain tumors pose a significant threat to human health due to their impact on intracranial pressure and brain function. This paper examines the role of Electroencephalography (EEG) in detecting abnormalities caused by brain tumors. EEG technology, which measures electrical activity in the brain, provides a non-invasive method for identifying irregular brain activity that could indicate the presence of a tumor. The paper discusses EEG patterns commonly associated with brain tumors and explores the diagnostic value of EEG in comparison with traditional imaging techniques. Additionally, the paper highlights the potential of EEG to assist physicians in early tumor detection, improving patient outcomes and treatment planning.
Keywords: Brain Tumor, EEG, Early Detection, Neurology, Brain Abnormalities, Non-invasive Diagnostics.

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ASSESSING THE IMPACT OF POOR MEDICAL WASTE MANAGEMENT ON PUBLIC HEALTH AND THE ENVIRONMENT

Mustafa Al-Mansour, Amina Jibril
University of Addis Ababa, Ethiopia

Abstract:
Improper medical waste management (MWM) represents a serious threat to both human health and the environment, particularly in developing countries. This review examines the hazardous nature of medical waste, including infectious, radioactive, and sharps materials, and the associated risks to public health. Poor MWM practices in healthcare facilities, including improper disposal and mixing with municipal waste, can lead to disease transmission and environmental contamination. The review highlights challenges such as financial constraints, lack of awareness, and insufficient regulatory frameworks. It also provides recommendations for improving MWM practices, including the adoption of better technologies, staff training, and stronger enforcement of waste management policies.
Keywords: Medical Waste, Public Health, Environmental Risks, Waste Management, Healthcare Facilities, Policy Recommendations.

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IMPROVING MAINTENANCE STRATEGIES AND RELIABILITY OF MEDICAL EQUIPMENT IN HEALTHCARE SYSTEMS: IMPACT ON PATIENT SAFETY

Dr. Amina Adama, Dr. Babar Mujeeb
University of Karachi, Pakistan

Abstract:
This study explores the relationship between the reliability of critical medical equipment (CME) and the efficacy of maintenance strategies in improving patient safety outcomes across 100 hospitals in Pakistan. The research focuses on maintenance practices, reliability, and patient outcomes, emphasizing the importance of maintenance management systems in public healthcare settings. The framework examines six key variables: maintenance strategy types, equipment reliability, service effectiveness, practice consistency, associated costs, and patient safety. Findings highlight the importance of regular maintenance and how different strategies can significantly affect the reliability of life-saving medical devices, particularly in resource-constrained environments. Notably, hospitals that adopted a proactive maintenance strategy reported better patient safety outcomes, with equipment failure rates substantially lower than those relying on reactive measures. Decision-makers in healthcare institutions can apply these insights to optimize CME management practices, ensuring enhanced safety and care for patients.
Keywords: Critical medical equipment, maintenance strategy, patient safety, reliability.

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PREDICTIVE MODELS FOR HEART DISEASE CLASSIFICATION USING DYNAMIC FEATURE EXTRACTION

Dr. Sergio Rocha
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Abstract:
The healthcare sector is rich in data but often lacks tools to effectively analyze this information. In this research, we present a dynamic feature extraction method to predict coronary heart disease (CHD) using data mining techniques. Heart disease remains one of the leading causes of death worldwide, making it a critical issue for global healthcare systems. This study proposes the use of rough sets and dynamic programming to optimize feature selection from coronary heart disease datasets, improving prediction accuracy. The proposed methodology utilizes Random Forest (RF) decision trees to classify patients at risk of heart disease. A large dataset, including the medical profiles of 600 adults, was used for model training and evaluation. Additionally, expert knowledge of disease risk factors was incorporated to refine the feature selection process. The results demonstrate that the dynamic feature extraction model outperforms traditional methods, offering a robust tool for early identification of high-risk patients.
Keywords: Heart disease classification, data mining, dynamic feature extraction, rough sets, Random Forest