EJONS

INTERNATIONAL JOURNAL ON MATHEMATICS, ENGINEERING & NATURAL SCIENCES

12th. INTERNATIONAL CONFERENCE ON

MATHEMATICS, ENGINEERING, NATURAL AND MEDICAL SCIENCES

July 9-11, 2021
Paris, FRANCE

ABSTRACT BOOK

Edited by
Prof. Dr.Osman ERKMEN
Nurlan AKHMETOV

ISBN: 978-1-955094-11-5

12th. INTERNATIONAL CONFERENCE ON MATHEMATICS, ENGINEERING, NATURAL AND MEDICAL SCIENCES

July 9-11, 2021
Paris, FRANCE

ABSTRACT BOOK

Edited by

Prof. Dr. Osman ERKMEN

Nurlan AKHMETOV

LIBERTY ACADEMIC is a part of LIBERTY PUBLISHER OF BOOKS
Head officeNew York, USA
+1 (314) 597-037280
Maiden Lane, 21st Floor /8Water Street Corridor
New York, NY 10038
www.libertyacademicbooks.com
editor@libertyacademicbooks.com
Issued: 30.07.2021

WWW.EJONSCONGRESS.ORG

ISBN: 978-1-955094-11-5

CONGRESS ID

12th. INTERNATIONAL CONFERENCE ON MATHEMATICS, ENGINEERING, NATURAL AND MEDICAL SCIENCES

DATE - PLACE

June 9-11, 2021 /Paris, FRANCE

ORGANIZATION

IKSAD

EDITORS

Prof. Dr. Osman ERKMEN
Nurlan AKHMETOV

EVALUATION PROCESS

All applications have undergone a double-blind peer review process

PARTICIPATING COUNTRIES

France, Turkey, United Kingdom, USA, Kazakhstan, Saudi Arabia, Brasil, Canada, Finland, Romania, Albania, Vietnam, Malaysia, Algeria, Bosnia and Herzegovina, Ethiopia, İndia, Azerbaijan, Morocco, Iraq, Nigeria, Moldova, Croatia, Macedonia, Iran, Bulgaria, Pakistan, Lebanon

TOTAL NUMBER OF PAPERS: 123
THE NUMBER OF PAPERS FROM TURKEY: 57
THE NUMBER OF PAPERS FROM OTHER COUNTRIES: 66

HEAD OF CONFERENCE

Dr. Cyrille Feybesse

ORGANIZING COMMITTEE

Dr. Damezhan Sadykova
Dr. Basim Mohammad Ali Aldahadha
Mohamed El Malki
Elena Maglio
Nurlan Akhmetov

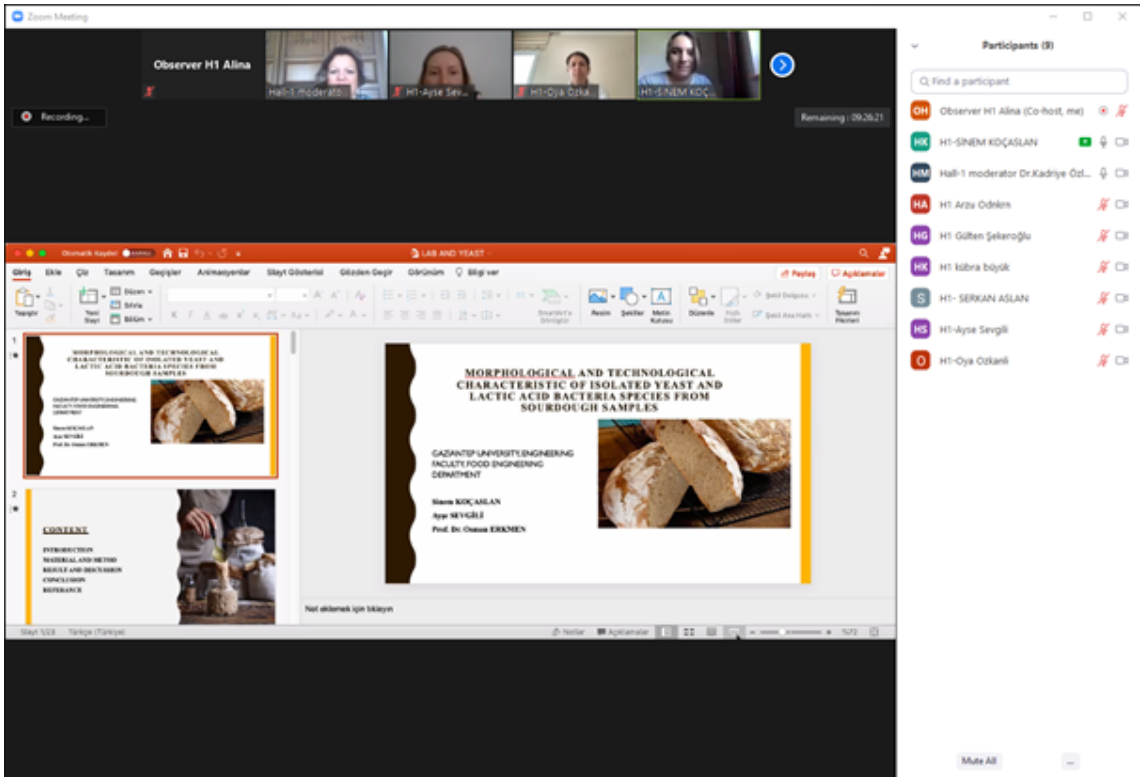
HEAD OF SCIENTIFIC COMMITTEE

Prof. Dr. Osman ERKMEN

SCIENTIFIC COMMITTEE

Dr. Almaz AHMEDOV - Bakü State University
Dr. Ali BİLGİLİ - Ankara University
Dr. Afaq Ahmad - Sultan Qaboos University, Oman
Dr. Hülya ÇİÇEK - Gaziantep University
Dr. Başak Hanedan - Atatürk University
Dr. Houda BOUZIANE - University Mohamed the first.
Dr. Badran Hussein - Université Islamique
Dr. AIT DAOUD Mariya - Sidi Mohamed Ben Abdellah Fes University
Dr. Maaroufi Fatiha - University Mohamed the first
Dr. Oussama Mustapha - Islamic University of Lebanon
Dr. Riham Fouzi Zahalan - Damascus University
Dr. Mohamad Ghassani - Lebanese university
Dr. İsmail ALTINTOP - Kayseri State Hospital
Dr. Mehriban EMEK - Adiyaman University
Dr. Seyithan SEYDOŞOĞLU - Siirt University
Dr. Nilgün ULUTAŞDEMİR - Gümüşhane University
Dr. N. Didem KAHYA - Ankara University
Dr. Zafer Cengiz ER - Bozok University
Dr. K.R.PADMA - Sri Padmavati Mahila Visvavidyalayam Women's University
Dr. TUĞRUL OKTAY - Erciyes University
Dr. Bülent BAYRAKTAR - Bayburt University

PHOTO GALLERY



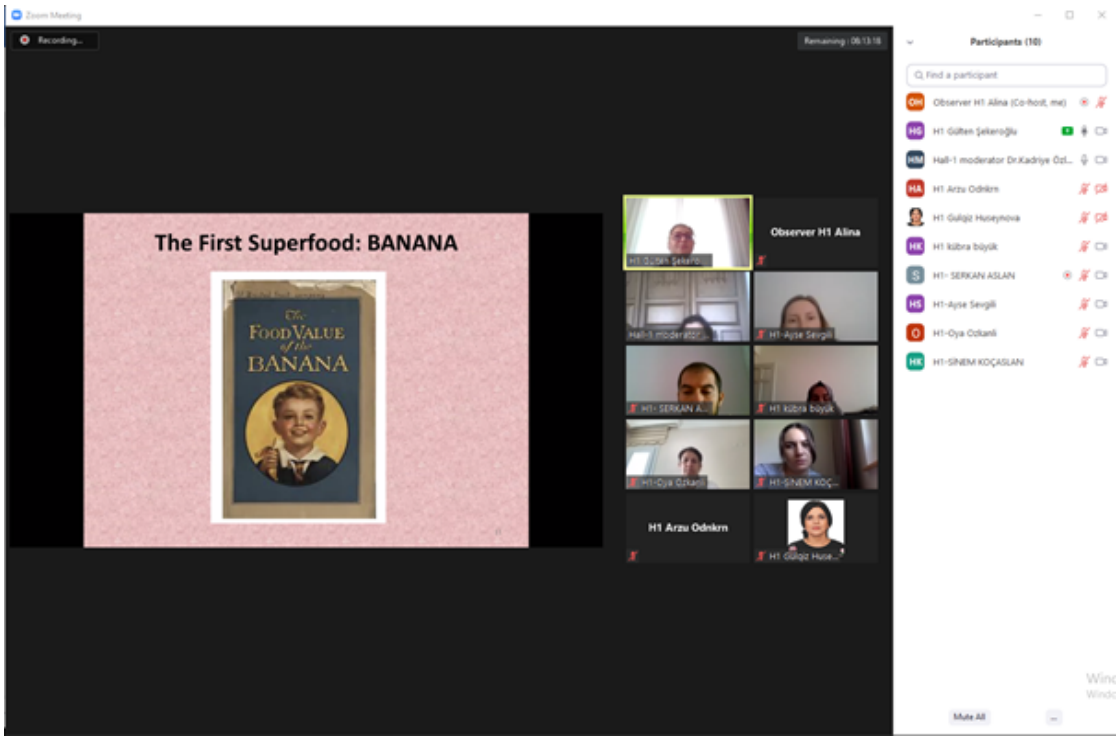
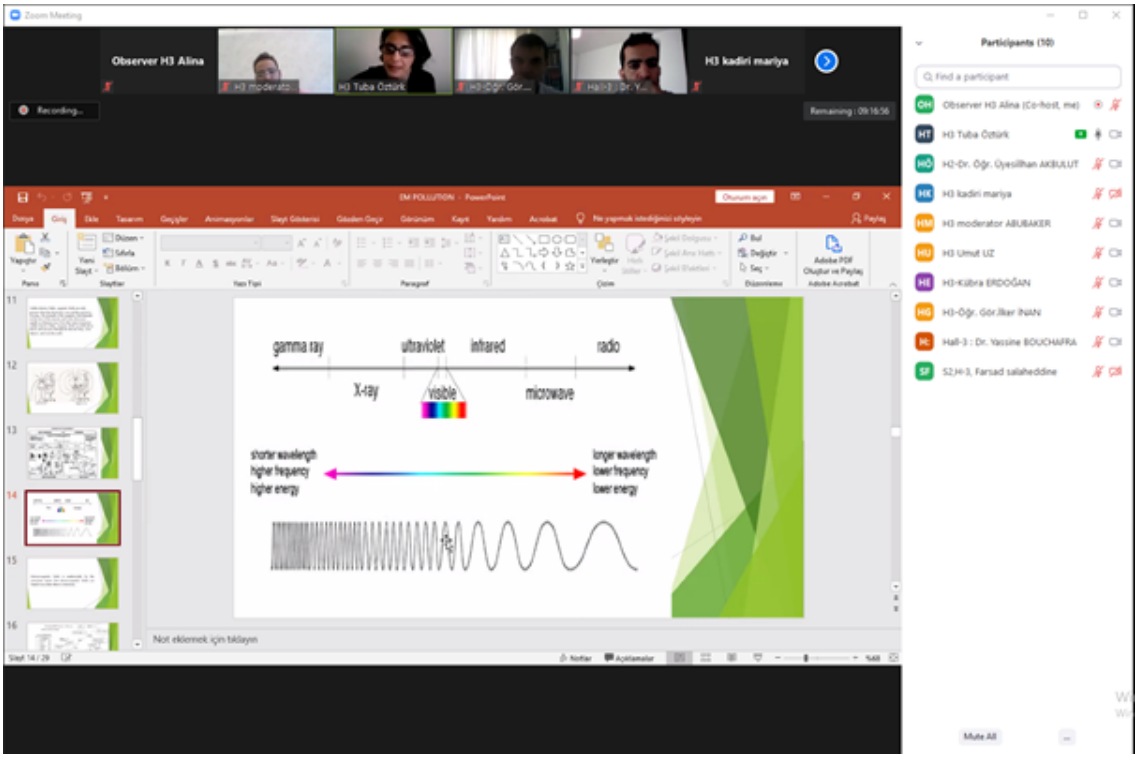


PHOTO GALLERY



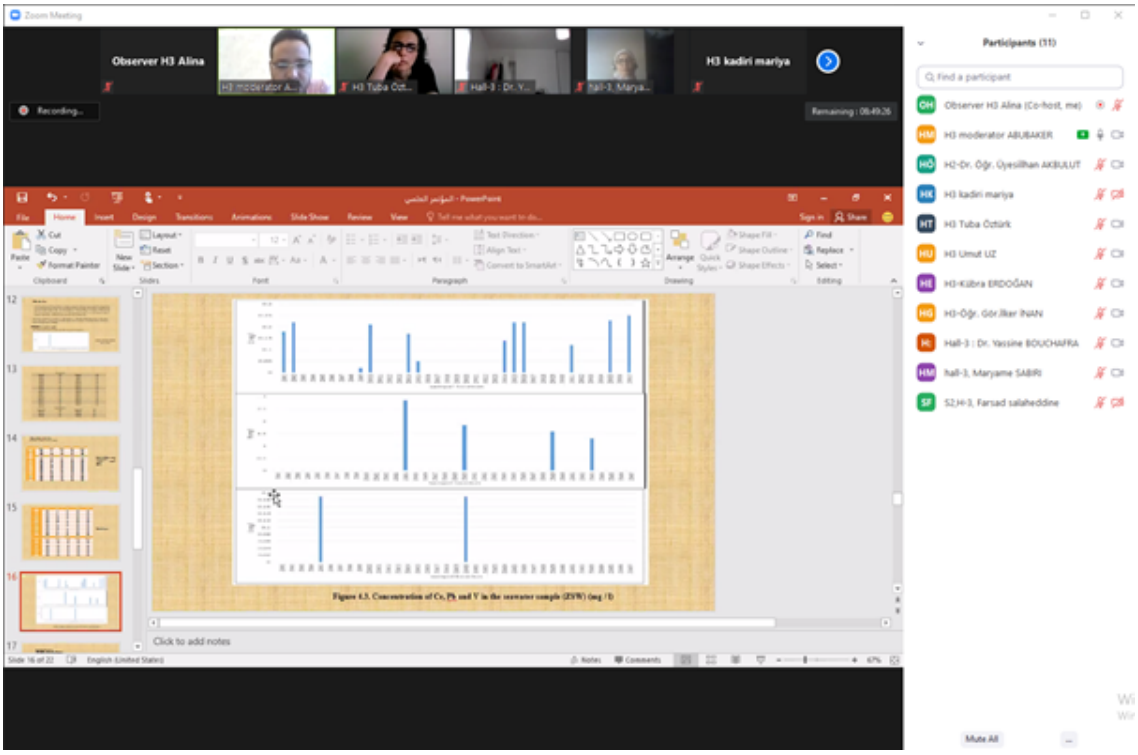
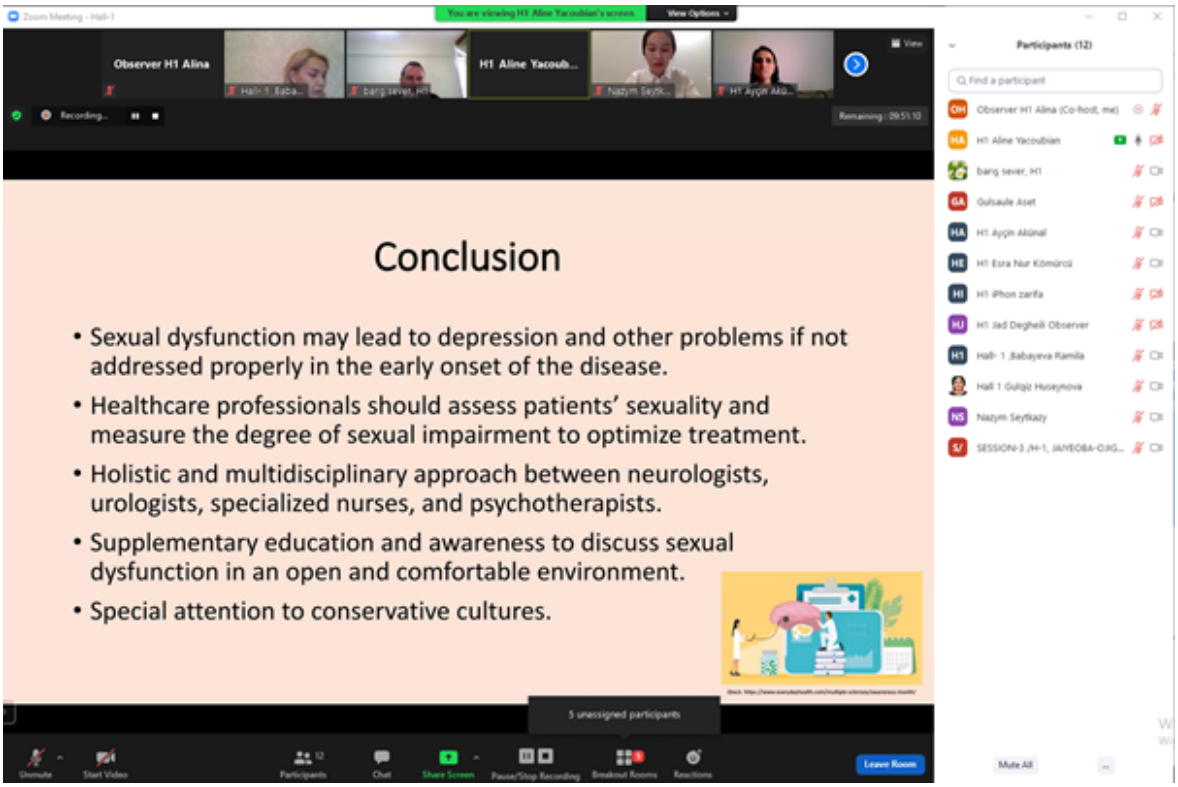


PHOTO GALLERY



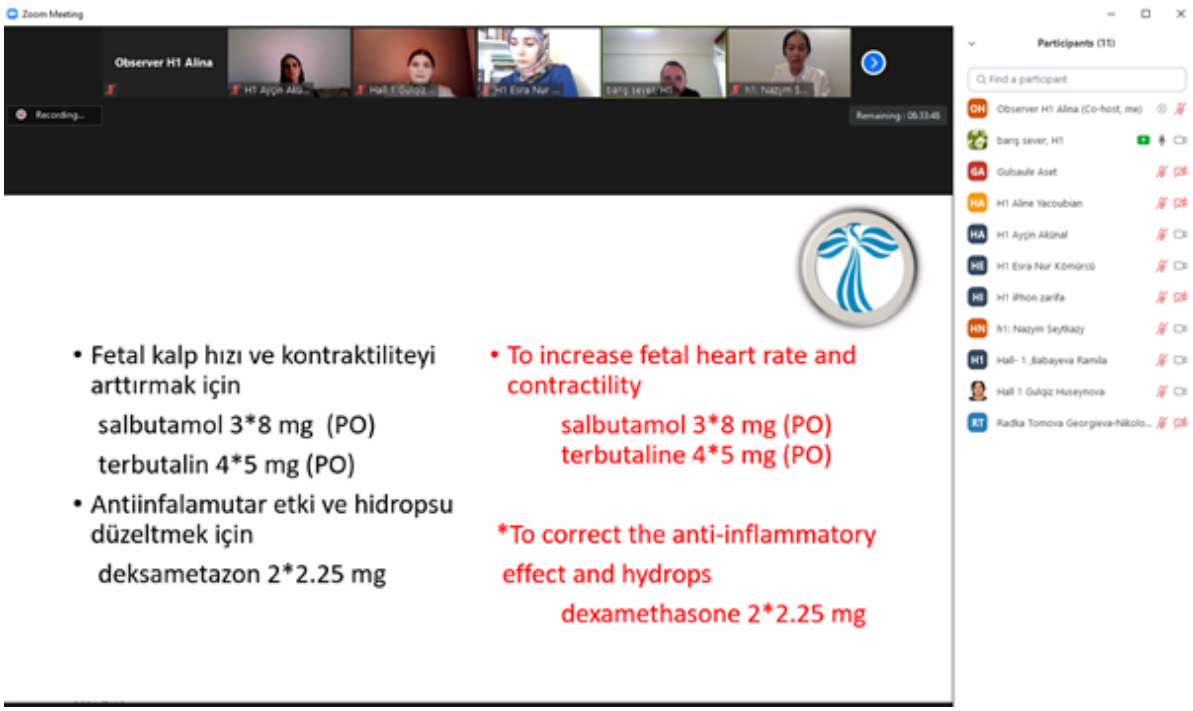
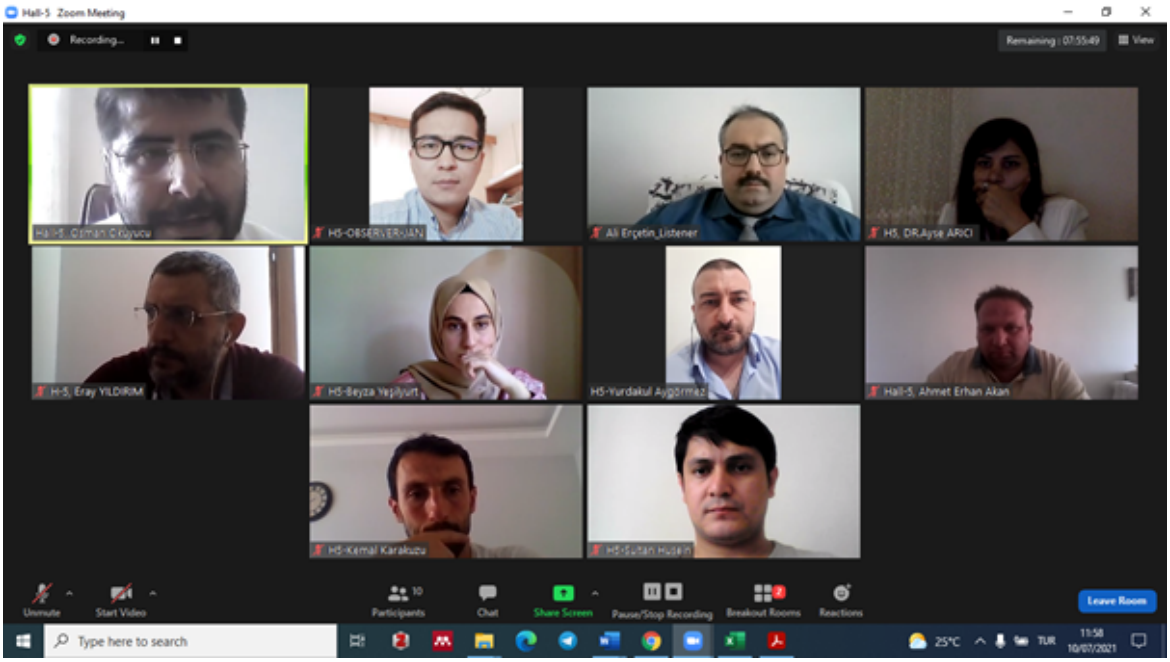


PHOTO GALLERY



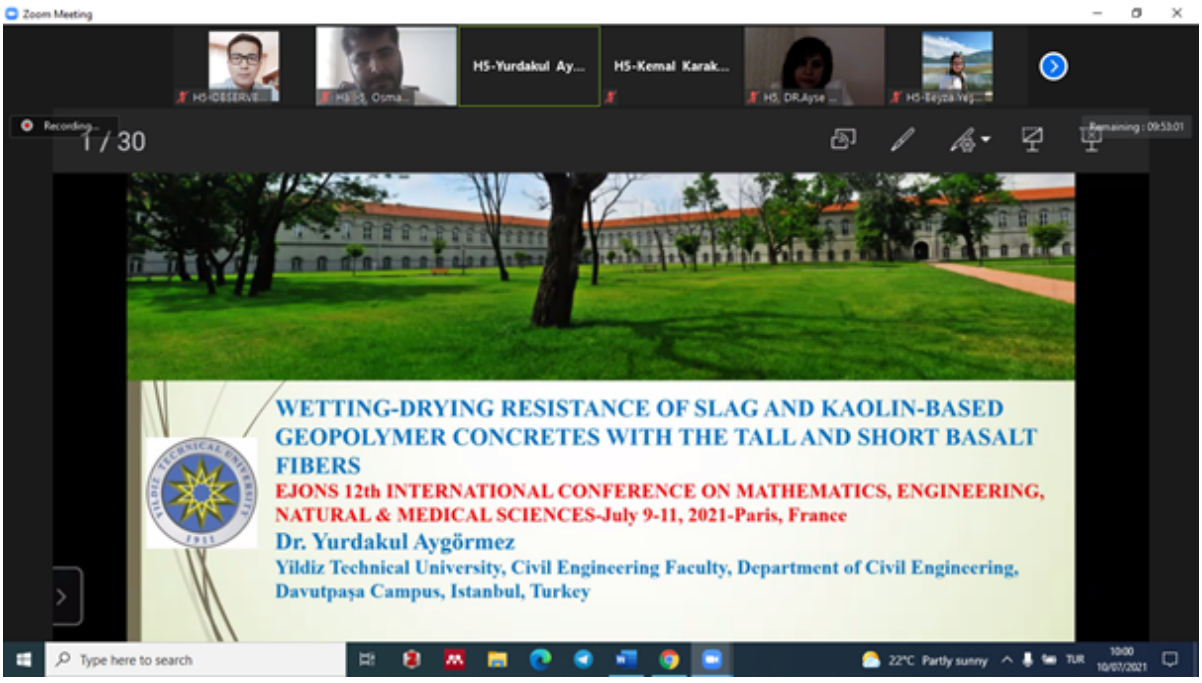
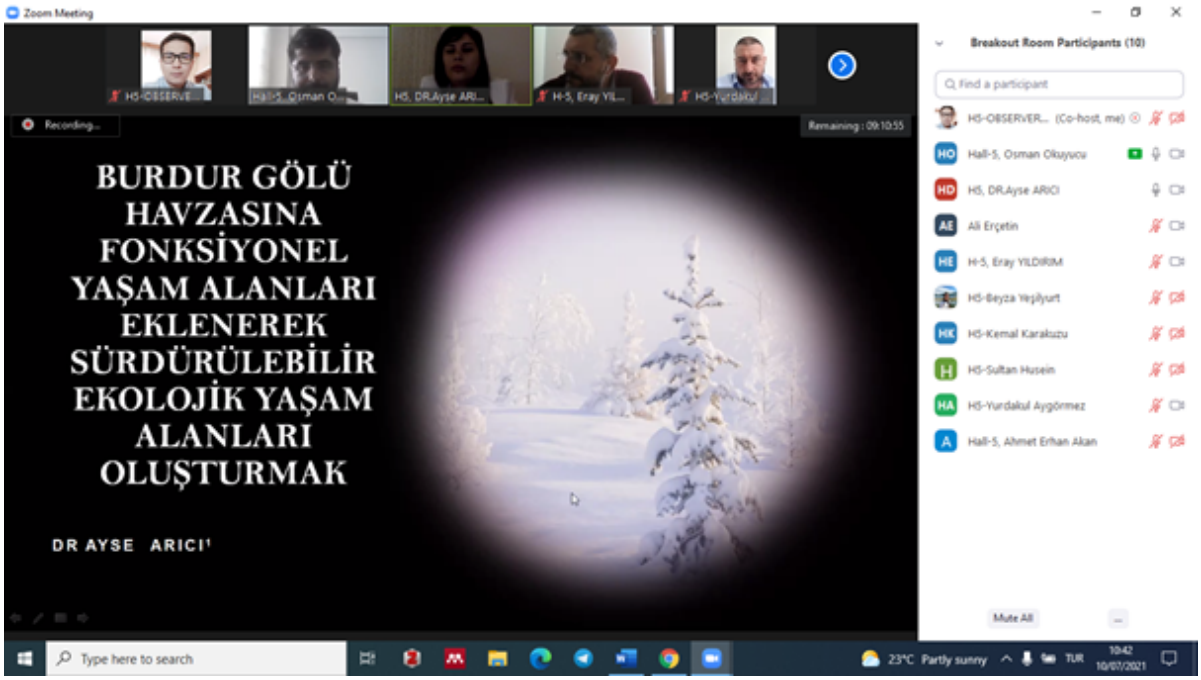


PHOTO GALLERY



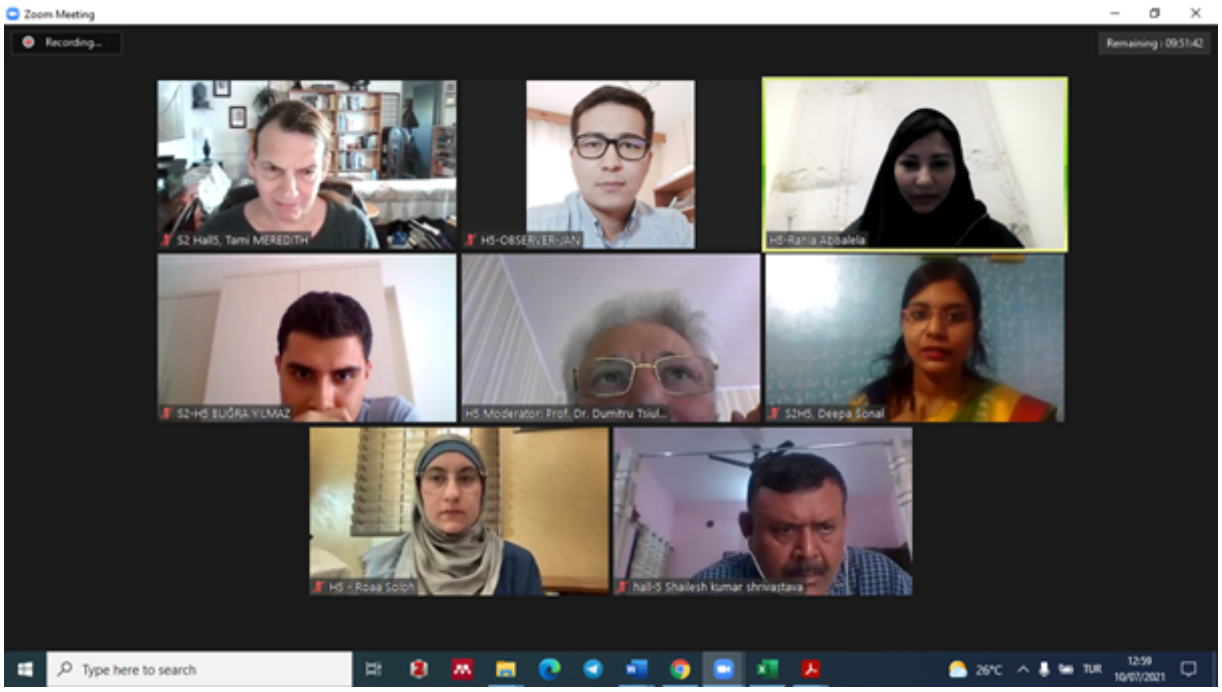


PHOTO GALLERY

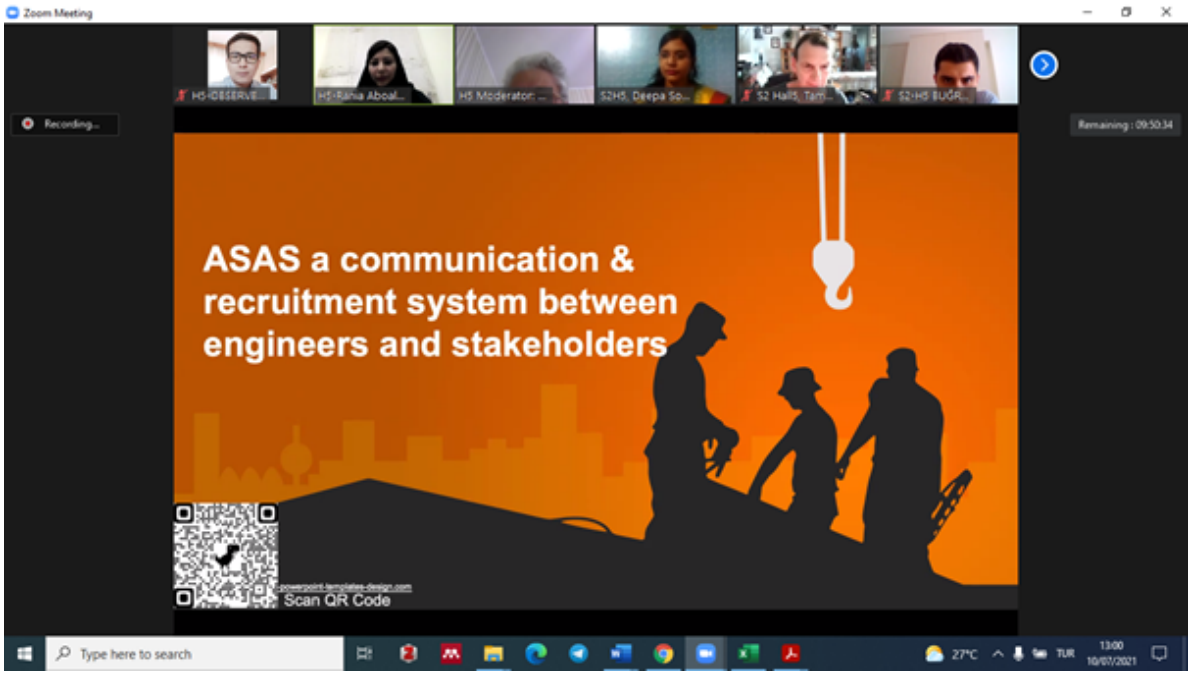
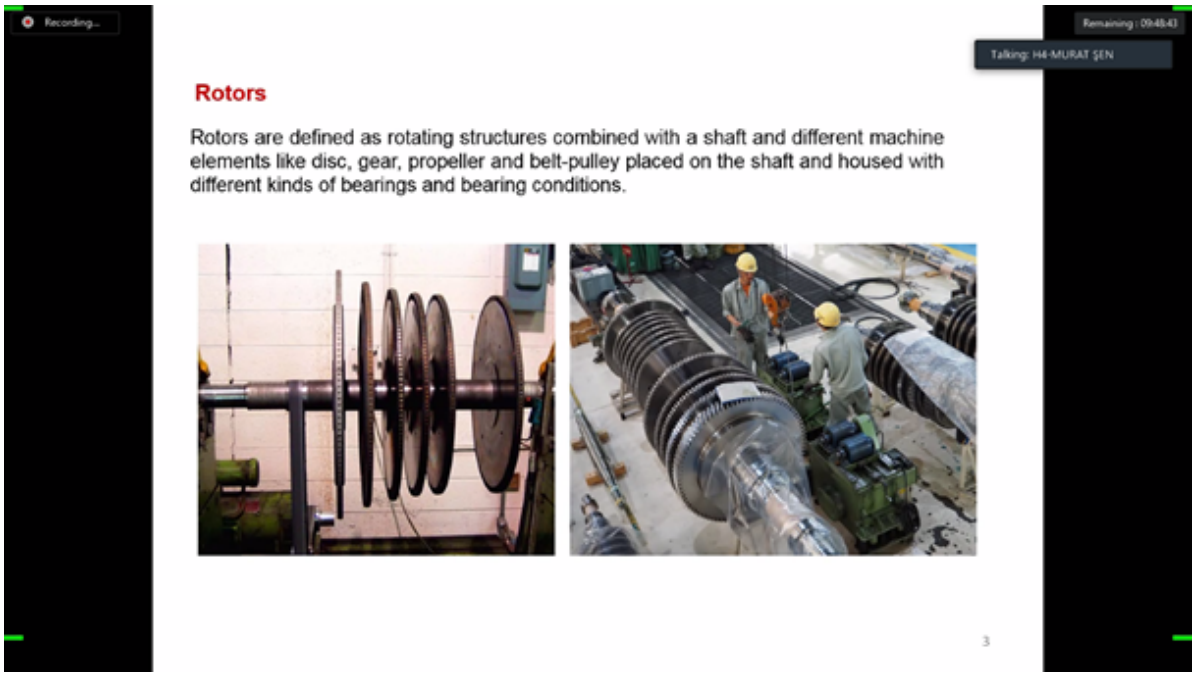
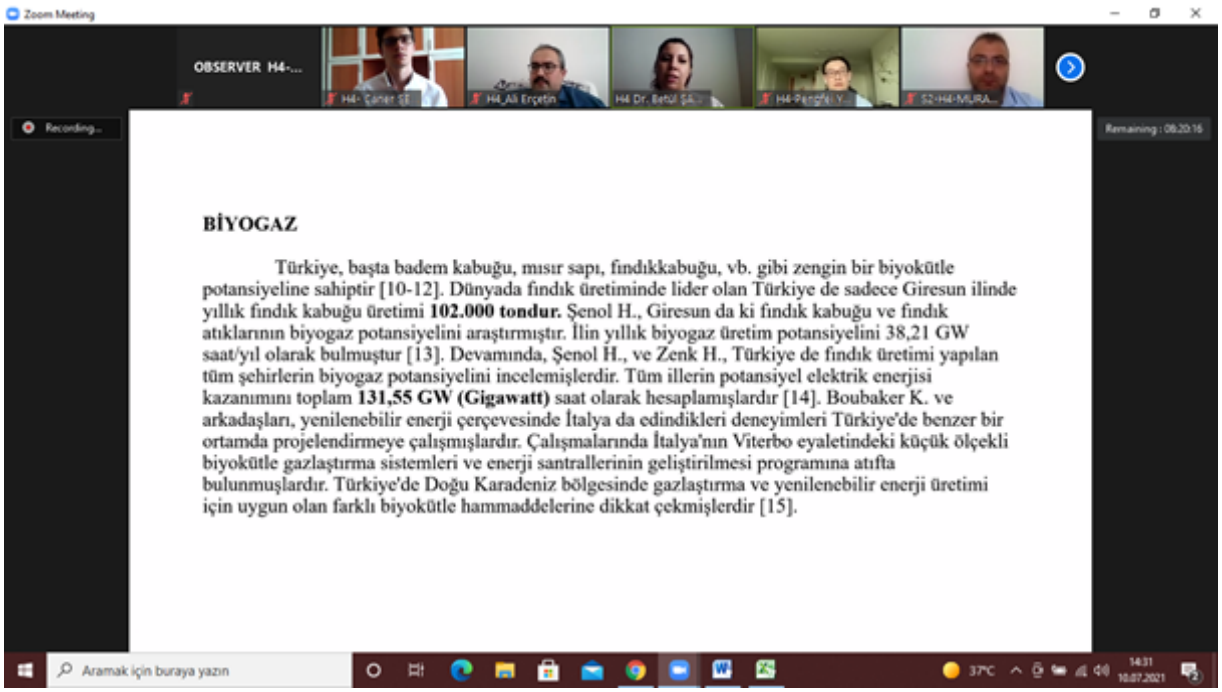


PHOTO GALLERY





EJONS

12th INTERNATIONAL CONGRESS ON MATHEMATIC, ENGINEERING AND NATURAL SCIENCES

July 9-11, 2021

Paris, France

CONGRESS PROGRAM

Online (with Video Conference) Presentation

Participating Countries: 28

France, Turkey, United Kingdom, USA, Kazakhstan, Saudi Arabia, Brasil, Canada, Finland, Romania, Albania, Vietnam, Malaysia, Algeria, Bosnia and Herzegovina, Ethiopia, İndia, Azerbaijan, Morocco, Iraq, Nigeria, Moldova, Croatia, Macedonia, Iran, Bulgaria, Pakistan, Lebanon

zoom

Meeting ID: 883 0047 5178
Passcode: 129173

ÖNEMLİ, DİKKATLE OKUYUNUZ LÜTFEN / IMPORTANT, PLEASE READ CAREFULLY

Önemli, Dikkatle Okuyunuz Lütfen

- ✓ Kongremizde Yazım Kurallarına uygun gönderilmiş ve bilim kurulundan geçen bildiriler için online (video konferans sistemi üzerinden) sunum imkanı sağlanmıştır.
- ✓ Online sunum yapabilmek için https://zoom.us/join sitesi üzerinden giriş yaparak "Meeting ID or Personal Link Name" yerine ID numarasını girerek oturuma katılabilirsiniz.
- ✓ Zoom uygulaması ücretsizdir ve hesap oluşturmaya gerek yoktur.
- ✓ Zoom uygulaması kaydolmadan kullanılabilir.
- ✓ Uygulama tablet, telefon ve PC'lerde çalışıyor.
- ✓ Her oturumdaki sunucular, sunum saatinden 15 dk öncesinde oturuma bağlanmış olmaları gerekmektedir.
- ✓ Tüm kongre katılımcıları canlı bağlanarak tüm oturumları dinleyebilir.
- ✓ Moderatör – oturumdaki sunum ve bilimsel tartışma (soru-cevap) kısmından sorumludur.

Dikkat Edilmesi Gerekenler- **TEKNİK BİLGİLER**

- ✓ Bilgisayarınızda mikrofon olduğuna ve çalıştığına emin olun.
- ✓ Zoom'da ekran paylaşma özelliğine kullanabilmelisiniz.
- ✓ Kabul edilen bildiri sahiplerinin mail adreslerine Zoom uygulamasında oluşturduğumuz oturuma ait ID numarası gönderilecektir.
- ✓ Katılım belgeleri kongre sonunda tarafınıza pdf olarak gönderilecektir
- ✓ Kongre programında yer ve saat değişikliği gibi talepler dikkate alınmayacaktır

IMPORTANT, PLEASE READ CAREFULLY

- ✓ To be able to attend a meeting online, login via https://zoom.us/join site, enter ID "Meeting ID or Personal Link Name" and solidify the session.
- ✓ The Zoom application is free and no need to create an account.
- ✓ The Zoom application can be used without registration.
- ✓ The application works on tablets, phones and PCs.
- ✓ The participant must be connected to the session 15 minutes before the presentation time.
- ✓ All congress participants can connect live and listen to all sessions.
- ✓ Moderator is responsible for the presentation and scientific discussion (question-answer) section of the session.

Points to Take into Consideration - TECHNICAL INFORMATION

- ✓ Make sure your computer has a microphone and is working.
- ✓ You should be able to use screen sharing feature in Zoom.
- ✓ Attendance certificates will be sent to you as pdf at the end of the congress.
- ✓ Requests such as change of place and time will not be taken into consideration in the congress program.

Before you login to Zoom please indicate your name_surname and HALL number,
exp. Hall-1, Awais Khan

Meeting ID: 883 0047 5178
Passcode: 129173

Session-1, Hall-1

10.07.2021

Moderator: Dr. Kadriye Ozlem SAYGI

Meeting ID: 883 0047 5178 / Passcode: 129173

Paris Local Time: 09:00 – 11:30 // Ankara Local Time: 10:00 – 12:30

Title	Author(s)	Affiliation
PHYSICOCHEMICAL AND MICROBIOLOGICAL CHARACTERISTICS OF SOURDOUGH	Ayşe Sevgili	Vocational School of Technical Sciences, Gaziantep University, 27310 Gaziantep, Turkey.
	Osman Erkmen	Department of Food Engineering, Faculty of Engineering, Gaziantep University, 27310 Gaziantep, Turkey.
EFFECT OF DIFFERENT COMBINATION LACTIC ACID BACTERIA AND YEASTS ON PHYSICOCHEMICAL, TEXTURE AND CALORIMETRIC PROPERTIES OF SOURDOUGH BREAD	Ayşe Sevgili	Vocational School of Technical Sciences, Gaziantep University, 27310 Gaziantep, Turkey.
	Osman Erkmen	Department of Food Engineering, Faculty of Engineering, Gaziantep University, 27310 Gaziantep, Turkey.
MORPHOLOGICAL AND TECHNOLOGICAL CHARACTERISTICS OF ISOLATED YEAST AND LACTIC ACID BACTERIA SPECIES FROM SOURDOUGH SAMPLES	Sinem Koçaslan	Department of Food Engineering, Faculty of Engineering, Gaziantep University, 27310 Gaziantep, Turkey
	Ayşe Sevgili	Vocational School of Technical Sciences, Gaziantep University, 27310 Gaziantep, Turkey
	Osman Erkmen	Department of Food Engineering, Faculty of Engineering, Gaziantep University, 27310 Gaziantep, Turkey
THE EFFECTS OF SOURDOUGH ON THE OF MORPHOLOGICAL STRUCTURE OF BREAD	Kübra Büyük	Gaziantep University, Institude of Science, Food Engineering Department, Gaziantep, Turkey.
	Ayşe Sevgili	Vocational School of Technical Sciences, Gaziantep University, 27310 Gaziantep, Turkey.
	Osman Erkmen	Department of Food Engineering, Faculty of Engineering, Gaziantep University, 27310 Gaziantep, Turkey.
PRODUCTION, FOOD USE AND TOXIC EFFECTS OF NANO SILVER PARTICLES	Arzu ADUNKIRAN	Department of Hotel, Restaurant an Catering Services, Vocational School, Igdir University, Igdir, Turkey
	Mine KÖKTÜRK	Department of Organic Farming, College of Applied Sciences, Igdir University, Igdir, Turkey
	Memnune ŞENGÜL	Department of Food Engineering, Faculty of Agriculture Ataturk University, Erzurum, Turkey
CRANBERRY (VACCINIUM MACROCARPON) AND URINARY TRACT INFECTION	Serkan Aslan	School of Health Department of Nutrition and Dietetics, Tekirdağ, Turkey.
	İzzet Ülker	Faculty of Health Sciences Department of Nutrition and Dietetics, Erzurum, Turkey.
MICROALGAE FOR NUTRITION AND HEALTH	Serkan Aslan	School of Health Department of Nutrition and Dietetics, Tekirdağ, Turkey.
	İzzet Ülker	Faculty of Health Sciences Department of Nutrition and Dietetics, Erzurum, Turkey.
LC-MS/MS METHODOLOGY FOR DETERMINATION OF IMIDACLOPRID IN LEAFY VEGETABLES BY QuEChERS EXTRACTION	Kadriye Ozlem SAYGI	Tokat Gaziosmanpasa University, Faculty of Arts and Sciences, Department of Chemistry, 60250 Tokat, Turkey
A NEW TREND: SUPERFOODS	Assist. Prof. Dr. Gülten ŞEKEROĞLU	Gaziantep University, Vocational School of Technical Sciences, Food Processing Department, Gaziantep, Türkiye
	Assist. Prof. Dr. Oya ÖZKANLI	Gaziantep University, Tourism Faculty, Gastronomy and Culinary Arts Department, Gaziantep, Türkiye
	Res. Asst. Dr. Dilek BÜYÜKBEŞE	Gaziantep University, Science and Art Faculty, Chemistry Department, Gaziantep, Türkiye

	Prof. Dr. Ahmet KAYA	Gaziantep University, Engineering Faculty, Food Engineering Department, Gaziantep, Türkiye
HEALTH BENEFITS AND USAGE OF CAROB FRUIT IN FOOD INDUSTRY AND GASTRONOMY	Assist. Prof. Dr. Oya ÖZKANLI	Gaziantep University, Tourism Faculty, Gastronomy and Culinary Arts Department, Gaziantep, Türkiye
	Res. Asst. Dr. Dilek BÜYÜKBEŞE	Gaziantep University, Science and Art Faculty, Chemistry Department, Gaziantep, Türkiye
	Assist. Prof. Dr. Gülten ŞEKEROĞLU	Gaziantep University, Vocational School of Technical Sciences, Food Processing Department, Gaziantep, Türkiye
All participants must join the conference 15 minutes before the session time. Every presentation should last not longer than 10-12 minutes. Kindly keep your cameras on till the end of the session.		

Session-1, Hall-2

10.07.2021

Moderator: Assoc. Prof. Dr. Nilgun ULUTASDEMIR

Meeting ID: 883 0047 5178 / Passcode: 129173

Paris Local Time: 09:00 – 11:30 // Ankara Local Time: 10:00 – 12:30

Title	Author(s)	Affiliation
MENTAL HEALTH AND COGNITIVE BEHAVIORAL THERAPY	Research Assist. Sevda UZUN	Gümüşhane University, Faculty of Health Science Gümüşhane, TURKEY
	Lecturer Nursen KULAKAC	Gümüşhane University, Faculty of Health Science Gümüşhane, TURKEY
	Assoc. Prof. Dr. Nilgun ULUTASDEMIR	Gümüşhane University, Faculty of Health Science Gümüşhane, TURKEY
BREAST REDUCTION SURGERY COMPLICATIONS	Mustafa CAPAR	Avrasya Universty, Trabzon, Turkey
LIPOSUCTION	Mustafa CAPAR	Avrasya Universty, Trabzon, Turkey
DETERMINATION OF MOLECULAR MECHANISMS OF GENES ASSOCIATED WITH CYSTIC FIBROSIS	Gözde Öztan	Istanbul University, Istanbul Faculty of Medicine, Department of Medical Biology, Istanbul, Turkey.
AGE FEATURES OF THE STRUCTURE OF THE FACIAL NERVE	Gulnara Elkhan Kerimzade	Azerbaijan Medical University. Department of Human Anatomy and Medical Terminology
НЕКОТОРЫЕ МЕТОДЫ, ПРИМЕНЯЕМЫЕ ДЛЯ ЛУЧШЕЙ ДИФФЕРЕНЦИРОВКИ ПАРАГАНГЛИЕВ	Баширова Д.Б.	Кафедра анатомии человека и медицинской терминологии, Баку, Азербайджан
	Рзаева А.М.	Кафедра анатомии человека и медицинской терминологии, Баку, Азербайджан
EVALUATION OF HOME HEALTH SERVICES PROVIDED TO PATIENTS UNDER 18 YEARS OF AGE	Esra Kurt Canpolat	Adıyaman Eğitim ve Araştırma Hastanesi, Başhekimlik
INVESTIGATION OF THE EFFICACY OF CHIROPRACTIC MANIPULATION THERAPY IN SPORTS PERFORMANCE	Sefa Haktan HATIK	Sinop University, Türkeli Vocational School, Sinop, Turkey
	Berkay Eren Pehlivanoğlu	Istanbul Rumeli University, Vocational School Of Health, Istanbul, Turkey
IMMUNOHISTOCHEMICAL EVALUATION OF THE EFFECTS OF DEXMEDETOMIDINE-FENTANYL COMBINATION ON THE RAT BRAIN	Ali Yücel KARA	İzmir Kâtip Çelebi Üniversitesi, Tıp Fakültesi, Fizyoloji Ana Bilim Dalı, İzmir, Türkiye.
	Deniz YILDIZ PEHLİVAN	İzmir Kâtip Çelebi Üniversitesi, Tıp Fakültesi, Fizyoloji Ana Bilim Dalı, İzmir, Türkiye.
	Gülçin DURDAĞI	İzmir Kâtip Çelebi Üniversitesi, Tıp Fakültesi, Fizyoloji Ana Bilim Dalı, İzmir, Türkiye.
	Selen AKYOL BAHÇECİ	İzmir Kâtip Çelebi Üniversitesi, Tıp Fakültesi, Histoloji ve Embriyoloji Ana Bilim Dalı, İzmir, Türkiye.
	Erdi KESELİK	İzmir Kâtip Çelebi Üniversitesi, Tıp Fakültesi, Histoloji ve Embriyoloji Ana Bilim Dalı, İzmir, Türkiye.
	Eser ÖZ OYAR	İzmir Kâtip Çelebi Üniversitesi, Tıp Fakültesi, Fizyoloji Ana Bilim Dalı, İzmir, Türkiye.
İSKEMİK İNME VAKALARINDA D VİTAMİNİ VE HOMOSİSTEİN DÜZEYLERİNİN AKUT DEĞİŞİMLERİNİN İNCELENMESİ	Prof. Dr. Hülya Çiçek	Gaziantep Üniversitesi Tıp Fakültesi, Tıbbi biyokimya AD, Gaziantep/Türkiye
	Kimyager Adnan İNCEER	Gaziantep Üniversitesi Sağlık Bilimleri Enstitüsü, Tıbbi biyokimya AD, Gaziantep/Türkiye
	Doç. Dr. Sırma GEYİK	Gaziantep Üniversitesi Tıp Fakültesi, Nöroloji AD, Gaziantep/Türkiye
	Dr. Öğr. Üyesi Elif İŞBİLEN	Gaziantep Üniversitesi Tıp Fakültesi, Tıbbi biyokimya AD, Gaziantep/Türkiye
	Uz. Dr. Hüseyin Gürbüz	Gaziantep Ersin Arslan Devlet Hastanesi Acil Tıp, Gaziantep/Türkiye

All participants must join the conference 15 minutes before the session time.
Every presentation should last not longer than 10-12 minutes.
Kindly keep your cameras on till the end of the session.

Session-1, Hall-3

10.07.2021

Moderator: Dr. Binyam Zigta

Meeting ID: 883 0047 5178 / Passcode: 129173

Paris Local Time: 09:00 – 11:30 // Ankara Local Time: 10:00 – 12:30

Title	Author(s)	Affiliation
SOLVABILITY OF A NOOLINEAR FRACTIONAL BOUNDARY VALUE PROBLEM INVOLVING RIEMANN-LIOUVILEE DERIVATIVE	Habib Djourdem	Laboratory of Fundamental and Applied Mathematics of Oran (LMFAO), University of Oran1, Ahmed Benbella, Oran, Algeria.
EFFECT OF THERMAL RADIATION AND CHEMICAL REACTION ON MHD FLOW OF BLOOD IN STRETCHING PERMEABLE VESSEL	Dr. Binyam Zigta	Wolaita Sodo University, College of Natural and Computational Science, Department of Mathematics, P.O.Box 138, ETHIOPIA
LA CROISSANCE DES SOLUTIONS D'UNE CLASSE D'EQUATIONS DIFFERENTIELLES LINEARES D'ORDRE SUPERIEUR	Dr. FETTOUCH Houari	Laboratory of Pure and Applied Mathematics, University of Mostaganem, UMAB, Algeria
NUMERICAL STUDY OF PHYSIOLOGICAL BLOOD FLOW WITH STRETCHING CAPILLARY ON MHD MICROPOLAR FLUID	Dr. Binyam Zigta	Wolaita Sodo University, College of Natural and Computational Science, Department of Mathematics, P. O. Box 138, ETHIOPIA
LA CROISSANCE DES SOLUTIONS D'UNE CLASSE D'EQUATIONS DIFFERENTIELLES LINEARES DANS LE PLAN COMPLEXES	Dr. FETTOUCH Houari	Laboratory of Pure and Applied Mathematics, University of Mostaganem, UMAB, Algeria
CONGKAKMATIK: FAMILIARIZING STUDENTS WITH MATHEMATICAL OPERATIONS THROUGH AN ADAPTED VERSION OF CONGKAK	Haidil Sainal	Keningau Vocational College, Science and Mathematics Department, Keningau, Sabah
MODIFIED FINITE DIFFERENCE METHOD FOR SOLVING NONLINEAR SCHRÖDINGER EQUATION WITH LOG-NONLINEARITY IN ONE DIMENSION	Suleman Alfalqi	King Khalid University, Faculty of Sciences and Arts, Department of Mathematics, Mahayil, Saudi Arabia.
VALIDITY REGISTER IMPLEMENTED BY BLOCKCHAIN TECHNOLOGY FOR GOVERNMENT ORGANISATIONS	Cinthia Paola Pascual Cáceres	University of Alicante
	Dr. José Vicente Berná Martínez	University of Alicante
	Dr. Francisco Maciá Pérez	University of Alicante
	Dr. Iren Lorenzo Fonseca	University of Alicante

All participants must join the conference 15 minutes before the session time.
Every presentation should last not longer than 10-12 minutes.
Kindly keep your cameras on till the end of the session.

Session-1, Hall-4

10.07.2021

Moderator: Assoc. Prof. Dr. Khadijeh Bouzarjomehri & Aykut Topdemir

Meeting ID: 883 0047 5178 / Passcode: 129173

Paris Local Time: 09:00 – 11:30 // Ankara Local Time: 10:00 – 12:30

Title	Author(s)	Affiliation
HEALTHY DIET BOOST IMMUNITY AND PREVENTS VIRAL INFECTIONS WITH SPECIAL EMPHASIS ON COVID-19	K.R.Padma	Assistant Professor, Department of Biotechnology, Sri Padmavati Mahila Visva Vidyalayam (Women's) University, Tirupati, AP.
PERENNIAL WEEDS OF MOULOUYA POTATO: DIVERSITY-DISTRIBUTION AND THREAT IN THE CULTURE	Alaoui Karima Chafik Zouheir Khoulati Amine Saalaoui Ennouamane Mikdame Hind Kharmach Ez-Zahra	Laboratory of Bioresources, Biotechnology, Ethnopharmacology and Health, Faculty of Science, University Mohamed Premier, Oujda 60000, Morocco Laboratory of Plant Biology and Microorganism, Faculty of Science, University Mohamed Premier, Oujda 60000, Morocco Laboratory of Engineering, Materials, Modeling and Environment, Faculty of Sciences Dhar El Mahraz, B.P. 1796, Atlas, 30000. Fez Morocco
STUDIES ON REPRODUCTION OF ENDEMIC SPECIES AND THEIR ADAPTATION TO NATURAL CONDITIONS AT FIRAT UNIVERSITY PLANT TISSUE CULTURE LABORATORY AND GREENHOUSE	Aykut Topdemir	Fırat University, Faculty of Engineering, Department of Bioengineering, Elazıg, Turkey
	Tuba Okutan	Fırat University, Faculty of Science, Department of Biology, Elazıg, Turkey
	Pelin Erdemir	Fırat University, Faculty of Engineering, Department of Bioengineering, Elazıg, Turkey
	Sümeyye Bürkev	Fırat University, Faculty of Engineering, Department of Bioengineering, Elazıg, Turkey
	Busenaz Tuncay	Gazi University, Faculty of Science, Department of Biology, Ankara, Turkey
	Fadime Karabulut	Fırat University, Faculty of Science, Department of Biology, Elazıg, Turkey
THE EFFECTS OF DIFFERENT APPLICATIONS ON THE BREAKING OF SEED DORMANCY IN ENDEMIC Ajuga xylorrhiza KIT TAN	Aykut Topdemir	Fırat University, Faculty of Engineering, Department of Bioengineering, Elazıg, Turkey
	Busenaz Tuncay	Gazi University, Faculty of Science, Department of Biology, Ankara, Turkey
	Pelin Erdemir	Fırat University, Faculty of Engineering, Department of Bioengineering, Elazıg, Turkey
	Tuba Okutan	Fırat University, Faculty of Science, Department of Biology
	Fadime Karabulut	Fırat University, Faculty of Science, Department of Biology, Elazıg, Turkey
	Sümeyye Bürkev	Fırat University, Faculty of Engineering, Department of Bioengineering, Elazıg, Turkey
A STUDY ON THE WETLANDS OF MAJULI ISLAND	Dr. Pollobi Duara	H.O.D, Department of Zoology, Majuli College
THE FAMILY BORAGINACEAE AND ITS ETHNOBOTANICAL REFLECTIONS: KERALA PERSPECTIVE	Tojo Jose	Centre for Research and Evaluation, Bharathiar University, Coimbatore, Tamil Nadu, India
THE EFFECT OF TRANSPORT PROCESS ON THE MICRONUCLEI FREQUENCY IN ERYTHROCYTES OF THE COMMON CARP CYPRINUS CARPIO L.	Funda TURAN	Faculty of Marine Science and Technology, University of Iskenderun Technical, Iskenderun, Hatay, Turkey
	Ayşegül ERGENLER	Faculty of Marine Science and Technology, University of Iskenderun Technical, Iskenderun, Hatay, Turkey
NANOTOXICOLOGICAL EFFECTS OF GRAPHENE BASED MATERIALS ON AQUATIC ORGANISM	Ayşegül ERGENLER	Faculty of Marine Science and Technology, University of Iskenderun Technical, Iskenderun, Hatay, Turkey
	Funda TURAN	Faculty of Marine Science and Technology, University of Iskenderun Technical, Iskenderun, Hatay, Turkey
ANTIMICROBIAL ACTIVITY MOLECULAR DOCKING AND ADMET PROPERTIES OF THE ESSENTIAL OIL OF SALVIA LAVANDULIFOLIA	Ilham AANOUZ Khalil EL KHATABI Aziz BOUYMAJANE Maryame Sabiri Tahar LAKHLIFI Mohammed BOUACHRINE	Molecular Chemistry and Natural Substances Laboratory, Faculty of Science, Moulay Ismail University of Meknes, Morocco EST Khenifra, Sultan Moulay Sliman University, Khenifra, Morocco Department of Biology, Team of Microbiology and Health, Laboratory of Chemistry-Biology, Applied to the Environment, Moulay Ismail University, Faculty of Sciences, Morocco
THE ROLE OF SOCIAL CAPITAL ON THE RESILIENCE OF RURAL SETTLEMENTS	Ehsan Abdi	Masters student in rural Geography of Ferdowsi university of Mashhad. Mashhad. Iran.

AGAINST FLOOD RISK (STUDY AREA OF MIAN JAM RURAL DISTRICT, TORBAT-E JAM CITY, KHORASAN RAZAVI PROVINCE. IRAN)	Khadijeh Bouzarjomehri	Associate Professor in Rural Geography, Ferdowsi University of Mashhad. Mashhad. Iran
	Maryam Ghasemi	Assistant Professor in Rural Geography, Ferdowsi University of Mashhad. Mashhad. Iran
All participants must join the conference 15 minutes before the session time. Every presentation should last not longer than 10-12 minutes. Kindly keep your cameras on till the end of the session.		

Session-1, Hall-5

10.07.2021

Moderator: Assist. Prof. Dr. Osman OKUYUCU

Meeting ID: 883 0047 5178 / Passcode: 129173

Paris Local Time: 09:00 – 11:30 // Ankara Local Time: 10:00 – 12:30

Title	Author(s)	Affiliation
WETTING-DRYING RESISTANCE OF SLAG AND KAOLIN-BASED GEOPOLYMER CONCRETES WITH THE TALL AND SHORT BASALT FIBERS	Yurdakul AYGÖRMEZ	Yildiz Technical University, Faculty of Civil Engineering, Civil Engineering Department, Istanbul, Turkey.
AN OVERVIEW OF PROJECT MANAGEMENT PROFESSIONALIZATION FROM CROATIAN PERSPECTIVE	Ph.D. Marija Šiško Kuliš	HEP Production Ltd. Croatia
	Senad Hodžić	High International school Cazin, Bosnia and Herzegovina
INVESTIGATION OF THE SUSTAINABILITY OF RURAL BUILDINGS: THE CASE OF CANKIRI	Ayse ARICI	International Vision University, Faculty of Engineering and Architecture , Civil Engineering Department, Gostivar, Northern Macedonia.
CREATING SUSTAINABLE ECOLOGICAL LIVING SPACES BY ADDING FUNCTIONAL LIVING SPACES TO THE BURDUR LAKE BASIN	Ayse ARICI	International Vision University, Faculty of Engineering and Architecture , Civil Engineering Department, Gostivar, Northern Macedonia.
EFFECT OF FIBER TYPE AND UTILIZATION RATE ON PERMEABILITY PROPERTIES AND FREEZE-THAW RESISTANCE OF MORTAR MIXTURES	Öznur Biricik	Department of Civil Engineering, Faculty of Engineering, Bursa Uludag University, Nilüfer-Bursa, Turkey
	Yahya Kaya	Department of Civil Engineering, Faculty of Engineering, Bursa Uludag University, Nilüfer-Bursa, Turkey
	Sultan Husein Bayqra	Department of Civil Engineering, Faculty of Engineering, Bursa Uludag University, Nilüfer-Bursa, Turkey
	Ali Mardani-Aghabaglou	Department of Civil Engineering, Faculty of Engineering, Bursa Uludag University, Nilüfer-Bursa, Turkey
EFFECT OF USING SHRINKAGE-REDUCING ADMIXTURE ON THE FLOWABILITY AND SHRINKAGE PROPERTIES OF KHORASAN MORTAR	Tuğçe İsafça	Department of Civil Engineering, Faculty of Engineering, Bursa Uludag University
	Kemal Karakuzu	Department of Civil Engineering, Faculty of Engineering, Bursa Uludag University
	Süleyman Özen	Department of Civil Engineering, Faculty of Engineering and Natural Science, Bursa
	Adem Doğangün	Department of Civil Engineering, Faculty of Engineering, Bursa Uludag University
	Ali Mardani-Aghabaglou	Department of Civil Engineering, Faculty of Engineering, Bursa Uludag University
USE OF WASTE TIRES IN SELF-COMPACTING CONTROLLED LOW-STRENGTH MATERIAL	Osman OKUYUCU	Tekirdağ Namık Kemal University,Corlu Engineering Faculty, Tekirdağ-Corlu,Turkey
USE OF ZEOLITE IN FLOWABLE FILL MIXES	Osman OKUYUCU	Tekirdağ Namık Kemal University,Corlu Engineering Faculty, Tekirdağ-Corlu,Turkey
INVESTIGATION OF THE RELATIONSHIP BETWEEN TEMPERATURE AND GELLING TIME IN SOIL SILICATE GROUTING	Eyübhan AVCI	Bursa Technical University, Faculty of Engineering and Natural Sciences, Department of Civil Engineering, BURSA/TURKEY
	Eray YILDIRIM	Bursa Technical University, Faculty of Engineering and Natural Sciences, Department of Civil Engineering, BURSA/TURKEY
EVALUATION OF DIFFERENT PHOTOVOLTAIC PANEL TECHNOLOGIES FOR TEKIRDAG PROVINCE	Dr. Ahmet Erhan AKAN	Namık Kemal University, Çorlu Vocational School, Department of Machine and Metal Technologies, Tekirdag, Turkey.
PHOTOGRAMMETRY IN HISTORICAL BUILDING ANALYSIS	Beyza Nur YEŞİLYURT	Necmettin Erbakan University, Social Sciences Institute, Konya, Turkey
	Assist. Prof. Dr. M. Ergün HATIR	Faculty of Fine Arts, Department of Interior Architecture and Environmental Design, Necmettin Erbakan University, Konya, Turkey

All participants must join the conference 15 minutes before the session time.
Every presentation should last not longer than 10-12 minutes.
Kindly keep your cameras on till the end of the session.

Session-2, Hall-1
10.07.2021
Moderator: Prof. Dr. Ahmet KILIC
Meeting ID: 883 0047 5178 / Passcode: 129173
Paris Local Time: 12:00 – 14:30 // Ankara Local Time: 13:00 – 15:30

Title	Author(s)	Affiliation
THE EVALUATION OF THE BIOLOGICAL AND SPECTROSCOPIC PROPERTIES OF THE DIFFERENT BIOACTIVE BORON COMPOUNDS	Levent BEYAZSAKAL	MSc. Harran University, Science and Art Faculty, Chemistry Department
	Ahmet KILIC	Prof. Dr. Harran University, Science and Art Faculty, Chemistry Department
THEORETICAL CALCULATION OF SPECIFIC HEAT CAPACITY OF TUNGSTEN-TECHNETIUM ALLOY	Melek GOKBULUT	Department of Optician Program, Erbaa Vocational School of Health Services, Gaziosmanpasa University, Tokat, Turkey
	Elif SOMUNCU	Department of Optician Program, Ulubey Vocational High School, Usak University, Usak, Turkey.
HYDROLOGIC MODELING OF A HIGHLY MANAGED WATERSHED USING SWAT	M. Matin Saddiqi M. Ekrem Karpuzcu	Istanbul Technical University, Environmental Engineering Department, Istanbul, Turkey; University College Dublin, Chemical and Bioprocess Engineering Department, Dublin, Ireland; Istanbul Technical University, Environmental Engineering Department, Istanbul, Turkey;
INVESTIGATION OF in Vitro INHIBITORY EFFECTS OF SOME CARNOZOLE AND CARNOSIC ACID DERIVATIVES BASES ON ACETYLCHOLINESTERASE, BUTYRYLCHOLINESTERASE AND CARBONIC ANHYDRASE ISOENZYMES	Zeynep KOKSAL	Istanbul Medeniyet University, Engineering and Natural Sciences, Chemistry, Istanbul, Turkey
INVESTIGATION OF ELECTROCHEMICAL PERFORMANCE OF PZT MATERIALS IN Li-ION AND Na-ION BATTERIES	M. Taha Demirkan Mehbare Dogrusoz Rezan Demir-Cakan	Department of Material Science and Engineering, Department of Chemical Engineering, Institute of Nanotechnology, Gebze Technical University, KOCAELİ, TURKEY
SYNTHESIS, CHARACTERIZATION AND ANTIMICROBIAL ACTIVITY OF Fe(II) AND Mn(II) COMPLEXES WITH SCHIFF BASE DERIVED FROM NAPHTHALDEHYDE AND P-CHLOROANILINE	Ibrahim A.K.	Department of pure and Industrial Chemistry, Bayero University, Kano. Nigeria.
	Na'aliya J	Department of pure and Industrial Chemistry, Bayero University, Kano. Nigeria.
A SIMPLE NEW SYNTHESIS METHOD OF COPPER MOLYBDATE CuMoO4 NANOPARTICLES AND THEIR CATALYTIC PERFORMANCE	Hicham Oudghiri Hassani Mohamed Akouibaa Souad Rakass Mostafa Abboudi Brahim El Bali Mohammed Lachkara Fahd Al Wadaani	Engineering Laboratory of Organometallic, Molecular Materials and Environment (LIMOME), Faculty of Sciences, Chemistry Department, Sidi Mohamed Ben Abdellah University, 30000 Fez, Morocco; Laboratory of Applied Organic Chemistry (LCOA), Chemistry Department, Faculty of Sciences and Techniques, Sidi Mohamed Ben Abdellah University, Po. Box 2202, Imouzzer Road 30000 Fez, Morocco; Chemistry Department, College of Science, Taibah University, Al-Madinah Al-Munawarah 30002, Saudi Arabia; Independent Scientist, Oujda, Morocco
STUDY OF INTERACTIONS BETWEEN POLY(VINYL ALCOHOL) AND BOVINE SERUM ALBUMIN IN SOLUTION	Maria Bercea	"Petru Poni" Institute of Macromolecular Chemistry, 41-A Grigore Ghica Voda Alley, 700487 Iasi, Romania
	Ioana-Alexandra Plugariu	"Petru Poni" Institute of Macromolecular Chemistry, 41-A Grigore Ghica Voda Alley, 700487 Iasi, Romania
RHEOLOGICAL BEHAVIOR OF BOVINE SERUM ALBUMIN IN SOLUTION (Poster)	Ioana-Alexandra Plugariu	"Petru Poni" Institute of Macromolecular Chemistry, 41-A Grigore Ghica Voda Alley, 700487 Iasi, Romania
	Maria Bercea	"Petru Poni" Institute of Macromolecular Chemistry, 41-A Grigore Ghica Voda Alley, 700487 Iasi, Romania
All participants must join the conference 15 minutes before the session time. Every presentation should last not longer than 10-12 minutes. Kindly keep your cameras on till the end of the session.		

Session-2, Hall-2

10.07.2021

Moderator: Hajar Sadeq

Meeting ID: 883 0047 5178 / Passcode: 129173

Paris Local Time: 12:00 – 14:30 // Ankara Local Time: 13:00 – 15:30

Title	Author(s)	Affiliation
DIAGNOSIS OF RUPTURE OF ANCHOR STAPLE PINS THAT HAVE UNDERGONE THE PHENOMENON OF CORROSION	Hajar Sadeq Abdelkader Nasser Abdelhamid Kerkour El Miad	Mohammed First University Oujda, Faculty of Science Oujda, Laboratory of Materials, Wave, Energy and Environment (LaMOn2E), Oujda, Morocco
New Ethylenediamine Crosslinked 2D-Cellulose Adsorbent for Nanoencapsulation Removal of Pb (II) and Cu (II) Heavy Metal Ions: Synthesis, Characterization Application and RSM-modelling	Issam Jilal Soufian El Barkany Zahra Bahari Youssef El Ouardi Mohamed Loutou Hassan Amhamdi Mohamed Abou-Salama Amin Salhi Abderrahmane El Idrissi Katri Laatikainen	Laboratory of Molecular Chemistry, Materials and Environment (LMCME), Department of Chemistry, Faculty Multidisciplinary Nador, Mohamed 1st University, P. B. 300, Nador 62700, Morocco. LIMOME Laboratory, Dhar El Mehraz Faculty of Sciences, Sidi Mohamed Ben Abdellah University, B.P. 1796 Atlas, Fes 30000, Morocco Laboratory of Separation Technology, Lappeenranta University of Technology, P.O. Box 20, FI-53851 Lappeenranta, Finland. Applied Chemistry Unit, Sciences and Technologies Faculty, Abdelmalek Essaadi University, 32 003 Al Hoceima, Morocco Laboratory Applied Chemistry and Environmental (LCAE-URAC18), Faculty of Sciences of Oujda, Mohamed1stUniversity, 60000 Oujda, Morocco
THE EFFECT OF ETHANOL/ WATER ON POLYPHENOLS CONTENT, ANTIOXYDANT ACTIVITIES OF THE SOLID RESIDUES FROM HYDRO DISTILLATION OF ROSEMARY	Imane ZIANI	University Mohammed Premier, Faculty of Sciences, Chemistry Department,Oujda, Morroco
	Hamza BOUAKLINE	University Mohammed Premier, Faculty of Sciences, Chemistry Department,Oujda, Morroco
	Abdesselam TAHANI	University Mohammed Premier, Faculty of Sciences, Chemistry Department,Oujda, Morroco
	Ali EL BACHIRI	University Mohammed Premier, Faculty of Sciences, Chemistry Department,Oujda, Morocco
QUALITY ASSESSMENT OF RIVERS AND WELLS WATER USED FOR LOCUST BEANS 'IRU' (PAKIA BIGLOBOSA) PROCESSING IN ABEOKUTA METROPOLIS, NIGERIA	Taiwo, A. G.	Moshood Abiola Polytechnic, Science Laboratory Technology Department, P.M.B. 2210, Ojere-Onikolobo road, Abeokuta
	Eleyowo, I. O.	The Gateway (ICT) Polytechnic, Saapade, General Studies Department, Isara Remo, Ogun State, Nigeria.
	Ibikunle, O.	The Gateway (ICT) Polytechnic, Saapade, General Studies Department, Isara Remo, Ogun State, Nigeria.
STUDY OF THE INTERACTIONS BETWEEN SODIUM MONTMORILLONITE AND SODIUM ALGINATE AS ANIONIC POLYMER	BRAHMI MOHAMED	University Mohammed Premier, Faculty of Sciences, Laboratory of Environment and Applied Chemistry (LCAE), Oujda, Morocco
	ESSIFI KAMAL	University Mohammed Premier, Faculty of Sciences, Laboratory of Environment and Applied Chemistry (LCAE), Oujda, Morocco
	ELBACHIRI ALI	University Mohammed Premier, Faculty of Sciences, Laboratory of Environment and Applied Chemistry (LCAE), Oujda, Morocco
	TAHANI ABDESSALAM	University Mohammed Premier, Faculty of Sciences, Laboratory of Environment and Applied Chemistry (LCAE), Oujda, Morocco
THE EFFECT OF DRYING PROCESS ON THE BIOACTIVE COMPOUNDS OF P. LENTISCUS L. LEAVES EXTRACTS AND ESSENTIAL OIL	Hamza bouakline	University Mohammed Premier, Faculty of Sciences, chemistry department, Oujda, Morocco.
	Imane zıani	University Mohammed Premier, Faculty of Sciences, chemistry department, Oujda, Morocco.
	Abdesselam tahani	University Mohammed Premier, Faculty of Sciences, chemistry department, Oujda, Morocco.
	Ali EL bachiri	University Mohammed Premier, Faculty of Sciences, chemistry department, Oujda, Morocco.
PHYSICOCHEMICAL PROPETIES AND CHEMICAL COMPOSITION OF PHOENIX DACTILYFERA L. SEED OIL	Yasmina Halabi Chaimae Nasri Hicham Harhar Abdelkbir Bellaouchou Mohamed Tabyaoui	Laboratory of Materials, Nanotechnology, and Environment, Mohammed V University, Faculty of Science, 4 Av. Ibn Battouta, B.P 1014 Rabat, Morocco

SYNTHESISI, CRYSTAL STRUCTURE AND CATALYTIC/ADSORBENT ACTIVITIES OF [Ni(N2H5)2(C2O4)2].H2O	Mohamed Akouibaa	University Sidi Mohamed Ben Abdellah, Faculty of Sciences, Fez, Morocco
	Hicham oudghiri hassani	University Sidi Mohamed Ben Abdellah, Faculty of Sciences, Fez, Morocco
	Najlaa Hamdi	University Sidi Mohamed Ben Abdellah, Faculty of Sciences, Fez, Morocco
	Rachid Ouarsal	University Sidi Mohamed Ben Abdellah, Faculty of Sciences, Fez, Morocco
	Souâd Rakib	University Sidi Mohamed Ben Abdellah, Faculty of Sciences, Fez, Morocco
	Mohamed Khaldi	University Sidi Mohamed Ben Abdellah, Faculty of Sciences, Fez, Morocco
	Brahim El Bali	Independent scientist, Oujda, Morocco
	Mohammed Lachkar	University Sidi Mohamed Ben Abdellah, Faculty of Sciences, Fez, Morocco
All participants must join the conference 15 minutes before the session time. Every presentation should last not longer than 10-12 minutes. Kindly keep your cameras on till the end of the session.		

Session-2, Hall-3

10.07.2021

Moderator: **Aydın Türkyilmaz** & Abubaker Hussin Alsharif

Meeting ID: 883 0047 5178 / Passcode: 129173

Paris Local Time: 12:00 – 14:30 // Ankara Local Time: 13:00 – 15:30

Title	Author(s)	Affiliation
DEFECTIVE ONE-DIMENSION PERIODIC SYSTEM FOR FILTERING AND DEMULTIPLEXING	Yassine Bouchafra Youssef Ben-Ali Ilyass El Kadmiri Zakarea Rahou D. Bria	"Laboratoire des Matériaux, Ondes, Energie et Environnement, Equipe des Ondes, Acoustique, Photonique et Matériaux, Faculté des Sciences, Université Mohamed Premier, Oujda, Maroc.
ONE-DIMENSIONAL DEFECTIVES PERIODIC COMB-LIKE BASED ON QUANTUM WIRES FOR GUIDING AND FILTERING	Siham Machichi Yassine Bouchafra Youssef Ben-Ali Ilyass El Kadmiri Driss Bria	"Laboratoire des Matériaux, Ondes, Energie et Environnement, Equipe des Ondes, Acoustique, Photonique et Matériaux, Faculté des Sciences, Université Mohamed Premier, Oujda, Maroc.
ELECTROCHEMICAL AND CORROSION INHIBITION PROPERTIES OF THREE NEW FERROCENE DERIVATIVES	Mariya Kadiri	Sidi Mohamed Ben Abdellah University, chemistry department, Fes, Morocco
	Riham Sghyar	Sidi Mohamed Ben Abdellah University, chemistry department, Fes, Morocco
	Majid Driouch	Sidi Mohamed Ben Abdellah University, chemistry department, Fes, Morocco
	Mouhcine Sfaira	Sidi Mohamed Ben Abdellah University, chemistry department, Fes, Morocco
	Abdeslem bentama	Sidi Mohamed Ben Abdellah University, chemistry department, Fes, Morocco
	Elmestafa Elhadrami	Sidi Mohamed Ben Abdellah University, chemistry department, Fes, Morocco
PHYTOCHEMICAL SCREENING AND TOTAL PHENOLIC AND FLAVONOIDS CONTENTS OF DIFFERENT SOLVENT EXTRACTS FROM AERIAL PART OF Pulicaria mauritanica	Maryame Sabiri Mohammed Barbouchi Kaoutar Elamrani Ali Amechrouq	Molecular Chemistry and Natural Substances Laboratory, Moulay Ismail University, Faculty of Sciences, B.P. 11201, Zitoune, Meknes, Morocco
OPTIMIZING AND MODELING THE ANAEROBIC DIGESTION OF LANDFILL LEACHATE BY USING PLACKETT BURMAN DESIGN	Salaheddine FARSAD Zakaria ANFAR Saaida LHANAFI Abdellah AIT ELFAKIR Asmae AMJLEF Noureddine ELALEM	Laboratory of Materials and Environment, Ibn Zohr University, Agadir 80000, Morocco.
THE EFFECTS AND MANAGEMENT OF ENVIRONMENTAL POLLUTION ORIGINATING FROM ELECTROMAGNETIC FIELDS	Tuba Öztürk	Tekirdag Namık Kemal University, Çorlu Faculty of Engineering, Environmental Engineering, Tekirdag, Turkey.
INVESTIGATION OF OIL POLLUTION IN THE SEA IN LIBYA	Abubaker Hussin Alsharif	Kastamonu University Faculty of Engineering and Architecture, Department of Environmental Engineering, Kastamonu, Turkey
	Aydın Türkyilmaz	Kastamonu University Faculty of Engineering and Architecture, Department of Environmental Engineering, Kastamonu, Turkey
COMPARATIVE ANALYSIS OF COAL MINING DISASTERS IN TURKEY	İLKER İNAN	İstanbul Gelısım Universıty, Vocatıonal School, Mechatronıcs Department, İstanbul, Turkey
	Ç. İLHAN AKBULUT	Dogus Universıty, Vocatıonal School, Justıce Department, İstanbul, Turkey
	UMUT UZ	İstanbul Gelısım Universıty Vocatıonal School Mechatronıcs Department İstanbul Turkey
	KÜBRA ERDOĞAN	İstanbul Gelısım Universıty Vocatıonal School Mechatronıcs Department İstanbul Turkey
All participants must join the conference 15 minutes before the session time. Every presentation should last not longer than 10-12 minutes. Kindly keep your cameras on till the end of the session.		

Session-2, Hall-4

10.07.2021

Moderator: Dr. Ali Erçetin

Meeting ID: 883 0047 5178 / Passcode: 129173

Paris Local Time: 12:00 – 14:30 // Ankara Local Time: 13:00 – 15:30

Title	Author(s)	Affiliation
MODAL ANALYSIS FOR SOLID AND HOLLOW POWER ULTRASONIC HORN USING FEM	Ziad Shakeeb Al Sarraf Majied Medhat Saeed	Department of Mechanical Engineering, Faculty of Engineering, University of Mosul, Mosul, IRAQ
SHIFTING RESONANCE AND ANTI-RESONANCE FREQUENCIES OF A SHAFT-DISK-BEARING ROTOR SYSTEM TO DESIRED VALUES BY USING FREQUENCY RESPONSE FUNCTIONS	Murat Şen	Firat University, Engineering Faculty, Mechanical Engineering Department, Elazığ, Turkey.
	Orhan Çakar	Firat University, Engineering Faculty, Mechanical Engineering Department, Elazığ, Turkey.
EXAMINATION OF THE EFFECTS OF BLOCKAGE POSITIONS ON MASS DISTRIBUTIONS IN PEM FUEL CELL	İbrahim Halil HAZAR	Firat University, Engineering Faculty, Mechanical Engineering, Elaziğ, Turkey
INVESTIGATION OF THE EFFECTS OF CHANNEL BLOCKAGE TYPES ON PERFORMANCE IN PEM FUEL CELL	İbrahim Halil HAZAR	Firat University, Engineering Faculty, Mechanical Engineering, Elaziğ, Turkey
FLOW OPTIMIZATON OF A GLOBE CHECK VALVE WITH NUMERICAL METHOD	Nevzat Tugay SAYAR	Ege University, Faculty of Engineering, Department of Mechanical Engineering, 35100 Bornova, İzmir, Turkey
	Erbil İYİM	Valf Sanayi A.Ş., Organize Sanayi Bölgesi, Kurtuluş Cad. No: 1, Manisa, Turkey
	Aydoğan ÖZDAMAR	Ege University, Faculty of Engineering, Department of Mechanical Engineering, 35100 Bornova, İzmir, Turkey
INVASIVE WEED OPTIMIZATION ALGORITHM FOR SOLVING MULTI-OBJECTIVE U-SHAPED DISASSEMBLY LINE BALANCING PROBLEM	Pengfei Yao	Department of Mechanical and Industrial Engineering Northeastern University Boston, MA, 02115, USA.
	Surendra M. Gupta	Department of Mechanical and Industrial Engineering Northeastern University Boston, MA, 02115, USA.
SOLUTION OF VARYING FREQUENCY AND TIE LINE POWER OF GENERATING STATION	Ashish Dhamanda	Gurukula Kangri (Deemed to be University) Haridwar, UK, India
DETERMINING THE FLOW RATE OF A THERMOSTATIC EXPANSION VALVE BY NUMERICAL METHOD	Caner SEVER	Ege University, Faculty of Engineering, Department of Mechanical Engineering, 35100 Bornova, İzmir, Turkey
	Erbil İYİM	Valf Sanayi A.Ş., Organize Sanayi Bölgesi, Kurtuluş Cad. No: 1, Manisa, Turkey
	Aydoğan ÖZDAMAR	Ege University, Faculty of Engineering, Department of Mechanical Engineering, 35100 Bornova, İzmir, Turkey
THE EFFECT OF THE CHANGE OF Mg2Sn PHASE RATIO ON THE SURFACE MORPHOLOGY AND CORROSION BEHAVIOUR OF SA21-xSn MAGNESIUM ALLOYS	Dr. Ali Erçetin	Bingöl University, Faculty of Engineering ad Architecture, Department of Mechanical Engineering, Bingöl, Turkey.
VALUE OF BIOMASS AS A HAZELNUT SHELL	Dr. Betül ŞAHİN	TRABZON ÜNİVERSİTESİ, BEŞİKDÜZÜ MYO, MAKİNE VE METAL TEKNOLOJİLERİ BÖLÜMÜ, MAKİNE PROGRAMI, TRABZON/BESİKDUZU, TÜRKİYE
All participants must join the conference 15 minutes before the session time. Every presentation should last not longer than 10-12 minutes. Kindly keep your cameras on till the end of the session.		

Session-2, Hall-5

10.07.2021

Moderator: Prof. Dr. Dumitru Tsiulyanu

Meeting ID: 883 0047 5178 / Passcode: 129173

Paris Local Time: 12:00 – 14:30 // Ankara Local Time: 13:00 – 15:30

Title	Author(s)	Affiliation
ASAS A COMMUNICATION SYSTEM BETWEEN ENGINEERS AND STAKEHOLDERS	Rania Anwar Aboalela Ahlam Mazmomi Amal Alharbi Marajel Albeladi	Information System Department, Faculty of Computing and Information Technology
AN EMPIRICAL APPROACH FOR EXPLORING NON-SOCIAL LANGUAGE USE	Tami MEREDITH	Dalhousie University, Faculty of Computer Science, Halifax, Canada
	Maryanne FISHER	Saint Mary's University, Faculty of Science, Department of Psychology, Halifax, Canada
USING SMART AGRICULTURE TECHNIQUES FOR IMPROVING CROP PRODUCTION	DEEPA SONAL	Department of Computer Science, V.K.S. University, Arrah-802301, India
	SHAILESH KUMAR SHRIVASTAVA	Scientist-F & Head, DGRC, NIC, STPI Campus, Patna-800013, India
	BINAY KUMAR MISHRA	Director, Department of Computer Science, V.K.S. University, Arrah-802301, India
3D MESH MATCHING USING SURFACE DESCRIPTOR AND INTEGER LINEAR PROGRAMMING	Roaa SOLOH	Lebanese University, LIA Laboratory, Doctoral School of Sciences & Technology, Beirut, Lebanon.
	Abdallah El CHAKIK	Beirut Arab University, Faculty of Sciences, Department of Computer Science , Tripoli, Lebanon
	Hassan ALABBOUD	Lebanese University, Faculty of Economics and Business administration ,Tripoli, Lebanon
	Ahmad SHAHIN	Lebanese University, LIA Laboratory, Doctoral School of Sciences & Technology, Tripoli, Lebanon
	Adnan Yassine	Normandie Universit e, UNIHAVRE, ISEL, 76600 Le Havre, France.
TRANSFORMATION FROM PIM MODEL TO PSM MODEL IN MDA: CASE UML TO SALES FUNNEL	Ouzayr RABHI	MATSI Laboratory, EST, Mohammed First University, Oujda, Morocco
	Ibtissam ARRASSEN	Laboratory for Computer Science Research Faculty of Sciences, Mohammed First University, Oujda, Morocco
A COMPENDIUM OF RIGHT TO PRIVACY IN DIGITAL AGE USING SOCIAL NETWORKING SITES	Abhilasha Sisodia	LL.M (University of Pune), Pursuing Ph.D. Assistant Professor; School of Law (SOL); Galgotias University; Greater Noida. Flat No.501, Tower 2, Unitech Horizon, Sector – PI 2, Greater Noida, Pin- 201310.
	Rishikesh Sisodia	Research Scholar, School of Bussiness, Galgotias University Flat No.501, Tower 2, Unitech Horizon, Sector – PI 2, Greater Noida, Pin- 201310.
	Dr. Apeksha	Assistant Professor; Department of English; School of Liberal Education; Galgotias University. Tower12,Flat-1502, Paramount Floraville,Sector 137, Noida
EFFICIENCY AND LIMITATION ANALYSIS OF HIGH TEMPERATURE SUPERCONDUCTOR CABLES	Buğra Yılmaz	University of Firat, Faculty of Engineering, Department of Electrical and Electronics Engineering, Elazig, Turkey.
	Muhsin Tunay Gençoğlu	University of Firat, Faculty of Engineering, Department of Electrical and Electronics Engineering, Elazig, Turkey.
AMORPHOUS CHALCOGENIDES BASED MICROCELLS FOR THE FAST TOXIC GAS ALARM-TRIGGERING	Dumitru Tsiulyanu	Technical University, Faculty of Electronics and Telecommunication, Department of Physics, Chisinau, Moldova.
	Marina Ciobanu	Technical University, Faculty of Electronics and Telecommunication, Department of Physics, Chisinau, Moldova.
GENDER RECOGNITION WITH SONGS	Muzaffer Aslan	Bingol University, Engineering and Architecture Faculty, Electrical-Electronics Engineering Department, Bingol, Turkey.

All participants must join the conference 15 minutes before the session time.
Every presentation should last not longer than 10-12 minutes.
Kindly keep your cameras on till the end of the session.

Session-3, Hall-1

10.07.2021

Moderator: **Dr. Barış Sever**

Meeting ID: 883 0047 5178 / Passcode: 129173

Paris Local Time: 15:00 – 17:30 // Ankara Local Time: 16:00 – 18:30

Title	Author(s)	Affiliation
SEXUAL DYSFUNCTION IN PATIENTS WITH MULTIPLE SCLEROSIS: A BRIEF REVIEW	Aline A. Yacoubian, MS; Jad Degheili, MD; Nassib Abou Heidar, MD; Rami Nasr, MD	Division of Urology, Department of Surgery, American University of Beirut Medical Center, Riad El-Solh 1107 2020, Beirut, Lebanon. Division of Pediatric Urology, Department of Surgery, Children's Hospital of Eastern Ontario, University of Ottawa, Ontario, Canada
PREVALENCE OF SUPERNUMERARY DIGITAL FLEXION CREASES IN A NIGERIAN POPULATION	Jaiyeoba-Ojigho Jennifer Efe John Onyekachi Samuel Eto Gift Oke	Delta State University, Faculty of Basic Medical Sciences, Department of Human Anatomy, Abraka, Nigeria
OSTEOPOROSIS AND EDUCATION	Radka Tomova Mariana Nikolova Svetla Asenova Miglena Slavova	Medical University – Pleven, Faculty of Pharmacy, Department of Chemistry and Biochemistry, Pleven, Bulgaria Shumen University "Konstantin Preslavski", Faculty of Natural Sciences, Department of Chemistry, Shumen, Bulgaria Conceive Clinic – London, United Kingdom Institute of Electrochemistry and Energy Sources, Bulgarian Academy of Science, Sofia, Bulgaria Todor Kableshkov University of Transport, Faculty of Transport Management, Department of Machine Elements and Chemistry, Sofia, Bulgaria
PHARMACEUTICAL FORMULARY LIST OF DRUGS	Mukhitova D.T. Temirgalieva E.M. Seytkazy N.T. Aset G.K.	Kazakh National Medical University named after S.D. Asfendiyarov, Almaty, RK Department of Clinical Pharmacology
THE MACRO-MICROSCOPIC PECULIARITIES OF THE HUMAN URINARY BLADDER GLANDS	Huseynova Gulgiz Agagasan Nasirova Zarifa Jahangir	Department of Human Anatomy and Medical Terminology, Azerbaijan Medical University, Baku, Azerbaijan
INVESTIGATION of THE STRUCTURE-ACTIVITY RELATIONSHIPS with MOLECULAR DOCKING for FAMILIAR ANTIEPILEPTIC DRUGS and K+ CHANNELS	Esra Nur KÖMÜRCÜ	Kastamonu University, Faculty of Engeneering, Department of Genetic and Bioengineering, Kastamonu, Turkey
	Assoc. Prof. Dr. Mahmut GÜR	Kastamonu University, Faculty of Forestry, Department of Forest Industrial Engineering, Kastamonu, Turkey
	Prof. Dr. Bayram KIRAN	Kastamonu University, Faculty of Engeneering, Department of Genetic and Bioengineering, Kastamonu, Turkey
CONTRIBUTIONS TO THE KNOWLEDGE OF WATER BEETLES (COLEOPTERA: HYDROPHILIDAE, HELOPHORIDAE) FAUNA IN BEYŞEHIR LAKE (KONYA), TURKEY	Ayçin AKÜNAL	Selçuk University, Department of Emergency and Disaster Management, Konya, Turkey
TREATMENT OF FETAL COMPLETE ATRIOVENTRICULAR BLOCK	Dr. Barış Sever	Izmir University of Health Sciences, Tepecik Training and Research Hospital, Department of Obstetrics and Gynecology, Division of Perinatalogy, Izmir, Turkey
MORPHOLOGY AND PECULIARITIES OF THE MICROVASCULAR BED OF THE NERVOUS PLEXUSES OF THE LARGE INTESTINE	Ramila Babayeva	Azerbaijan Medical University, Department of Human Anatomy and Medical Terminology, Baku, Azerbaijan.
РОЛЬ ГОРМОНА ЭСТРОГЕНА В СНИЖЕНИИ МИНЕРАЛЬНОЙ ПЛОТНОСТИ КОСТЕЙ	Shahira Mammadova	Azerbaijan Medical University Diagnostic Radiology and Radiotherapy

All participants must join the conference 15 minutes before the session time.
Every presentation should last not longer than 10-12 minutes.
Kindly keep your cameras on till the end of the session.

Session-3, Hall-2
10.07.2021
Moderator: Prof. Joanne K. Singleton
Meeting ID: 883 0047 5178 / Passcode: 129173
Paris Local Time: 15:00 – 17:30 // Ankara Local Time: 16:00 – 18:30

Title	Author(s)	Affiliation
DROUGHT MONITORING–EVAULATION and FORECAST	Fatma AKCAKOCA	University of Ankara, Faculty of Agriculture, Department of Agricultural Engineering, Ankara, Turkey.
	Halit APAYDIN	University of Ankara, Faculty of Agriculture, Department of Agricultural Engineering, Ankara, Turkey.
	Ahmet OZTURK	University of Ankara, Faculty of Agriculture, Department of Agricultural Engineering, Ankara, Turkey.
	M. Sevba COLAK	University of Ankara, Faculty of Agriculture, Department of Agricultural Engineering, Ankara, Turkey.
PRECONCENTRATION AND DETERMINATION OF SOME TRACE ELEMENTS IN THERMOMINERAL WATERS IN CENTRAL ANATOLIA REGION	Cigdem ER CALISKAN	Kirsehir Ahi Evran University, Faculty of Agriculture, Department of Field Crops, Kirsehir, Turkey;
	Harun CIFTCI	Kirsehir Ahi Evran University, Faculty of Medicine,Department of Medical Biochemistry, Kirsehir, Turkey; Cankiri Karatekin University Rectorate, Çankırı, Turkey
VARIATION IN GENOTYPES REACTION TO DROUGHT AND RELATED PHYSIOLOGICAL AND AGRONOMIC PARAMETERS IN RAPESEED (Brassica napus L.)	Imane Saghouri el Idrissi	Research Unit of Agronomy and Plant Physiology, National Institute of Agricultural Research, Regional Agricultural Research Center of Meknes, PO. Box 578, Meknes 50000, Morocco.
	Souhail Channaoui	Department of Biology, Faculty of Sciences, University Ibnou Tofail, University Campus, PO Box 133, Kenitra, Morocco.
	Abdelghani Nabloussi	Research Unit of Plant Breeding and Plant Genetic Resources Conservation, National Institute of Agricultural Research, Regional Agricultural Research Center of Meknes, PO. Box 578, Meknes 50000, Morocco.
	Rajae Kettani	Laboratory of Plant Biotechnology and Molecular Biology, Department of Biology, Faculty of Sciences, University of Moulay Ismail, Meknes, Morocco.
BACTERIOLOGICAL EVALUATION OF EGGS IN NATURAL CONDITION AND DURING STORAGE (COLD) AND BIOCHEMICAL TESTS FOR SALMONELLA SPP. TO KORÇA POULTRY	Dr. Sulltanë Ajçe	Fan. S. Noli University, Agriculture Faculty, Department of Agronutrition, Korça, Albania
EFFECT OF SUPPLEMENTING PROTEASE ENZYME TO JAPANESE QUAIL DIETS ON GROWTH PERFORMANCE AND CARCASS TRAITS	Nguyen Thao Nguyen Khang Vu Dang Khang Thi Kim Nguyen	Faculty of Agriculture, Cantho University, Vietnam
AGROFORESTRY TRANSITION AS AN ALTERNATIVE TO ECOLOGICAL MANAGEMENT IN CAATINGA BRASILEIRA, PIAUI, BRAZIL	Davi Leal dos Santos Barbosa Daniel de Moura Silva Karoline de Sousa Almeida Eduardo Lima de Sousa Júnior Bruna de Freitas Iwata	Instituto Federal do Piauí, Graduandos em Tecnologia em Gestão Ambiental, Teresina-PI, Brasil. Universidade Estadual do Piauí, Graduando em Engenharia Agronomica, Picos-PI, Brasil. Instituto Federal do Piauí, Dra. Ciência do Solo, Docente dos cursos de Tecnologia em Gestão Ambiental e Mestrado profissional em Análise e Planejamento Espacial, Teresina-PI, Brasil.
COMPOSTING AQUATIC MACROPHYTES (JUNCUS EFFUSUS) LIKE ALTERNATIVE FOR MECHANICAL CONTROL OF MANAGEMENT IN SURFACE WATER	Davi Leal dos Santos Barbosa Karoline de Sousa Almeida Eduardo Lima de Sousa Júnior Bruna de Freitas Iwata	Instituto Federal do Piauí, Graduandos em Tecnologia em Gestão Ambiental, Teresina-PI, Brasil. Instituto Federal do Piauí, Dra. Ciência do Solo, Docente dos cursos de Tecnologia em Gestão Ambiental e Mestrado profissional em Análise e Planejamento Espacial, Teresina-PI, Brasil.
CANINES ASSISTING IN HEALTH: SUPPORTING THE CULTURAL COMMUNITY OF INDIVIDUALS WITH DISABILITIES TEAMED WITH A SERVICE DOG	Joanne K. Singleton	Pace University, Professor, College of Health Professions, NY, NY

PAWS & BREATHE®, ANIMAL ASSISTED STRESS REDUCTION	Joanne K. Singleton	Pace University, Professor, College of Health Professions, NY, NY
THE EFFECT OF CURCUMIN ON SOME OXIDATIVE STRESS PARAMETERS, LIVER ENZYMES AND CYTOKINES IN RATS GIVEN AFLATOXIN B1 ORALLY	Durmus HATİPOĞLU	Selcuk University, Faculty of Veterinary Medicine, Department of Physiology, Konya, Turkey
	Ercan KESKİN	Selcuk University, Faculty of Veterinary Medicine, Department of Physiology, Konya, Turkey
THE GENETIC CHARACTERISTICS OF CANINE DISTEMPER VIRUS ISOLATED FROM INFECTED DOGS AT CAN THO CITY IN THE MEKONG DELTA VIETNAM	Tran Thi Thao Tran Ngoc Bich Nguyen Khanh Thuan Dang Thi Tham Van My Tien	Department of Veterinary Medicine, College of Agriculture, Can Tho University
NUTRITIONAL COMPOSITION AND HEALTH BENEFITS OF PUMPKIN (Cucurbita Pepo L.) SEED	Dr. Muhammad Imran	Department of Food Science, Faculty of Life Sciences, Government College University, Faisalabad, Pakistan
	Mr. Muhammad Abdul Rahim	Department of Food Science, Faculty of Life Sciences, Government College University, Faisalabad, Pakistan
	Dr. Muhammad Nadeem	Department of Dairy Technology, University of Veterinary and Animal Sciences, Lahore, Pakistan
All participants must join the conference 15 minutes before the session time. Every presentation should last not longer than 10-12 minutes. Kindly keep your cameras on till the end of the session.		

Session-3, Hall-3
10.07.2021
Moderator: Assist. Prof. Dr. E. Copuroglu
Meeting ID: 883 0047 5178 / Passcode: 129173
Paris Local Time: 15:00 – 17:30 // Ankara Local Time: 16:00 – 18:30

Title	Author(s)	Affiliation
COUNTING CUBE: TEACHING PRESCHOOL CHILDREN ON BASIC NUMERACY USING A SPECIALLY MODIFIED DICE GAME	Erynna Syeffera Lucas	Keningau Vocational College, Early Childhood Education, Keningau, Sabah Institute
	Werollisa Elna Wilber	Keningau Vocational College, Early Childhood Education, Keningau, Sabah Institute
A STUDY ON AWARENESS OF SMALL FIRMS ON CUSTOMER SATISFACTION WITH COST SAVINGS IN REVERSE LOGISTICS	Raghavendra B.S.	Accenture, Financial analyst, Bangalore, India
	Dr. Chandan Chavadi	Presidency College, Professor and Dean CMS, Bangalore, India
	Dr. Ravikeerthi J V	Presidency College, Associate Professor CMS, Bangalore, India
USE OF VIOLENCE AND SEX CONTENT IN THE PROMOTION OF CRIME WEB SERIES IN INDIA: MIX METHOD TO UNDERSTAND THE MARKETING STRATEGY AND ITS EFFECTS	Ms. CP Rashmi	Assistant Professor (HOD), Department of Journalism and Mass Communication, IES University, Bhopal Research Scholar, School of Media, Film and Entertainment, Sharda University, Greater Noida
	Mr. Lalitank Jian	Assistant Professor, Department of Journalism and Mass Communication, IES University, Bhopal
HOUSES AND LAMS (FUNCTIONAL DIFFERENCE BETWEEN HOUSES AND LAMS)	Aysel Hüseynzadə Amil qızı Prof. Hacıyeva Səbinə	Azərbaycan Memarlıq və İnşaat Universiteti
WAYS OF DEVELOPMENT OF LANKARAN ARCHITECTURE	Aysel Hüseynzadə Amil qızı Prof. Hacıyeva Səbinə	Azərbaycan Memarlıq və İnşaat Universiteti
THE MAIN DIRECTIONS OF EXPORT PROMOTION AND IMPORT SUBSTITUTION POLICY IN AZERBAIJAN	Allahverdiyeva Samira	Ph.D. Condidate from Western-Caspian University
PERSONALITY TRAITS PREDICTING DEPRESSION AND ANXIETY AND PREVENTIVE MEASURES ASSOCIATED WITH COVID-19	Betül Cömertoğlu	Işık University, Faculty of Science and Literature, Department of Psychology, İstanbul, Turkey.
	Elif Yıldırım	Işık University, Faculty of Science and Literature, Department of Psychology, İstanbul, Turkey.
DETERMINATION OF NUTRITIONAL LEVELS AND PHYSICAL ACTIVITY HABITS OF PHYSICAL EDUCATION AND SPORTS TEACHERS IN THE COVID-19 PROCESS	Assoc. Prof. Dr. Süreyya Yonca SEZER	Munzur University
	Baha Engin ÇELİKEL	Fırat University
	Assoc. Prof. Dr. Çetin TAN	Fırat University
COMPARISON VALUES ON THE HEAT CAPACITY OF PUN NUCLEAR FUEL BY THE USE OF INTEGER AND NONINTEGER N-DIMENSIONAL DEBYE PARAMETER	E. Copuroglu	Gaziosmanpasa University, Faculty of Science and Art, Department of Physics
	B.A. Mamedov	Gaziosmanpasa University, Faculty of Science and Art, Department of Physics
DEMONSTRATING HEAT CAPACITY VARIATION OF THN NUCLEAR FUEL FOR INTEGER AND NONINTEGER N-DIMENSIONAL DEBYE PARAMETER	B.A. Mamedov	Gaziosmanpasa University, Faculty of Science and Art, Department of Physics
	E. Copuroglu	Gaziosmanpasa University, Faculty of Science and Art, Department of Physics
All participants must join the conference 15 minutes before the session time. Every presentation should last not longer than 10-12 minutes. Kindly keep your cameras on till the end of the session.		

IKSAD Institute of Economic Development and Social Researches is inviting you to a scheduled Zoom meeting.

E J O N S 12th INTERNATIONAL CONGRESS ON MATHEMATIC, ENGINEERING AND NATURAL SCIENCES / July 9-11, 2021 / Paris, France

Join Zoom Meeting
https://us02web.zoom.us/j/88300475178?pwd=ZXE2ZjhHdkduVkJyOXlIVXdoaDA1UT09

Meeting ID: 883 0047 5178
Passcode: 129173

CONTENT

ABSTARCTS

LA CROISSANCE DES SOLUTIONS D'UNE CLASSE D'EQUATIONS DIFFERENTIELLES LINEARES DANS LE PLAN COMPLEXES

Dr. FETTOUCH Houari

Laboratory of Pure and Applied Mathematics, University of Mostaganem, UMAB, Algeria

Résumé

Mot clé: L'équation différentielle, méromorphes, linéaires, ordre fini, caractéristique

Introduction

Pendant plusieurs années, la théorie de la distribution des valeurs des fonctions méromorphes fondée par le célèbre mathématicien Rolf Nevanlinna est devenue un outil indispensable dans l'étude des propriétés des solutions des équations différentielles complexes, en particulier la croissance et l'oscillation des solutions.

L'équation différentielle suivante

$$f^{(k)} + A_{k-1} f^{(k-1)} + \ldots + A_0 f = 0$$

a été étudié par plusieurs auteurs:

Le premier chapitre est une introduction à la théorie de Nevan-linna,où on donne des définitions et des propriétés sur cette théorie qui concernent la distribution des valeurs des fonctions méromorphes dans le plan complexes.

Le deuxième chapitre de ce mémoire est le résultat de l'article de Jin Tu et Cai-Feng Yi [3], où nous étudierons des solutions méromorphes des équations différentielles linéaires d'ordre supérieure où $A_0, \ldots, A_{k-1}$ sont des fonctions entières d'ordre fini ayant le même ordre fini. (dus à K.H.Kwon [1] et Z-X Chen [2

Rappel et définition

Fonction caractéristique de Rolf Nevanlinna

Définition: $(\text{voir } [21])$ *Pour tout nombre réel* $\alpha > 0$ *, on définit*

$\ln^+ \alpha = \max(0, \ln \alpha)$.

Lemma: *On a les résultats suivants:*

1) $\ln^+ x \le \ln^+ y$ *pour tout* $(0 < x \le y)$

2) $\ln x = \ln^+ x - \ln^+ \frac{1}{x}$

3) $|\ln x| = \ln^+ x + \ln^+ \frac{1}{x}$

4) $\ln^+ \left(\prod_{j=1}^{m} x_j \right) \le \sum_{j=1}^{m} \ln^+ x_j$

5) $\ln^+ \left(\sum_{j=1}^{m} x_j \right) \le \ln m + \sum_{j=1}^{m} \ln^+ x$

Définition *Soit* f *une fonction méromorphe, n'étant pas identiquement égale à* $a \in \mathrm{C}$. Soit $i(z,a,f)$ désignant la multiplicité de a -point de f à z . Ainsi, on définit

$$n(r,a,f)=n\left(r,\frac{1}{f-a}\right)$$

c'est à-dire, $n(r,a,f)$ est le nombre de racines de $f(z)=a$ dans $|z|\le r$, chaque racine étant comptée avec son ordre de multiplicité. Pour les pôles de f , nous définissons pareillement

$$n(r,\infty,f)=n(r,f).$$

Définition $(\text{voir } [21])$ *(fonction* a *-points). Pour la fonction méromorphe* f *, on définit*

$$N(r,a,f)=N\left(r,\frac{1}{f-a}\right)=\int_0^r \frac{n(t,a,f)-n(0,a,f)}{t}dt+n(0,a,f)\log r$$

Pour $a\neq\infty$ *et*

$$N(r,\infty,f)=N(r,f)=\int_0^r \frac{n(t,\infty,f)-n(0,\infty,f)}{t}dt+n(0,\infty,f)\log r$$

$N(r,a,f)$ *est appelée fonction* a *-points de la fonction* f *dans le disque* $|z|\le r.$

Proposition : *Soit* f *une fonction méromorphe avec le développement de Laurent*

$$f(z)=\sum_{j=n}^{\infty}c_j z^j, c_n\neq 0, n\in \mathrm{Z}.$$

Alors

$$\ln|c_n|=\frac{1}{2\pi}\int_0^{2\pi}\ln\left|f(re^{i\theta})\right|d\theta+N(r,f)-N(r,\frac{1}{f}).$$

Définition : *(fonction de proximité). Pour la fonction méromorphe* f *, on définit*

$$m(r,a,f)=m\left(r,\frac{1}{f-a}\right)=\frac{1}{2\pi}\int_0^{2\pi}\ln^{+}\left|\frac{1}{f\left(re^{i\varphi}\right)-a}\right|d\varphi,\ a\neq\infty$$

et

$$m(r,\infty,f)=m(r,f)=\frac{1}{2\pi}\int_0^{2\pi}\ln^{+}\left|f\left(re^{i\varphi}\right)\right|d\varphi$$

$m(r,a,f)$ est appelée fonction de proximité de la fonction f au point a .

Définition : *(Fonction caractéristique). La fonction caractéristique de la fonction méromorphe* f *est définie comme suit*

$$T(r,f)=m(r,f)+N(r,f).$$

Exemple : *Pour la fonction* $f(z)=e^{2z}$ *, on a*

$m(r,f)=\frac{2r}{\pi}$, $N(r,f)=0.$

D'où

$T(r,f)=\frac{2r}{\pi}.$

Premier Théorème fondamental de Rolf Nevan-linna

Théorème $(voir[16])$ *(Premier théorème fondamental). Soit* f *une fonction méromorphe,* $a\in \mathrm{C}$ *et*

$$f(z)-a=\sum_{i=m}^{\infty}c_i z^i,\quad c_m\neq 0,\ m\in \mathrm{Z}$$

le développement de Laurent de la fonction $f-a$ *à l'origine. Alors*

$$T\left(r,\frac{1}{f-a}\right)=T(r,f)-\ln|c_m|+\varphi(r,a)$$

LC-MS/MS METHODOLOGY FOR DETERMINATION OF IMIDACLOPRID IN LEAFY VEGETABLES BY QuEChERS EXTRACTION

Kadriye Ozlem SAYGI

Tokat Gaziosmanpasa University, Faculty of Arts and Sciences, Department of Chemistry, 60250 Tokat, Turkey

ORCID NO: 0000-0001-5945-4419

ABSTRACT

The pesticides are chemicals used to prevent, destroy and control unwanted pests and their species during the cultivation, storage, transportation, distribution of agricultural products or during the processing of food and agricultural products.

Pesticides are classified according to their intended use (insecticides, herbicides and fungicides) and their chemical structure (organic chlorides, organic phosphorus, carbamates, natural and synthetic pyrethroids). Difficulty of pesticide residue analysis; it arises from the necessity to analyze hundreds of active substances with very different physico-chemical properties in different matrices simultaneously. Therefore; It is extremely important to develop reliable, robust, fast, precise and cost-effective methods

The obective of present study was developed and optimized by liquid chromatography coupled with tandem mass spectrometry (LC-MS/MS) analytical method with QuEChERS (quick, easy, cheap, effective, rugged and safe) sample preparation procedures for imidacloprid residue determination in lettuce, spinach and parsley. Retention time was 8 min. Linearity was expressed as the coefficient of linear correlation ($R^2 \geq 0.99$) and slope of the calibration curve $y = 79.732x$ for the 20-150 µg/L concentration range. The detector of the MS was tuned for the maximum sensitivity of precursor ion at m/z =255.9 m/z, and of the product ions at m/z =209 and m/z =175. There are two specific fragmentations of imidacloprid. The first fragment is due to the loss of NO_2 (at m/z =209). The second fragment is due to the losses of both NO_2 and Cl (at m/z =175). Imidacloprid residue were below the already established European maximum residue limits (EU MRLs).

Keywords: Pesticide, imidacloprid, QuEChERS, LC-MS/MS, leafy vegetables.

EVALUATION OF DIFFERENT PHOTOVOLTAIC PANEL TECHNOLOGIES FOR TEKIRDAG PROVINCE

FARKLI FOTOVOLTAİK PANEL TEKNOLOJİLERİNİN TEKİRDAĞ İLİ İÇİN DEĞERLENDİRİLMESİ

Dr. Ahmet Erhan AKAN

Namık Kemal University, Çorlu Vocational School, Department of Machine and Metal Technologies, Tekirdag, Turkey

ORCID NO: 0000-0003-1806-7943

ABSTRACT

Technology, which is constantly developing to facilitate humanity's living conditions, increases the need for energy day by day. Meeting this energy demand with carbon-based fossil fuels causes environmental problems as well as reserve problems. This situation makes the use of renewable energy sources indispensable. Among renewable energies, solar energy is one of the most preferred renewable energy sources. Today, there are different types of photovoltaic solar panels manufactured to generate electricity from solar energy. These are mono-crystalline, poly-crystalline, and thin-film solar panels. Thin-film solar panels are flexible solar panels formed by coating semiconductor materials on large surfaces. In this way, it can be easily used on inclined surfaces. However, the fact that they need very large areas in practice and their energy efficiency is lower than other photovoltaic panels limits their use. The efficiency of solar panels varies according to the solar radiation in the places where they are used, the slope of the panels and environmental conditions. Panel temperature is one of the most important parameters affecting the performance of the panels. Generally, the nominal operating temperatures of crystalline silicon panels are around 45±2 ^{o}C. Above these temperatures, severe yield losses are experienced. Considering such factors, the properties of photovoltaic panels to be selected for the generation of electrical energy from solar energy should be examined in detail.

In this study, the performance of four different types of photovoltaic solar panels was investigated for a grid-connected house, which is considered to be located in three different districts of Tekirdağ province. In the research, performance analyzes of 800 W capacity solar energy systems, which were formed by selecting 10 of 80 W mono-crystalline, poly-crystalline, cadmium-telluride (CdTe) and amorphous silicon (a-Si) photovoltaic panels, was analyzed by RETScreen Expert (Clean energy management software) software. The findings were evaluated in terms of technical, economic, and environmental aspects. It is thought that this study will provide valuable information to researchers and investors for the investigated regions and photovoltaic panels.

Keywords: Mono-crystalline PV panel, Poly-crystalline PV panel, Cadmium-telluride PV panel, Amorphous-silicon PV panel, Thin-film solar panels.

ÖZET

İnsanlığın yaşam şartlarını kolaylaştırmak adına sürekli gelişmekte olan teknoloji, enerjiye gereksinimi her geçen gün daha da artırmaktadır. Bu enerji talebinin karbon kökenli fosil yakıtlar ile karşılanması ise rezerv sorunlarının yanı sıra çevresel sorunlara da neden olmaktadır. Bu durum yenilenebilir enerji kaynaklarının kullanımını vazgeçilemez kılmaktadır. Yenilenebilir enerjiler arasında güneş enerjisi, en çok tercih edilen yenilenebilir enerji kaynaklarından biridir. Günümüzde, güneş enerjisinden elektrik enerjisi üretmek için imal

edilmiş farklı tiplerde fotovoltaik güneş panelleri bulunmaktadır. Bunlar, mono-kristal, poli-kristal ve ince filim güneş panelleridir. İnce film güneş panelleri yarı iletken malzemelerin geniş yüzeyler üzerine kaplanması ile oluşturulan esnek yapılı güneş panelleridir. Bu sayede eğimli yüzeyler üzerinde kolaylıkla kullanılabilmektedir. Fakat uygulamada çok geniş alanlara ihtiyaç duymaları ve enerji verimliliklerinin diğer fotovoltaik panellere göre daha az olması kullanım yerlerini sınırlamaktadır. Güneş panellerinin verimlilikleri kullanıldıkları yerlerdeki güneş ışınımına, panellerin eğimine ve çevre şartlarına göre değişim göstermektedir. Panellerin performansını etkileyen en önemli parametrelerin başında panel sıcaklığı gelmektedir. Genellikle kristal silikon panellerin nominal çalışma sıcaklıkları 45±2 ^{o}C civarındadır. Bu sıcaklıkların üzerinde ciddi verim kayıpları yaşanmaktadır. Bu gibi etkenler düşünüldüğünde, güneş enerjisinden elektrik enerjisi üretimi için seçilecek fotovoltaik panellerin özellikleri ayrıntılı olarak incelenmelidir.

Bu çalışmada, dört farklı tip fotovoltaik güneş panelinin performansı, Tekirdağ ilinin üç farklı ilçesinde bulunduğu kabul edilen şebekeye bağlantılı bir konut için araştırılmıştır. Araştırmada, 80 W kapasiteye sahip mono-kristal, poli-kristal, kadmiyum-tellür (CdTe) ve amorf-silisyum (a-Si) fotovoltaik panellerden 10'ar adet seçilerek oluşturulan 800 W kapasiteli güneş enerji sistemlerinin performans analizleri RETScreen Expert (Temiz enerji yönetim yazılımı) yazılımı kullanılarak gerçekleştirilmiştir. Elde edilen bulgular, teknik, ekonomik ve çevresel açıdan değerlendirilmiştir. Bu çalışmanın, incelenen bölgeler ve fotovoltaik paneller için araştırmacılara ve yatırımcılara yararlı bilgiler sunacağı düşünülmektedir.

Anahtar Kelimeler: Mono-kristal PV panel, Poli-kristal PV panel, Kadmiyum-tellür PV panel, Amorf-silisyum PV panel, İnce film güneş panelleri.

DROUGHT MONITORING–EVAULATION and FORECAST

Fatma AKCAKOCA

University of Ankara, Faculty of Agriculture, Department of Agricultural Engineering, Ankara, Turkey

ORCID NO: 0000-0001-5190-7583

Halit APAYDIN

University of Ankara, Faculty of Agriculture, Department of Agricultural Engineering, Ankara, Turkey

ORCID NO: 0000-0002-9875-7321

Ahmet OZTURK

University of Ankara, Faculty of Agriculture, Department of Agricultural Engineering, Ankara, Turkey

ORCID NO: 0000-0003-0201-1726

M. Sevba COLAK

University of Ankara, Faculty of Agriculture, Department of Agricultural Engineering, Ankara, Turkey

ORCID NO: 0000-0003-4752-6491

ABSTRACT

Drought is a widespread natural disaster and a global problem affecting all humanity. The pressures created by global warming together with the rapidly increasing population, intensive industrial and agricultural activities all over the world cause imbalances on the climate systems. These imbalances have been increasing the frequency and intensity of drought events that have existed in the natural cycle of the climate. Of all natural disasters, droughts are disasters with the potential to have the greatest devastating impact on social and environmental areas. Especially the evaluation of droughts that pose a serious threat to sustainable clean water supply and food security is essential for the planning and management of freshwater resources worldwide.

Assessment of drought needs observation of various meteorological and/or hydro-meteorological variables associated with the drought event. It is often not possible to access healthy data of these variables worldwide. In the past decades, technological developments have made it possible to observe the changes in climatic parameters in different ways. On the other hand, changing data sources have paved the way for the development of drought indices used to evaluate droughts. All these developments have affected the methods, methodologies and approaches used in the monitoring, evaluation and forecasting of drought events, which are under investigation at global, continental and regional levels.

Drought studies in the literature are collected in four different categories. These studies; examining the causes and occurrences of drought, characterizing the duration, frequency and severity of droughts, and predicting droughts, aimed at understanding and defining the social, economic, and environmental impacts of drought directly or indirectly of studies, and drought risk management studies. In this study, the literature was examined, the drought of the definition and categories, causes and effects, indices used for the evaluation of drought, in the world and Turkey drought monitoring and evaluation as well as studies relating to the drought forecast.

The possibilities and potentials of using the changing and developing technology for future drought monitoring studies were mentioned in light of the information obtained from the literature.

Keywords: Drought analysis, drought prediction, technological developments.

EFFICIENCY AND LIMITATION ANALYSIS OF HIGH TEMPERATURE SUPERCONDUCTOR CABLES

Buğra Yılmaz

University of Firat, Faculty of Engineering, Department of Electrical and Electronics Engineering, Elazig, Turkey

ORCID ID: 0000-0003-1910-1816

Muhsin Tunay Gençoğlu

University of Firat, Faculty of Engineering, Department of Electrical and Electronics Engineering, Elazig, Turkey

ORCID ID: 0000-0002-1774-1986

ABSTRACT

During the production, transmission and distribution of energy, copper losses and voltage drops occur in various equipment. More than half of electrical energy production worldwide is provided by fossil fuels. Therefore, highly efficient energy transfer is important both electrically, economically and environmentally today. Transmission and distribution losses increase with increasing demands during normal operation. Because underground cables and overhead lines are made of copper and aluminum, they produce a heat energy due to their resistance. This temperature increase also causes their resistance to increase. Thus, heat losses and energy losses will increase by feeding each other. HTS cables with high power capacity are a good preference for energy efficient transmission. HTS cables, which can be installed in smaller volumes than conventional cables at the same power level, significantly reduce power losses in energy transmission and provide economic benefits. In recent years, HTS conductor technology allows to combine high power capacity, low AC loss and fault current limiting property in one cable. While previously HTS cables are only designed to significantly reduce transmission losses, new HTS cables with high current carrying capacity and current limiting capability combine these two features. In this study, the HTS cable dynamic model with these features is created in Matlab/Simulink and efficiency and limitation analyzes are made. With the results obtained from these simulations, it has been seen that the new generation HTS cables will be a suitable choice for both protection and high efficiency in power systems.

Keywords: Fault current limitation, High efficiency energy transmission, HTS cable, Matlab/Simulink, Power system protection, Simulation.

SOLVABILITY OF A NOOLINEAR FRACTIONAL BOUNDARY VALUE PROBLEM INVOLVING RIEMANN-LIOUVILEE DERIVATIVE

Habib Djourdem

Laboratory of Fundamental and Applied Mathematics of Oran (LMFAO), University of Oran1, Ahmed Benbella, Oran, Algeria

ORCID ID: 0000-0002-7992-581X

ABSTRACT

Fractional differential equations are the generalization of ordinary differential equations to arbitrary non integer orders. The fractional differential equations are of great importance because these plays important roles and tools not only in mathematics but also in physics, control systems, dynamical systems and engineering to create the mathematical modeling of many physical phenomena. The boundary value problem of fractional differential equations have been one of the hottest problems. Many problems related to blood flow, chemical engineering, thermo-elasticity, underground water flow, population dynamics, and so on can be reduced to nonlocal integral boundary problems. As a matter of fact, there are many papers dealing with the investigations on boundary value problems for some kinds of fractional differential equation with specific configurations covering theoretical as well as application aspects of the subject. Recently there have been some papers, dealing with the existence and multiplicity of solutions (or positive solutions) of nonlinear initial value fractional differential equations by using techniques of nonlinear analysis like Krasnoselskii's fixed point theorem in cones, Legget-Williams fixed point theorem.

Motivated by some works, in this paper, we shall study a nonlinear fractional differential equation involving fractional Riemann-Liouville derivative with non-separated multi-term Riemann-Liouville integral operator and multi-point boundary conditions. We apply two fixed point theorem. The first one is Banach contraction principle to obtain the uniqueness of solution for the given equation. The second one is the well known Leray-Schauder nonlinear alternative in order to establish the existence of solutions. An example is presented at the end to illustrate the validity of our results.

Keywords: Existence, Riemann-Liouville derivative, Banach contraction principle

EFFECT OF THERMAL RADIATION AND CHEMICAL REACTION ON MHD FLOW OF BLOOD IN STRETCHING PERMEABLE VESSEL

Dr. Binyam Zigta

Wolaita Sodo University, College of Natural and Computational Science,

Department of Mathematics, P.O.Box 138, ETHIOPIA

ABSTRACT

In this paper theoretical analysis of blood flow in the presence of thermal radiation and chemical reaction under the influence of time dependent magnetic field intensity has been studied. The unsteady non linear partial differential equations of blood flow considers time dependent stretching velocity, the energy equation also accounts time dependent temperature of vessel wall and concentration equation includes time dependent blood concentration. The governing non linear partial differential equations of motion, energy and concentration are converted into ordinary differential equations using similarity transformations solved numerically by applying ode45. MATLAB code is used to analyze theoretical facts. The effect of physical parameters viz., permeability parameter, unsteadiness parameter, Prandtl number, Hartmann number, thermal radiation parameter, chemical reaction parameter and Schmidt number on flow variables viz., velocity of blood flow in vessel, temperature and concentration of blood has been analyzed and discussed graphically. From the simulation study the following important results are obtained: velocity of blood flow increases with both increment of permeability and unsteadiness parameter. Temperature of the blood increases in vessel wall as Prandtl number and Hartmann number increases. Concentration of the blood decreases as time dependent chemical reaction parameter and Schmidt number increases.

Key words: Stretching velocity, similarity transformations, time dependent magnetic field intensity, thermal radiation, chemical reaction.

HEALTHY DIET BOOST IMMUNITY AND PREVENTS VIRAL INFECTIONS WITH SPECIAL EMPHASIS ON COVID-19

K. R. Padma

Assistant Professor, Department of Biotechnology, Sri Padmavati Mahila Visva Vidyalayam (Women's) University, Tirupati, AP.

ABSTRACT

Background and aims:A balanced nutritional dietis essential in maintaining immunity and for deterrenceas well as desisting of viral infections. Nevertheless, currently very less information is available online regarding nutrition consumption during the period of corona virus infection i.e (COVID-19).In our systematic review article, we portrayed and aimed to evaluate evidence from various previous clinical trials which was based on nutritional interventions for viral diseases and given a concise overview.

Methods: A systematic search was carried out employing 3 key medical databases: PubMed®, Web of Science® and SciVerse Scopus®. Studies were performed and evaluated suitable if clinical trials in humans, appropriate immunological parameters on viral and respiratory infections need to perform. Basic Clinical trials on nutritional vitamins, minerals, nutraceuticals as well as probiotics were included.

Results: We have explored 10 review articles and extracted data for our study. A total >2000 participants were included and excluded several other trace elements as well as various vitamins but in inclusion criteria mainly concentrated on those which have shown propitious immune-modulatory effects against viral respiratory infections.

Conclusions: We have encapsulated the potential health benefits of some minerals, vitamins as well as certain designer foods, neutraceuticals and probiotics in viral infections. Based on this nutritional interventional strategy available from our present data, it could be promising to abstain and reduce the COVID-19 infection replication and boost our immunity to fight against the virus.

Keywords: COVID-19, Neutraceuticals, Clinical trials, Immunity, Vitamins, Nutritional Intervention Strategy.

INVESTIGATION OF COMPRESSED AIR LOSSES ON PRODUCTION COST FOR MOSUL DAIRY FACTORY

Maan S. Al- Dabbagh

Lecture, Mechanical Engineering Department-College of Engineering-University of Mosul, Mosul, Iraq.

Ziad Sh. Al Sarraf

Dr. Lecture, Mechanical Engineering Department-College of Engineering-University of Mosul, Mosul, Iraq.

Zaha Kreshat

Dr. Lecture, Mechanical Engineering Department-College of Engineering-University of Mosul, Mosul, Iraq.

Rana Farhat

Ass lecture, Mechanical Engineering Department-College of Engineering-University of Mosul,Mosul, Iraq.

ABSTRACT

A realistic field study was conducted on compressed air production stations in the Mosul Dairy Factory / Iraq, to determine the quantities of field losses resulting from the production of compressed air in the factory, and to determine the effect inlet temperature, pressure ratio, electric motor and leakage in the production line on the production cost, as all data were taken from the factory, and preparing a mathematical program to find and calculate the leaks in the compressed air in all parts of the factory production line. In addition to that the total cost of the compressed air losses during the production line was calculated. The results were listed in the form of quadrants that determined the relationship of the variables to losses in the production line. The typical lifetime compressed air costs in the year had been calculated and the percentage of each of the previous effects in the calculation of the saved cost, the results shows that the amount of the leakage, electric motor efficiency, intake temperature, and the reducing of setting pressure is about 16%, 54% , 25% and 5% respectively.

This work leads us to another future work in which how to address these losses in compressed air in the factory production line and work to reduce them by technical means in order to reduce the cost wasted due to these losses.

Keywords: Compressed air, Energy cost, Energy losses, Food industry;

YAŞAYIŞ EVLƏRİ VƏ LƏMLƏR (YAŞAYIŞ EVLƏRİ VƏ LƏMLƏRİN FUNKSİONAL FƏRQLƏNDİRİLMƏSİ)

HOUSES AND LAMS (FUNCTIONAL DIFFERENCE BETWEEN HOUSES AND LAMS)

Aysel Hüseynzadə Amil qızı

Prof. Hacıyeva Səbinə

Azərbaycan Memarlıq və İnşaat Universiteti

ABSTRACT

The folk residential architecture in the southern part of our country is distinguished by its originality. This includes summer houses called Lam. These buildings from the XVIII-XIX centuries are mostly found in Lankaran, Astara and Masalli districts. In the past, there were about 50 Lams in the Archivan village of Astara alone. Later, due to natural disasters or neglect, the buildings were destroyed. During the summer, the Lams played an important role in the family's comfort, hospitality and overnight stay. At present, this unique architectural example is kept in the yard of Asadulla Musayev, a resident of Archivan village. Lam was reconstructed two years ago by specialists from the Ministry of Culture's Restoration Department.

Keywords: Lam, living houses, rare building

LƏNKƏRANIN MEMARLIĞININ İNKİŞAF YOLLARI

WAYS OF DEVELOPMENT OF LANKARAN ARCHITECTURE

Aysel Hüseynzadə Amil qızı

Prof. Hacıyeva Səbinə

Azərbaycan Memarlıq və İnşaat Universiteti

ABSTRACT

The history of Lankaran region, one of the most beautiful and charming corners of Azerbaijan, is very old. Archaeological excavations in the region confirm that people lived in these areas as early as the Bronze Age, in the III-II millennia BC. Lankaran is also one of our regions rich in historical, religious and architectural monuments. The topic we will discuss in this article is about the history and development of Lankaran architecture

Keywords: Architecture, research, antique

THE EVALUATION OF THE BIOLOGICAL AND SPECTROSCOPIC PROPERTIES OF THE DIFFERENT BIOACTIVE BORON COMPOUNDS

FARKLI BİYOAKTİF BOR BİLEŞİKLERİNİN BİYOLOJİK VE SPEKTROSKOPİK ÖZELLİKLERİNİN İNCELENMESİ

Levent BEYAZSAKAL[1*]

MSc. Harran University, Science and Art Faculty, Chemistry Department

ORCID NO: 0000-0002-1931-4005

Ahmet KILIC

Prof. Dr. Harran University, Science and Art Faculty, Chemistry Department

ABSTRACT

Boron-based organic synthesis has become one of the most popular research areas due to the unique coordination chemistry of boron which allows the preparation of functionalized novel compounds. Due to their unique electronic, spectroscopy, and photo physical properties, the pharmaceutical industry, and academia are paying increasing attention to boron compounds and related molecules to develop novel therapeutics and remarkable antioxidant, and antimicrobial activity. These boron compounds are strong Lewis acids because boron has an empty p-orbital which allows them to form dative bonds (coordinate covalent bonds) with nucleophiles. The boron center can be readily converted from neutral trigonal planar sp^2 to tetrahedral sp^3 hybridization under physiological conditions, rendering the unique spectroscopic and biological properties of boron-containing molecules. Taking advantage of the low-lying empty p-orbital on tri-coordinate trigonal planar boron molecules have also been widely employed as Lewis acid-based sensors in the detection of anions and neutral Lewis bases, as a catalyst, antimicrobial agents, as protecting groups. Whereas main chelate ligands used to form this class of four-coordinate tetrahedral boron compounds is proved to be with good chemical and thermal stability. The novel tri- and tetra coordinated boron compounds have been designed for spectroscopic study, as well as antimicrobial activities and antioxidant studies. Because the formed four-coordination bonds with different neutral groups as well as covalent B-O and B-C bonds make the structure stable in air, a new class of cheap, easily-synthesizable and modifiable boron compounds and their corresponding different derivatives were synthesized in this study. These newly synthesized compounds were fully characterized by ^{1}H and ^{13}C NMR, FT-IR, UV-Vis, and LC-MS/MS spectroscopy, melting point, elemental analysis, and cyclic voltammetry techniques. Then, the antimicrobial and antioxidant effects of the synthesized compounds were investigated. The in vitro antibacterial and antioxidant activity of the synthesized different boron complexes was tested against four pathogenic bacteria strains using the resazurin-based broth microdilution method, and the MIC values of each boron complexes were determined.

Keywords: Boron compounds, Synthesis, Spectroscopy, Biological studies.

ÖZET

Bor bazlı organik sentezlerde, yeni bileşiklerin hazırlanmasına bağlı olarak borun eşsiz koordinasyon kimyası nedeniyle bor popüler araştırma alanlarından biri haline gelmiştir. Elektronik, spektroskopik ve foto-fiziksel özellikleri nedeniyle, ilaç endüstrisi, Akademi, yeni terapötikler, antioksidan ve antimikrobiyal aktiviteleri geliştirmek için bor bileşiklerine ve moleküllere giderek daha fazla önem verilmektedir. Bu bor bileşikleri güçlü Lewis asitleridir, çünkü bor, nükleofillerle bağ (koordinat kovalent bağları) oluşturmalarına izin veren boş bir p-

orbitaline sahiptir. Bor merkez atomu, fizyolojik koşullar altında nötr trigonal düzlemsel sp2'den tetrahedral sp3 hibridizasyonuna kolayca dönüştürülebilir ve bor içeren moleküllerin spektroskopik ve biyolojik özelliklerini oluşturur. Tri-koordinat trigonal düzlemsel bor molekülleri üzerinde boş p-orbitalinin avantajından yararlanarak, anyonların ve nötr Lewis bazlarının tespitinde Lewis asit bazlı belirleyiciler, katalizör, antimikrobiyal ajanlar, ve koruma grupları olarak yaygın olarak kullanılmıştır. Dört koordinatlı tetrahedral bor bileşiklerinin bu sınıfını oluşturmak için kullanılan ligandların kimyasal ve termal stabiliteye sahip oldukları kanıtlanmıştır. Yeni Tri-ve tetra koordineli bor bileşikleri, spektroskopik çalışmanın yanı sıra antimikrobiyal aktiviteler ve antioksidan çalışmalar için tasarlanmıştır. Farklı nötr gruplarla oluşan dört koordinasyon bağlarının yanı sıra kovalent B-O ve B-C bağları yapıyı havada stabil hale getirdiğinden, bu çalışmada yeni, ucuz, kolay sentezlenebilir ve değiştirilebilir bor bileşikleri sınıfı daha sonra bunlara karşılık gelen farklı türevleri sentezlenmiştir. Bu yeni sentezlenen bileşikler 1H ve 13C NMR, FTIR, UV-Vis ve LC-MS/MS spektroskopisi, erime noktası, element analizi ve voltametri teknikleri ile karakterize edildi. Daha sonra sentezlenen bileşiklerin antimikrobiyal ve antioksidan etkileri araştırıldı. Sentezlenen farklı bor komplekslerinin in vitro antibakteriyel ve antioksidan aktivitesi, resazurin bazlı et suyu mikrodilüsyon yöntemi kullanılarak patojenik bakteri suşuna karşı test edildi ve her bor kompleksinin MIC değerleri belirlendi.

Anahtar Kelimeler: Bor Bileşikleri, Sentez, Spektroskopi, Biyolojik Çalışmalar.

PERENNIAL WEEDS OF MOULOUYA POTATO: DIVERSITY-DISTRIBUTION AND THREAT IN THE CULTURE

Alaoui Karima [1*], Chafik Zouheir[2], Khoulati Amine[1], Saalaoui Ennouamane[1],Mikdame Hind[3], Kharmach Ez-Zahra[1]

[*1]Laboratory of Bioresources, Biotechnology, Ethnopharmacology and Health, Faculty of Science, University Mohamed Premier, Oujda 60000, Morocco

[2] Laboratory of Plant Biology and Microorganism, Faculty of Science, University Mohamed Premier, Oujda 60000, Morocco

[3]Laboratory of Engineering, Materials, Modeling and Environment, Faculty of Sciences Dhar El Mahraz, B.P. 1796, Atlas, 30000. Fez Morocco

*ORCID No: https://orcid.org/0000-0002-9147-9437

ABSTRACT

The description of botanical, ethological, agronomical and biogeographic attributes of the floristic heritage of the weeds of the potato of Moulouya in North-East Morocco is based on 31 surveys, 172 weedy species were encountered including 94 perennial species belonging to 22 botanical families. Six families alone provide 63 % of the species: Poaceae (15), Asteraceae (10), Liliaceae (11), Lamiaceae (17) Solanaceae (4) and Apiaceae (3). These families alone account 60 species. The study of ethological spectrum show that the geophytes come in first place with 54 species followed by hemicryptophytes with 33 species and contribute respectively with 57,45 and 35,10. The Mediterranean floristic element (50%) is dominant and characterizes this flora. The abundance and frequency of perennial species has resulted in the identification of 14 noxious species.

Keywords: Potato, Moulouya, perennial Weeds.

THEORETICAL CALCULATION OF SPECIFIC HEAT CAPACITY OF TUNGSTEN-TECHNETIUM ALLOY

Melek GOKBULUT

Department of Optician Program, Erbaa Vocational School of Health Services, Gaziosmanpasa University, Tokat, Turkey

ORCID ID: 0000-0002-2737-805X

Elif SOMUNCU

Department of Optician Program, Ulubey Vocational High School, Usak University, Usak, Turkey.

ORCID ID: 0000-0001-7126-5194

ABSTRACT

A new analytical expression for the Debye function has presented to determine some thermodynamic properties of solids and liquids, in this study. Our method is based on a gamma function and binomial expansion function. Other analytic expressions of Debye functions have been given and the convergence of the suitable series has been shown for a wide range of the parameters. As well known, pure tungsten (W) and its alloys are playing a role important in plasma technology. Therefore, the proposed analytical formula has been applied to calculate the specific heat capacity of tungsten, tungsten-technetium alloy. The results of the calculation have shown that this analytical formula gives accurate and sensitive results specific heat capacity for tungsten. In this work, to our knowledge, the specific heat capacity of the tungsten-technetium alloy is first proposed for the calculation of the Debye functions. The calculations shows that the specific heat capacity of tungsten and tungsten-technetium alloy increase with the increasing temperature. The results of the calculation for the specific heat capacity of tungsten have been compared with experimental data and demonstrated that the method can be satisfactorily used for other materials.

Keywords: Thermodynamic properties, Debye functions, Specific heat capacity, Tungsten-technetium alloy

MODAL ANALYSIS FOR SOLID AND HOLLOW POWER ULTRASONIC HORN USING FEM

Ziad Shakeeb Al Sarraf[1], Majied Medhat Saeed[2]

[1,2]Department of Mechanical Engineering, Faculty of Engineering, University of Mosul, Mosul, IRAQ

ABSTRACT

Nowadays, ultrasonic horn considered to be one of the most acoustical tools which is performed for machining processes, through vibrating and transferring sufficient energy from transducer to the working area. A horn with proper design will help to solve issues and to minimize damage to the vibration system and generator. This work presents a modal analysis of two different horn profiles with different materials (steel, aluminium and titanium), using finite element based ANSIS software code. The result reveal higher natural frequencies for all vibrational modes of titanium horn for both exponential solid and circular hollow profiles. While circular hollow profile with all materials shows lower at first and second modes and after that increase at third and fourth mode shapes while it back to decrease at fifth and sixth mode shape. The titanium material shown better acoustic properties compared with aluminium and steel.

Keywords: Ultrasonic horn; USM; Finite Element Simulation; modal analysis; steel; aluminum; natural frequency; mode shape

NUMERICAL STUDY OF PHYSIOLOGICAL BLOOD FLOW WITH STRETCHING CAPILLARY ON MHD MICROPOLAR FLUID

Dr. Binyam Zigta

Wolaita Sodo University, College of Natural and Computational Science,

Department of Mathematics, P. O. Box 138, ETHIOPIA

ABSTRACT

Numerical analysis of mixed convection flow of MHD micropolar fluid with stretching capillary in the presence of thermal radiation, chemical reaction and viscous dissipation has been studied. The governing non linear partial differential equations of momentum, angular velocity, energy and concentration are converted into ordinary differential equations using similarity transformations which can be solved numerically. The dimensionless governing equations are solved using ode45. The effect of physical parameters such as micropolar parameter, Hartmann number, microinertial density parameter, thermal radiation parameter, Eckert number, Schmidt number and chemical reaction parameter on flow variables i.e., velocity of micropolar fluid, microrotation, temperature and concentration has been discussed graphically. MATLAB code is used to analyze numerical facts. Furthermore, computational values of local skin friction coefficient, local wall coupled coefficient, local Nusselt number and local Sherwood number for different values of parameters have been investigated.

Keywords: thermal radiation, chemical reaction, viscous dissipation, micropolar fluid, similarity transformation**.**

LA CROISSANCE DES SOLUTIONS D'UNE CLASSE D'EQUATIONS DIFFERENTIELLES LINEARES DANS LE PLAN COMPLEXES

Dr. FETTOUCH Houari

Laboratory of Pure and Applied Mathematics, University of Mostaganem, UMAB, Algeria,

Résumé

Mot clé: L'équation différentielle, méromorphes, linéaires, ordre fini, caractéristique

Introduction

Pendant plusieurs années, la théorie de la distribution des valeurs des fonctions méromorphes fondée par le célèbre mathématicien Rolf Nevanlinna est devenue un outil indispensable dans l'étude des propriétés des solutions des équations différentielles complexes, en particulier la croissance et l'oscillation des solutions.

L'équation différentielle suivante

$$f^{(k)} + A_{k-1} f^{(k-1)} + \ldots + A_0 f = 0$$

a été étudié par plusieurs auteurs:

Le premier chapitre est une introduction à la théorie de Nevan-linna,où on donne des définitions et des propriétés sur cette théorie qui concernent la distribution des valeurs des fonctions méromorphes dans le plan complexes.

Le deuxième chapitre de ce mémoire est le résultat de l'article de Jin Tu et Cai-Feng Yi [3], où nous étudierons des solutions méromorphes des équations différentielles linéaires d'ordre supérieure où $A_0 ,..., A_{k-1}$ sont des fonctions entières d'ordre fini ayant le même ordre fini. (dus à K.H.Kwon [1] et Z-X Chen [2

Rappel et définition

Fonction caractéristique de Rolf Nevanlinna

Définition: $(\text{voir } [21])$ *Pour tout nombre réel* $\alpha > 0$ *, on définit*

$\ln^+ \alpha = \max(0, \ln \alpha)$.

Lemma: *On a les résultats suivants:*

1) $\ln^+ x \le \ln^+ y$ *pour tout* $(0 < x \le y)$

2) $\ln x = \ln^+ x - \ln^+ \frac{1}{x}$

3) $|\ln x| = \ln^+ x + \ln^+ \frac{1}{x}$

4) $\ln^+ \left(\prod_{j=1}^{m} x_j \right) \le \sum_{j=1}^{m} \ln^+ x_j$

5) $\ln^+ \left(\sum_{j=1}^{m} x_j \right) \le \ln m + \sum_{j=1}^{m} \ln^+ x$

Définition *Soit* f *une fonction méromorphe, n'étant pas identiquement égale à*

$a \in C$. Soit $i(z, a, f)$ désignant la multiplicité de a -point de 1 à z . Ainsi, on définit

$$n(r, a, f) = n\left(r, \frac{1}{f-a}\right)$$

c'est à-dire, $n(r, a, f)$ est le nombre de racines de $f(z) = a$ dans $|z| \le r$, chaque racine étant comptée avec son ordre de multiplicité. Pour les pôles de f , nous définissons pareillement

$$n(r, \infty, f) = n(r, f).$$

Définition (voir [21]) *(fonction a -points). Pour la fonction méromorphe f , on définit*

$$N(r, a, f) = N\left(r, \frac{1}{f-a}\right) = \int_0^r \frac{n(t, a, f) - n(0, a, f)}{t} dt + n(0, a, f) \log r$$

Pour $a \neq \infty$ et

$$N(r, \infty, f) = N(r, f) = \int_0^r \frac{n(t, \infty, f) - n(0, \infty, f)}{t} dt + n(0, \infty, f) \log r$$

$N(r, a, f)$ *est appelée fonction a -points de la fonction f dans le disque* $|z| \le r.$

Proposition : *Soit f une fonction méromorphe avec le développement de Laurent*

$$f(z) = \sum_{j=n}^{\infty} c_j z^j, c_n \neq 0, n \in Z.$$

Alors

$$\ln|c_n| = \frac{1}{2\pi} \int_0^{2\pi} \ln\left|f(re^{i\theta})\right| d\theta + N(r, f) - N(r, \frac{1}{f}).$$

Définition : *(fonction de proximité). Pour la fonction méromorphe f , on définit*

$$m(r, a, f) = m\left(r, \frac{1}{f-a}\right) = \frac{1}{2\pi} \int_0^{2\pi} \ln^+ \left|\frac{1}{f(re^{i\varphi}) - a}\right| d\varphi \,, \; a \neq \infty$$

et

$$m(r, \infty, f) = m(r, f) = \frac{1}{2\pi} \int_0^{2\pi} \ln^+ \left|f(re^{i\varphi})\right| d\varphi$$

$m(r, a, f)$ est appelée fonction de proximité de la fonction f au point a .

Définition : *(Fonction caractéristique). La fonction caractéristique de la fonction méromorphe f est définie comme suit*

$$T(r, f) = m(r, f) + N(r, f).$$

Exemple : *Pour la fonction $f(z) = e^{2z}$, on a*

$$m(r,f)=\frac{2r}{\pi},\ N(r,f)=0.$$

D'où

$$T(r,f)=\frac{2r}{\pi}.$$

Premier Théorème fondamental de Rolf Nevan-linna

Théorème $(voir[16])$ *(Premier théorème fondamental). Soit* f *une fonction méromorphe,* $a\in \mathrm{C}$ *et*

$$f(z)-a=\sum_{i=m}^{\infty}c_i z^i,\ \ c_m\neq 0,\ m\in \mathrm{Z}$$

le développement de Laurent de la fonction $f-a$ *à l'origine. Alors*

$$T\left(r,\frac{1}{f-a}\right)=T(r,f)-\ln|c_m|+\varphi(r,a)$$

HYDROLOGIC MODELING OF A HIGHLY MANAGED WATERSHED USING SWAT

M. Matin Saddiqi

Istanbul Technical University, Environmental Engineering Department, Istanbul, Turkey

University College Dublin, Chemical and Bioprocess Engineering Department, Dublin, Ireland

ORCID NO: 0000-0002-3244-6328

M. Ekrem Karpuzcu

Istanbul Technical University, Environmental Engineering Department, Istanbul, Turkey

ORCID NO: 0000-0002-6245-9621

ABSTRACT

In this study, a hydrologic model of a highly managed watershed was established using SWAT (Soil and Water Assessment Tool). In highly managed watersheds, human interventions play a more important role than natural processes. To make modeling these watersheds possible, a detailed management data should be utilized. Kucuk Menderes Watershed, which is highly impacted by anthropogenic activities and climate change, was selected as the study area. Increasing population and uncontrolled water uses have transformed the watershed into a water-stressed watershed. In Kucuk Menderes Watershed, the nature of water bodies is constantly changed by various interventions. In addition to the numerous existing dams and ponds in the watershed, many dams and ponds are either under construction or at planning stage. There are also regulators built in the watershed to be used for water transfer. Excessive water withdrawal from groundwater wells adversely affects the hydrological processes in the watershed. Therefore, modeling studies in water resources are required to solve these problems in the watershed. The model calibration and sensitivity analysis were performed by SWAT-CUP (SWAT-Calibration Uncertainty Programs) using SUFI-2 method. The model was mostly sensitive to CN2 parameter. Soil and groundwater parameters were the parameter categories that the model was mostly sensitive. The performance of the model was evaluated with P-factor, R- factor and objective functions. P- factor values for the calibration were in the range of 42-75 %. According to the objective functions, the model performance was evaluated as very good, good and satisfactory based on gauge stations. The results of this study could serve as a basis for a wide range of future studies in the watershed such as water budget determination and sectoral water allocation, water quality modeling and studies regarding the impact of climate change within the watershed.

Keywords: Kucuk Menderes Watershed, Highly Managed Watershed, Watershed management, Hydrologic models, SWAT, SUFI-2.

MENTAL HEALTH AND COGNITIVE BEHAVIORAL THERAPY

RUH SAĞLIĞI VE BİLİŞSEL DAVRANIŞÇI TERAPİ

Research Assist. Sevda UZUN

Gümüşhane University, Faculty of Health Science Gümüşhane, TURKEY

ORCID NO: 0000-0002-5954-717X

Lecturer Nursen KULAKAC

Gümüşhane University, Faculty of Health Science Gümüşhane, TURKEY

ORCID NO: 0000-0002-5427-1063

Assoc. Prof. Dr. Nilgun ULUTASDEMIR

Gümüşhane University, Faculty of Health Science Gümüşhane, TURKEY

ORCID NO: 0000-0002-2231-5236

ABSTRACT

Cognitive behavioral therapy emerges as a structured therapy. In the cognitive behavioral therapy process, the therapy is carried out in accordance with the cognitive therapy protocol specific to the disease under consideration. However, while applying this protocol, each session that constitutes the treatment process also has a similar plan in itself. There is no random or natural flow in cognitive therapy sessions. A uniform standard format is applied in cognitive behavioral therapy and sessions are structured. The session starts with asking how the individual generally feels. Then comes the phase of connecting with the previous session, where the aim is to ensure the integrity of the therapy, to remember what was spoken in the previous session. The control of inter-session applications given as homework in the previous session is one of the components that can be included at the beginning of the session. The difference of cognitive therapy from other therapies is that the agenda items are primarily addressed at the beginning of the session. Generally, in cognitive therapy, agenda items are determined in the first minutes of the session. When there are more than one agenda items, whichever is important in terms of the goals of therapy is addressed first. When a certain agenda item is completed in important areas within the session, summaries are made occasionally to clarify the issue. At the end of the session, a general summary containing the important issues of the session is made. Summarizing provides both clarification of information and understanding of the topics. The last element of the cognitive therapy session is asking the client to make an assessment of the session. The purpose of asking the individual to evaluate the session is to learn how the client feels during the session and to understand their feelings. Sometimes there may be problems with therapy. One of the main problems caused by the patient is the patient's inability to bring or clarify a specific subject. Resistance in some personality disorders can make it difficult to determine the agenda. When we understand the patient well while applying the main structure in cognitive behavioral therapy, if the patient understands us well, if we stay away from approaches such as lecturing and lecturing, if we put the patient at the center of

Keywords: Mental Health, Cognitive behavioral therapy, Sessions

ÖZET

Bilişsel davranışçı terapi yapılandırılmış bir terapi olarak karşımıza çıkmaktadır. Bilişsel davranışçı terapi sürecinde terapi ele alınan rahatsızlığa özgü bilişsel terapi protokolüne uygun

bir biçimde yürütülür. Ancak bu protokol uygulanırken tedavi sürecini oluşturan her seansın da yine kendi içinde birbirine benzer bir planı vardır. Bilişsel terapi seanslarında rastgele ya da doğal gidişata bırakılmış bir akış söz konusu değildir. Bilişsel davranışçı terapide tek biçimli bir standart format uygulanır ve seanslar yapılandırılmıştır. Seans bireyin genel olarak kendisini nasıl hissettiğinin sorulmasıyla başlamaktadır. Daha sonra önceki seansla bağlantı kurma aşaması gelmektedir burada amaç terapideki bütünlüğü sağlamak bir önceki seansta konuşulanları hatırlamaktır. Bir önceki seansta ödev olarak verilen seanslar arası uygulamaların kontrolü seansın başında yer alabilen bileşenlerden biridir. Bilişsel terapinin diğer terapilerden farkı gündem maddelerinin öncelikle seansın başında ele alınmasıdır. Çoğunlukla bilişsel terapide seansın ilk dakikalarında gündem maddeleri belirlenir. Gündem maddeleri birden fazla olduğunda terapinin hedefleri açısından hangisi önemliyse o öncelikle ele alınır. Seansın içinde önemli alanlarda belli bir gündem maddesi tamamlandığında ara ara konuyu netleştirmek için özetlemeler yapılır. Seansın sonlarında ise seansın önemli konularını içeren genel bir özetleme yapılır. Özetleme yapmak, hem bilgilerin netleşmesini hem de konuların anlaşılmasını sağlar. Bilişsel terapi seansının son öğesi danışandan seansla ilgili bir değerlendirme yapmasının istenmesidir. Bireyin seansla ilgili değerlendirme yapmasını istemedeki amaç danışanın seans sırasında kendisini nasıl hissettiğinin öğrenilmesi ve duygularının anlaşılmasıdır. Bazen terapide sorunlar yaşanabilir. Hastadan kaynaklı sorunların başında hastanın belirdin bir konu getirememesi, veya netleştirememesi gelir. Bazı kişilik bozukluklarında direnç gösterme gündem belirlemeyi zorlaştırabilir Bilişsel davranışçı terapide ana yapıyı uygularken biz hastayı iyi anlarsak hasta bizi iyi anlarsa, nutuk çekme, ders verme gibi yaklaşımlardan uzak durursak hastayı terapinin merkezine koyarsak etkili bir terapi yapmış oluruz.

Anahtar Kelimeler: Ruh sağlığı, Bilişsel davranışçı terapi, Seanslar

THE MACRO-MICROSCOPIC PECULIARITIES OF THE HUMAN URINARY BLADDER GLANDS

Huseynova Gulgiz Agagasan[1], Nasirova Zarifa Jahangir[2]

[1,2]Department of Human Anatomy and Medical Terminology, Azerbaijan Medical University, Baku, Azerbaijan

ABSTRACT

Purpose of the investigation is to learn the morphological peculiarities (quantity parameters, age, individual and regional characteristics) of the glands of urinary bladder in the different age stages of the postnatal ontogenesis in the norm. A macro-microscopy method on total preparations of a wall of the bladder 54 received from corpses. Victims from the casual reasons at the age from the period newborn to senile age and we investigated variants of the form of a bladder glands, feature of its change in different sites of a wall of organ (proximal, average, distal thirds), taking into account age. Glands have preliminary been painted 0.05 % by a solution methylene dark blue with Sinelnicov's method and by *hematoxylin* -eosin with Van-Gizon's method. The glands were investigated with the application of stereomicroscopic-binocular microscope MBS-9. Statistical data processing included calculation of arithmetic-mean values, their errors, confidential intervals (excel). In quantity of the parameters of the urinary bladder, glands have got individual changeability in the investigation. The boundary of variation of the parameters of the urinary bladder glands is rather wider in the maturity and senile stages. Connected with biological activity of the people in the definite degree, the quantity of the glands does not change in comparison with elderly period in old stage. In the stages of the first maturity and majority, the parameters of the measure and quantity of the urinary bladder glands in the women have difference from men. In this microscopic investigation, there is very important anatomical scientific information about the human urinary bladder glands that in the different stages, their quantity, age, form and regional changeability, proximal-distal gradient as well as other anatomical facts were established.

Keywords: human urinary bladder, gland, postnatal ontogenesis

DETERMINATION OF MOLECULAR MECHANISMS OF GENES ASSOCIATED WITH CYSTIC FIBROSIS

Gözde Öztan

Istanbul University, Istanbul Faculty of Medicine, Department of Medical Biology, Istanbul, Turkey.

ORCID NO: 0000-0002-2970-1834

ABSTRACT

Introduction: Cystic fibrosis (CF) (OMIM 219700) is defined as chronic obstructive pulmonary disease, exocrine pancreatic insufficiency and increased concentration of sodium and chloride in sweat. Cystic fibrosis is caused by homozygous or compound heterozygous mutation in the cystic fibrosis conductance regulator gene (CFTR) on chromosome 7q31.

Materials and Methods: eDGAR is a database used to collect and organize information on relationships between genes and diseases derived from current versions of OMIM, HUMSAVAR and CLINVAR. In our study, it is aimed to investigate the functional relationships between genes associated with CF disease and to elucidate the molecular mechanisms of the pathogenesis of the disease. In this study, Cystic Fibrous definition was made via OMIM OMIM entry ID. Then, information was collected for each disease-associated gene through the eDGAR database. Later, generating the gene list associated with CF with eDGAR, Transcription Factors (TF) annotation from TRRUST; Interactions from STRING; REACTOME pathways annotation: shared terms (no NET-GE enrichment); KEGG pathways annotation: shared terms/NET-GE enrichment sections have been investigated. In eDGAR the Cystic fibrosis (OMIM 219700) is associated with three different genes: CFTR (reported in ClinVar, OMIM, HUMSAVAR), FCGR2A (reported only in OMIM) and TGFB1 (reported in ClinVar, OMIM). The functions of three genes have been revealed through GeneCards The Human Gene Database.

Results: eDGAR reports that USF2 is a TF that regulates the expression of both TGFB1, CFTR and NFKB1 is a TF that regulates the expression of both TGFB1, CFTR. Additionally, TGFB1 and CFTR are also involved in the same REACTOME pathways related to disease and signal transduction. TGFB1 and FCGR2A genes are also involved in the KEGG pathways related to leishmaniasis, osteoclast differentiation and tuberculosis. NET-GE allows retrieving enriched KEGG pathways, for instance leishmaniasis, platelet activation, phagosome, tuberculosis and Rap1 signaling pathway. "Interactions from STRING", there is no direct relationship between CFTR,FCGR2A,TGFB1 genes. Also, TGFB1 and CFTR genes were found to interact with UBC,ANXA2,FOXA2,MUC4,EDN1 genes, TGFB1 and FCGR2A genes with UBC gene, CFTR and FCGR2A genes with UBC,SYK,TLR4 genes.

Conclusions: In the evaluation of genetic diseases, genes, their physical interactions and their co-occurrence in the same functional processes should be considered.

Keywords: Cystic Fibrosis ; CFTR ; genetic disease.

WETTING-DRYING RESISTANCE OF SLAG AND KAOLIN-BASED GEOPOLYMER CONCRETES WITH THE TALL AND SHORT BASALT FIBERS

Yurdakul AYGÖRMEZ

Yildiz Technical University, Faculty of Civil Engineering, Civil Engineering Department, Istanbul, Turkey.

ORCID NO: 0000-0001-7405-2450

ABSTRACT

Geopolymer concrete is known as cementless concrete according to the literature. High CO_2 emission in cement production has attracted the attention of many environmentalist human societies by creating negative effects on environmental problems and therefore human health. Increasing environmental pollution at a level that will affect the world has led to an increase in environmental sensitivity due to the fact that cement factories produce more than cement consumption in the market and have an excess of CO_2 emissions. Due to this situation, many types of research have started to be made on the use and recycling of alternative materials to cement. Within the scope of this study, different binder materials were used interchangeably to produce sustainable and environmentally friendly geopolymer concrete. Slag obtained as a by-product in the production of cast iron and natural and cheap kaolin were used as substitutes in geopolymer concrete. Kaolin and slag were substituted in four different proportions (15%, 30%, 45%, and 60% by weight). In addition, in the series with the highest result, two different basalt fibers with different lengths (tall basalt fiber (TBF) and short basalt fiber (SBF)) were substituted with each other so that the total ratio was 2% by weight (2%TBF, 1.6%TBF+0.4%SBF, 1.2%TBF+0.8%SBF, 0.8%TBF+1.2%SBF, 0.4%TBF+1.6%SBF). The 28 and 90 days compressive strength and ultrasonic pulse velocity (UPV) results of the geopolymer concretes were found. According to the results, it was positively affected by the substitution of kaolin up to 30% as it would increase geopolymerization. Tall basalt fiber gave the highest result by limiting cracks up to 1.2%. In order to see the behavior in the durability effect, a wetting-drying test consisting of 10 and 50 cycles was applied. Geopolymer concretes showed significant resistance to the wetting-drying test.

Keywords: Geopolymer Concrete, Kaolin, Slag, Basalt Fiber, Wetting-drying.

VARIATION IN GENOTYPES REACTION TO DROUGHT AND RELATED PHYSIOLOGICAL AND AGRONOMIC PARAMETERS IN RAPESEED (*Brassica napus* L.)

Imane Saghouri el Idrissi[1, 2], Souhail Channaoui[3, 4], Abdelghani Nabloussi[3] and Rajae Kettani[1*]

[1] Research Unit of Agronomy and Plant Physiology, National Institute of Agricultural Research, Regional Agricultural Research Center of Meknes, PO. Box 578, Meknes 50000, Morocco.

[2] Department of Biology, Faculty of Sciences, University Ibnou Tofail, University Campus, PO Box 133, Kenitra, Morocco.

[3] Research Unit of Plant Breeding and Plant Genetic Resources Conservation, National Institute of Agricultural Research, Regional Agricultural Research Center of Meknes, PO. Box 578, Meknes 50000, Morocco.

[4] Laboratory of Plant Biotechnology and Molecular Biology, Department of Biology, Faculty of Sciences, University of Moulay Ismail, Meknes, Morocco.

ABSTRACT

Rapeseed grown is particularly sensitive to drought occurring at flowering stage. Furthermore, water stress is more and more frequent because of change climate context in Morocco. So, this study was conducted to evaluate rapeseed genetic resources under drought conditions. The aim is to identify the main agronomic and physiological traits that led to variability in seed production and oil yield under water stress. The experiment was carried out in pots during two cropping years (2017-2018 and 2019-2020) under greenhouse controlled conditions. During the flowering stage to early seed maturity, four rapeseed genotypes were evaluated under two levels of water stress (T2: 66% of T1) and T3 (33% of T1). T1 is the control water regime irrigated with humidity at field capacity. Results showed significant effect of genotype, water regime and their interaction on all measured parameters. The variety 'Nap9' was the most performing in terms of seed yield and oil content under the two levels of water stress. This variety exhibited lower stomata resistance and higher relative water content than the other genotypes. Therefore, it is recommended as a valuable germplasm in rapeseed breeding program for drought resistance. High branching combined with low stomata resistance could be very useful as breeding criteria for rapeseed variety creation.

Keywords: Rapeseed genotype / Water deficit / Oil content / Stomata resistance / Selection criteria.

A COMPENDIUM OF RIGHT TO PRIVACY IN DIGITAL AGE USING SOCIAL NETWORKING SITES

Abhilasha Sisodia

LL.M (University of Pune), Pursuing Ph.D.

Assistant Professor; School of Law (SOL); Galgotias University; Greater Noida.

Flat No.501, Tower 2, Unitech Horizon, Sector – PI 2, Greater Noida, Pin- 201310.

Rishikesh Sisodia

Research Scholar, School of Bussiness, Galgotias University

Flat No.501, Tower 2, Unitech Horizon, Sector – PI 2, Greater Noida, Pin- 201310.

Dr. Apeksha

Assistant Professor; Department of English; School of Liberal Education; Galgotias University.

Tower12,Flat-1502, Paramount Floraville,Sector 137, Noida

ABSTRACT

In this era of 21st Century, using of Social Networking Sites has become a part of our day-to-day life. Life without using Social-Media is sterile because Social Networking sites are very easy to be used and often, they are free. The protection of privacy cannot be separated from technological development: nowadays, due to the development of science and technology, the possibility to intrude into someone's privacy has increased and Social-Media is one of that medium to interrupt in someone's life. One cannot imagine to enjoy his right to life without existence of privacy right. Every human being has certain part of the life which are expected to be confidential and are not required to be publicized publicly; and right to privacy is the only right which safeguards our confidentiality. This privacy right has not been expressly implied under the Indian Constitution. This right got its place under Indian Constitution through Judicial Interpretation. Supreme Court has given different interpretations to the term 'right to life'. Inclusion of 'right to privacy' as one of the fundamental rights under Article 21 is the result of one of such interpretations. In this paper the author will focus upon certain personality rights specially the Right to Privacy and Right to Identity which often gets infringed through the intrusion of Social-Media. Protection of Right to Privacy and Identity may be interlinked with data protection. Data Protection comes into picture when the personal information uploaded upon social networking sites gets leaked. The recent research paper will exemplify the state where this technological digitalization and modernization became a cause for breaching the privacy concerns and will also throw the light on precautionary measures to combat such kind of rupture. The idea to put forward this theme is to associate the idea of India with other countries.

Keywords: Social-Media, Social Networking Sites, Data Protection, Privacy, Identity, Interpretation.

SYNTHESIS, CHARACTERIZATION AND ANTIMICROBIAL ACTIVITY OF Fe(II) AND Mn(II) COMPLEXES WITH SCHIFF BASE DERIVED FROM NAPHTHALDEHYDE AND P-CHLOROANILINE

[1*]Ibrahim A.K and [2]Na'aliya J

[1,2]Department of pure and Industrial Chemistry, Bayero University, Kano. Nigeria.

ABSTRACT

The Schiff base derived from 2-hydroxy-1-naphthaldehyde and p-chloroaniline and its Fe(II) and Mn(II) complexes were synthesized and characterized using infrared spectral analysis, melting point/decomposition temperature, magnetic susceptibility, conductivity measurement, solubility test and elemental analysis. The Schiff base and its metal complexes were screened for antimicrobial activity. The molar conductance values range ($3.54 – 5.83 \Omega^{-1}cm^2mol^{-1}$) indicated all complexes are non electrolytes. The magnetic susceptibility values revealed that all the complexes are paramagnetic. The infrared spectra analysis suggested that the Schiff base behave as a bidentate ligand coordinates to metal ion via azomethine nitrogen and phenolic oxygen. The high decomposition temperature range ($201 – 223^oC$) revealed the stability of the complexes. The elemental analyses results revealed slight differences between observed and calculated percentages of C, H, and N in the Schiff base and its metal complexes, this is in line with their proposed structures, and also revealed 1:2 metal-ligand ratio in all the complexes. The antimicrobial activity of Schiff base and its complexes were conducted using agar well diffusion method against two bacteria strains; (*Salmonella typhi and streptococcus pneumoniea*) and two fungal isolates; (*Aspergillus fumigatus and Rhizopus species*). The results revealed that the Schiff base and its metal complexes exhibited promising antimicrobial activity.

Keywords: Schiff base; Complexes; 2-hydroxy-1-naphthaldehyde; p-chloroaniline; Antimicrobial activity.

CANINES ASSISTING IN HEALTH: SUPPORTING THE CULTURAL COMMUNITY OF INDIVIDUALS WITH DISABILITIES TEAMED WITH A SERVICE DOG

Joanne K. Singleton

Pace University, Professor, College of Health Professions, NY, NY

ORCID NO: 0000-0002-2566-9515

ABSTRACT

Representing the largest minority group today in the US, over 61 million people are living with visible and invisible disabilities. While there is great cultural care diversity among this group, within it is a community of those teamed with a service dog to help mitigate their disabilities. These individuals share this experience and require culturally congruent care from nurses and other healthcare providers. Yet, surprising healthcare providers receive little to no education within their professional programs, or in the clinical setting to support them in providing culturally congruent care to these patients. The work of Captain Luis Carlos Montalván (1973-2016) and his service dog Tuesday inspired Canines Assisting in Health (CAsH), founded in 2016. As a disabled veteran, Luis became a national and international advocate for individuals with disabilities teamed with a service dog to help them unique challenges service dog teams have in receiving healthcare. The mission of CAsH is to educate interprofessional healthcare providers to be knowledgeable about various types of assistance animals, and to be culturally competent in practice with individuals who have visible and invisible disabilities partnered with a service dog…in order to offer proper support. This presentation will provide an overview of CAsH work to date and will explore new definitions of community locally and globally in defining the culture of individuals teamed with service dogs; and, it will reflect on and identify innovative ways to prepare healthcare providers to lead the way in providing and advocating for culturally congruent care of this community of patients.

Keywords: disabilites, cultural community, service dog teams, interprofessional healthcare professionals, education

PAWS & BREATHE®, ANIMAL ASSISTED STRESS REDUCTION

Joanne K. Singleton, PhD, RN, FNP-BC, FNAP, FNYAM, FAAN

Pace University, Professor, College of Health Professions, NY, NY

ORCID NO: 0000-0002-2566-9515

ABSTRACT

Globally humans are reporting high levels of stress. Stress presents serious risks physiological and psychological effects for the health. Health promotion and disease prevention practices aimed at stress reduction include two non-pharmacologic interventions, diaphragmatic breathing, and animal assisted interventions (AAI). The evidence supports both, individually, as having stress reduction benefits. Paws & Breathe® combines an AAI with diaphragmatic breathing for a unique approach to stress identification and management for those who participate individually or in a group session. This presentation reports on the immediate stress reduction outcomes of group session participants as measured by the Perceived Stress Scale (PSS), and the Stress Visual Analog Scale (SVAS). Overall participants reported high stress on the PSS. A two-tailed paired t-test showed a statistically significant difference between the pre- and post-intervention score on the Visual Analog Scale ($t(169)=21.32$; p <0.001), showing Paws & Breathe to be an evidence-based stress reduction intervention.

Keywords: stress, Paws & Breathe®, evidence-based practice, diaphragmatic breathing, animal assisted interventions

A STUDY ON THE WETLANDS OF MAJULI ISLAND

Dr. Pollobi Duara

H.O.D, Department of Zoology, Majuli College

ABSTRACT

There are around 150 large and small wetlands or Floodplain lakes locally called Beels are present in Majuli Island,the largest inhabited river island in the world.These are rich in both flora and fauna.These water bodies are associated with pioneer plants,floating vegetations and habitat of large number of migratory birds.Large number of birds used to come to these Beels during winter including Grey Lag Goose(Anser ansr),Ruddy shelduck(Tadorna ferruginea),Pintail(Anas acuta),Bar headed goose(Anser indicus) etc.Five Beels were selected for study-Bhokoti Beel,Burukh Beel,Bor Beel,Doriya dubi and Gotonga Beel.These water bodies also harbour a large number of fishes,reptiles,insects,rotifers and aquatic plants. These wetlands are in danger due to various anthropogenic impacts like-fishing,agricultural practices,exploitation etc.

Keywords: Wetlands,Flora,Fauna,exploitation,anthropogenic impacts.

AMORPHOUS CHALCOGENIDES BASED MICROCELLS FOR THE FAST TOXIC GAS ALARM-TRIGGERING

Dumitru Tsiulyanu[1*], Marina Ciobanu[2]

[*1,2]Technical University, Faculty of Electronics and Telecommunication, Department of Physics, Chisinau, Moldova.

*[1]ORCID NO: 0000-0003-3711-4434

[2]ORCID NO: 0000-0002-5178-2167

ABSTRACT

A brief review of structure, physical properties and application of amorphous chalcogenides (ACh) in technology of the chemical sensors is reported and discussed in context of development of the novel principles of operating, enhancing their speed at gas detection. For this purpose are considered the simultaneous involvement of contact and surface phenomena in sensor mechanism of operation, as well as utilization of dielectric - metal transition in ACh based solid electrolytes triggering of which can be controlled by gas adsorption. Both these two approaches have been experimentally realized and the proposed principles proved in the framework of this study. In the first case the microcell consists of a Si/ SiO_2 /ACh wafer at that ACh is a gas sensitive ultra-thin amorphous layer of a low forbidden gap (< 0. 4 eV) grown between previously deposited Pt electrodes and, what is more the work function of ACh should not exceed the work function of Pt. To elucidate the mechanism of this fast response (~5 sec.) sensor it has been investigated by AFM, SEM and EDX analyses followed with its characterization via studying the current - voltage characteristics, dynamic response, long – term stability, effects of temperature, humidity and other gases. The further increasing of the speed of chemicals detection has been achieved by combining the above examined sensor with a high speed switcher operating on principle of dielectric - metal transition in ACh based solid electrolytes. In the present study the glassy chalcogenide based solid electrolytes have been fabricated via photodissolution of Ag in thin films of different ACh grown in vicinity of gas sensitive ACh on the same Si/SiO_2 wafer. It was pointed out that the occurrence of toxic gas, even in trace amounts causes the switching threshold of the solid electrolyte based microswitcher to shift and, as a result the sudden increase of the current by several orders of magnitude. The time of switching that is the triggering time lies in the order of microseconds. It is worth noting also that the fabrication of examined alarm-triggering microcells requires application of only standard microelectronic technologies.

Keywords: Nanotechnology; Chalcogenides; Toxic gases: Alarm-triggering.

THE FAMILY BORAGINACEAE AND ITS ETHNOBOTANICAL REFLECTIONS: KERALA PERSPECTIVE

Tojo Jose

Centre for Research and Evaluation, Bharathiar University, Coimbatore, Tamil Nadu, India

ORCID ID: 0000-0002-4375-7199

ABSTRACT

The family Boraginaceae Juss., Gen. Pl. [Jussieu] 128 (1789), nom. cons., typically designated the borage or forget-me-not family comprises herbs, shrubs and trees. The family harbours many plants having ethnobotanical importance. The State Kerala accommodates 26 species of Boraginaceae members that comes under 9 genera. The state is cushioned on the foothills of Western Ghats, one of the biodiversity hot spots, located along the South west corner of peninsular India, is famed for its biodiversity and rich ethinic culture allied to the tribal settlements. Tribal settlements harbours many indigenous treatment modalities rooted on plant based medicinal formulations. Many of the Boraginaceae members are used by the ethnic communities for treating various ailments. The treatment methods and medicinal formulations are different for each tribal group where many of them are exclusive to individual tribal settlements. Plants like *Rotula aquatica* Lour., *Cordia obliqua* Willd., *Cordia wallichii* G. Don., *Heliotropium indicum* L., *Cynoglossum zeylanicum* (Vahl ex Hornem.) Thunb. Ex Lehm. are commonly used by tribal communities across Kerala. Some of the plants are used entirely and some are used with other plants for medicinal formulations. Many of the modern pharmaceutical drug innovations are embedded on these indigenous treatment modalities and majority of these ethnobotanical data are entirely locked among tribal groups. A considerable fraction of the young generation in the tribal communities is more or less unaware of their rich ethnobotanical experience and most of the indigenous information's are restricted to the elder community. However, only limited information are explored and presented to scientific world for further innovations. Thus explorations in this line are the need of the hour and the present study portrays the ethnobotanical reflections of family Boraginaceae in the State of Kerala.

Keywords; Tribal community, Ethnobotany, Medicinal formulations Kerala, Boraginaceae

TREATMENT OF FETAL COMPLETE ATRIOVENTRICULAR BLOCK

Dr. Barış Sever

Izmir University of Health Sciences, Tepecik Training and Research Hospital, Department of Obstetrics and Gynecology, Division of Perinatalogy, Izmir, Turkey

ORCID NO: 0000-0002-9690-8819

ABSTRACT

Fetal cardiac anomalies are the second most common type of malformation after central nervous system anomalies. The anomalies that can be seen in the heart are very numerous and fetal cardiac examination should be done in detail in the intrauterine period. One of the most important components of cardiac examination is fetal heart rate and rhythm. Atrioventricular block should be suspected when fetal heart rhythm disorder is detected, especially if the beat rate of the atrium and ventricles is not found in a one-to-one ratio. The incidence of congenital complete atrioventricular block is low (1/20000). It is caused by a problem in conduction transmission from the sinoatrial node to the atrioventricular node. It is possible to classify it according to the degree of the defect in the conduction. If the conduction is completely interrupted (the atria and ventricles contract independently with their own rhythm), this is called complete atrioventricular block (3rd degree). In first degree atrioventricular block, the PR interval is prolonged, there is conduction from the atrium to the ventricular node, but it passes with a delay. In 2nd degree block, only 1 ventricular contraction accompanies every 2 atrial contractions. Heart rate is around 60-80/min. It is difficult to distinguish from 3rd degree block. In 1st and 2nd degree blocks, the clinic is relatively better than in 3rd degree blocks. In 3rd degree block, the atrium continues to contract at its normal rate. Ventricular contraction and therefore ejection fraction decreased significantly. Generally, no problem is observed in patients with a heart rate greater than 60/min, and they are followed closely. However, in patients with less ventricular beat, placental infarction, endocardial fibroelastosis, hydrops and even intra-uterine death may occur. Treatment should be started in patients with third degree block at high risk. As treatment options: beta stimulants (salbutamol, terbutaline, ritodrine), steroids (dexamethasone, betamethasone), IV immunoglobulins and hydroxychloroquine can be used. A few experimental stage drugs that have not yet entered clinical use include: beta cell reduction therapies, azathioprine, cyclosphamide, and plasmapheresis. The use of these drugs has many side effects, but in patients with the possibility of developing fetal hydrops, their use can be offered as an option after the risks are shared with the patient.

Key words: cardiac anomaly, fetal avioventricular block, 3rd degree block therapy

INVESTIGATION OF *in Vitro* INHIBITORY EFFECTS OF SOME CARNOZOLE AND CARNOSIC ACID DERIVATIVES BASES ON ACETYLCHOLINESTERASE, BUTYRYLCHOLINESTERASE AND CARBONIC ANHYDRASE ISOENZYMES

Zeynep KOKSAL

Istanbul Medeniyet University, Engineering and Natural Sciences, Chemistry, Istanbul, Turkey

ORCID ID: 0000-0001-8203-4623

ABSTRACT

The place and beneficial properties of many natural phenolic compounds such as polyphenols directly in human nutrition are primarily associated with their antioxidant activities. It is known that polyphenolic compounds are obtained from natural products. Carnozole and carnosic acid derivatives are important natural antioxidants found in rosemary (*Rosmarinus officinalis*). Rosemary is an important medicinal-aromatic plant species and has many biological effects such as antimicrobial, antioxidant, antiviral, and immune system improvement. In this study, *in vitro* inhibition kinetics of some enzymes (hCA I, hCA II, AChE and BChE) will be investigated on these derivatives (carnosol, carnosic acid, isorosmanol, 12-methoxycarnosic acid, 7-methylrosmanol) whether they have inhibition and activation effects.. Acetylcholinesterase (AChE, EC 3.1.1.7) is known to be abundant in the muscle, brain and erythrocyte membrane, and butyrylcholinesterase (BChE, EC 3.1.1.8) has a higher activity in liver, intestine, heart, kidney and lung. Carbonic anhydrases (CAs, EC 4.2.1.1) is a metalloenzyme containing Zn^{+2} ions found in all organisms. It is a very important enzyme that plays a role in many physiological events such as acid-base balance, ion exchange, regulation of the cardiovascular system, as well as providing the dissolution of CO_2 formed during respiration in water, its transport and removal from the bodythe hydration of carbon dioxide (CO_2) to bicarbonate (HCO_3) and protons (H^+), with a high efficiency.

According to the results of this study some inhibition parameters including IC_{50} and Ki values were determined on hCA I, II, AChE and BChE. The compounds IC_{50} values in the range of 0.615 to 4.814 µM against hCA I, 4.213 to 5.478 µM against hCA II, 0.704 to 0.9833 µM against AChE and 0.632 to 1.605 µM against BChE. Ki values were in the range of 12.40 ± 7.10 to 462.35 ± 44.42 nM against hCA I, 35.77 ± 3.04 to 330.08 ± 62.23 nM against hCA II, 23.00 ± 25.53 to 357.00 ± 4.02 nM against AChE and 20.00 ± 35.53 to 557.00 ± 4.02 nM against BChE. These Carnozole and Carnosic Acid Derivatives had showed strongest inhibition effects on these enzymes.

Keywords: Carnozole and Carnosic Acid Derivatives, Enzyme Inhibition, Acetylcholinesterase, Butyrylcholinesterase, Carbonic Anhydrase

COUNTING CUBE: TEACHING PRESCHOOL CHILDREN ON BASIC NUMERACY USING A SPECIALLY MODIFIED DICE GAME

Erynna Syeffera Lucas[1], Werollisa Elna Wilber[2]

[*1,2] Keningau Vocational College, Early Childhood Education, Keningau, Sabah Institute, Malaysia

ABSTRACT

This project examined the usage of a teaching aid named "Counting Cube" to teach children to count basic numbers and to perform fundamental mathematical operations. The teaching aid was a pentagon-shaped box mathematical questions and numbers could be attached on its surface for children to solve and comprehend when playing with it. Most teachers at kindergartens struggled to teach basic numbers and mathematical operations. These skills are fundamental to children's cognitive development and to prepare them for the next stage in learning. Therefore, their mastery of these skills is pivotal in their school education. This teaching aid was developed to assist the children gain better understanding of these numerical concepts and operations. The specific purpose of this teaching aid was to study whether the children that were studied could recognize numbers after using the teaching aid. The research examined whether the children were able to distinguish the basic number from 1 to 5 after the intervention. Observation checklist and interviews were used to collect data from the children and the teachers. the target group was three children from a preschool. The data collection was made through checklist forms and interviews. The result of this study showed that two per three of the children successfully accomplished the learning outcomes that were designed based on the objectives. It showed that this teaching aid has a great potential to be improved and to be fully utilized as a teaching aid across the local preschools. The findings also indicated that most of the children displayed greater level of motivation when the teaching aid was used in the classroom. They were able to demonstrate better understanding of the mathematical concepts and operations.

Keywords: Mathematical operations, children, cognitive development.

A STUDY ON AWARENESS OF SMALL FIRMS ON CUSTOMER SATISFACTION WITH COST SAVINGS IN REVERSE LOGISTICS

Raghavendra B.S.

Accenture, Financial analyst, Bangalore, India

Dr. Chandan Chavadi

Presidency College, Professor and Dean CMS, Bangalore, India

Dr. Ravikeerthi J V

Presidency College, Associate Professor CMS, Bangalore, India

ABSTRACT

Reverse logistics is for all operations related to the reuse of products and materials. It is the process of moving goods from their typical final destination for the purpose of capturing value, or proper disposal. Remanufacturing and refurbishing activities also may be included in the definition of reverse logistics. Reverse logistics is sometimes called aftermarket supply chain, aftermarket logistics or retrogistics.

The objectives of the study is to identify the factors underlying reverse logistics capabilities, values and claiming back strategies, to develop a model of reverse logistics capabilities, values and claiming back strategies and evaluate the relationship which shown in the model, to test the model, to evaluate the mean difference of the firm running since from towards reverse logistics capabilities, value and claiming back strategies and to open new area for further study.

The result of the tests indicate that there is no significant difference within the three groups.

There is a significant positive cause and effect relationship between reverse logistics capabilities and claiming back strategies. There is significant cause and effect relationship between claiming back strategies and value (cost savings) there is significant cause and effect cause and effect relationship between reverse logistics capabilities and value (cost savings

This is descriptive and exploratory study with a sample size of 100 through questionnaire.

Chronbach's alpha for reliabitity Exploratory Factor analysis applied to identify the factors underlying reverse logistics capabilities, value and claiming back strategies.Kruskal-Wallis H test is applied to test null hypothesis with respect to logistics capabilities, value and claiming back strategies.

Key words: Reverse Logistics, Customer satisfaction, Value Cost savings, Strategies Remanufacturing and Refurbishing

PHYSICOCHEMICAL AND MICROBIOLOGICAL CHARACTERISTICS OF SOURDOUGH

Ayşe Sevgili

Vocational School of Technical Sciences, Gaziantep University, 27310 Gaziantep, Turkey

ORCID NO: 0000-0002-9579-5074

Osman Erkmen

Department of Food Engineering, Faculty of Engineering, Gaziantep University, 27310 Gaziantep, Turkey.

ABSTRACT

Sourdough is the oldest biotechnological process and mixture of flour and water. Sourdough microbiota relies on environmental factors. Lactic acid bacteria (LAB) is the most dominant in sourdough. Although species belonging to the genera *Leuconostoc, Weissella, Pediococcus, Lactococcus, Enterococcus* and *Streptococcus* have been isolated, the most frequently observed bacteria in sourdough is *Lactobacillus*. Yeasts isolated from sourdough *Saccharomyces, Candida, Cryptococcus, Pichia, Rhodotorula* and *Torulospora*. Sourdough is classified under 3 groups as Type I, Type II and Type III according to the method used in bread production. Type I sourdoughs are produced by pre-fermenting the dough and are known as traditional sourdough bread production. Type II sourdoughs are suitable for industrial applications. They have semi-fluid characters and can be easily processed. Type III sourdoughs are prepared by drying the sourdough. In this study, the type I method for sourdough was used and liquid sourdoughs were prepared to investigated pH, total titrable acidity, volume, ethanol, count of LAB, yeast and mesophilic aerobic bacteria (MAB). According to the results, the samples that gave the best results for the combination of bacteria were *L. mesenteroides* subsp. *mesenteroides, L. pentosus, L. paralimentarus, L. plantarum* and *P. acidilactici. C. keyfr, K. exigua, W. anomalus* and *S. cerevisiae* were found to be the best yeast samples in combinations in terms of sourdough rising and rapid swelling development.

Keywords: Liquid sourdough, LAB, yeasts, fermentation

EFFECT OF DIFFERENT COMBINATION LACTIC ACID BACTERIA AND YEASTS ON PHYSICOCHEMICAL, TEXTURE AND CALORIMETRIC PROPERTIES OF SOURDOUGH BREAD

Ayşe Sevgili

Vocational School of Technical Sciences, Gaziantep University, 27310 Gaziantep, Turkey

ORCID NO: 0000-0002-9579-5074

Osman Erkmen

Department of Food Engineering, Faculty of Engineering, Gaziantep University, 27310 Gaziantep, Turkey.

ABSTRACT

The effect of sourdough lactic acid bacteria (LAB) and yeasts was investigated for improving the texture of the bread. Eight LAB and nine yeasts were used to determine the combination of sourdough bread microbial. Sourdough bread was investigated using pH, total titrable acidity, moisture, height, dry matter, crust and inner color, volume, specific volume, texture properties, calorimetric properties and sensory analysis. In the study, it was determined that when heterofermentative and homofermentative bacteria are used together and when three or more types are used in bread production, sourdough bread retains more moisture after 7 days of storage. Besides, more voluminous breads were obtained by using homofermentative, heterofermentative and yeast together. However, these volumes were not at a level that would affect the appearance and texture of the bread. Texture analysis of bread doughs are the hardness, stickiness, flexibility and chewiness obtained at the 4th and 24th hours. Thermal analysis result was calculated on days 0, 3 and 7. As a result, using more varieties resulted in less realization of the bread enthalpy value and they became less stale. After the bread was baked, an analysis was made to determine the sensory properties of the panelists consisting of 10 people at the 4th and 24th hours and on the 7th day. As a result of the sensory test, breads numbered *L. plantarum+P. acidilactici+L. paraplantarum+E. faecalis+S. cerevisiae+P. kudriavzevii+C. tropicalis+W. anomalus*, *L. brevis+L. pentosus+L. plantarum+E. hira+P. kudriavzevii+K. unispora+K. marxianus* and *L. brevis+L. mesenteroides* subsp. mesenteroides+*P. acidilactici+S. cerevisiae+K. marxianus* were the most preferred breads.

Keywords: sourdough bread, texture, calorimetric properties, LAB, yeasts.

A SIMPLE NEW SYNTHESIS METHOD OF COPPER MOLYBDATE $CuMoO_4$ NANOPARTICLES AND THEIR CATALYTIC PERFORMANCE

Hicham Oudghiri Hassani[a,*], Mohamed Akouibaa[a], Souad Rakass[b], Mostafa Abboudi[c], Brahim El Bali[d], Mohammed Lachkar[a] and Fahd Al Wadaani[c]

[a] Engineering Laboratory of Organometallic, Molecular Materials and Environment (LIMOME), Faculty of Sciences, Chemistry Department, Sidi Mohamed Ben Abdellah University, 30000 Fez, Morocco;

[b] Laboratory of Applied Organic Chemistry (LCOA), Chemistry Department, Faculty of Sciences and Techniques, Sidi Mohamed Ben Abdellah University, Po. Box 2202, Imouzzer Road 30000 Fez, Morocco;

[c] Chemistry Department, College of Science, Taibah University, Al-Madinah Al-Munawarah 30002, Saudi Arabia;

[d] Independent Scientist, Oujda, Morocco

ABSTRACT

Metal molybdate compounds with the formula $MMoO_4$ are an important family of inorganic materials that have interesting applications in various areas. In particular, the copper molybdate nanocatalyst $CuMoO_4$ was intensively used because of its wide applications. According to the literature, $CuMoO_4$ possesses five allotropic forms; □, □, □, □□□ and □□□□□which form depending on the synthesis conditions, temperature, and pressure.

Nanopowders of copper molybdate, α-$CuMoO_4$, were prepared through calcination of an oxalate complex in static air at 550 °C. The oxalate complex was investigated by Fourier transform infrared spectroscopy and thermal gravimetric analysis. The as-prepared copper molybdate was characterized by X-ray powder diffraction and the Brunauer–Emmett–Teller technique. Its catalytic effectiveness was verified by the oxidation reaction of methylene blue with hydrogen peroxide and by the reduction reaction of para-, meta-, and ortho-nitrophenol. The prepared copper molybdate exhibited exceptionally high catalytic performance of the oxidation of methylene blue dye and of the reduction reaction of the three isomers of nitrophenol to the three corresponding aminophenol isomers. The evolution of the catalytic activity was controlled by utilizing UV-Vis absorption spectroscopy.

Keywords: Copper molybdate, Catalytic activity, Methylene blue oxidation, Reduction of nitrophenol.

FASİYAL SİNİRİ YAPISININ YAŞ ÖZELLİKLERİ

AGE FEATURES OF THE STRUCTURE OF THE FACIAL NERVE

Gülnara Elkhan Kerimzade

Azerbaycan Tıp Üniversitesi. İnsan Anatomisi ve Tıbbi Terminoloji Anabilim Dalı.

ÖZET

Fasiyal sinirin dallanmasının yaşa bağlı özellikleri göz önüne alındığında, başın maksillofasiyal bölgesinin gelişiminde şekil değiştirdiği ve yaşamın farklı dönemlerinde karakteristik yapısal özelliklere sahip olduğu belirtilmelidir. Yenidoğanlarda, fasiyal sinirin ana gövdesi neredeyse yatay olarak bulunur (dış işitme kanalının 7 mm altında), topografisi yaşla birlikte değişir. Ana gövdenin uzunluğu ve bireysel dallarının yanı sıra, aralarındaki mesafe ile sinirin derinliği - parotis tükürüğünün kalınlığında artar. Yenidoğanlarda fasiyal sinir, elmacık kemiğinin alt kenarından 15-20 mm ve alt çene açısından 5-15 mm mesafede beze girer. Sinir gövdesinin uzunluğu 12-14 mm aralığında olup, 5-7 mm derinliktedir. Fasiyal sinir, bezin en dış tabakasına nüfuz eder ve dalları, çiğneme kasının fasyasına, ardından yağlı vücudun kapsülüne uzanır ve yüz kaslarına yaklaşır. Yenidoğanlarda ve bir yaşına kadar olan çocuklarda, I temporal dalı eğik olarak yukarı doğru, yataya yakınlaşır ve elmacık kemerini 0,5 ila 1,5 cm mesafede geçer. II zamansal dal genellikle yataya yakın bir yerde bulunur. Yanak ve elmacık dalları da yatay bir yöne sahiptir. Marjinal ve servikal dallar, genellikle alt çene açısının altında ve nadiren çene açısının üzerinde bir seviyede olmak üzere alt kısımdan uzanır. Bu dal düzenlemesinin şekle ve yüzün şekline bağlı olduğuna dikkat edilmelidir. Bu nedenle, yüzde kesiler yapılırken, fasiyal sinirin ana dallarının topografyası ve izdüşümü tarafından yönlendirilmeli, buna göre kesiler kulak tragusundan gözün dış köşesine radyal bir yöne sahip olmalıdır, burun ucuna, ağız köşesine ve ayrıca 1-1,5 cm altında mandibular kenara paralel. Sonuç olarak, bu çalışma sonucunda fasiyal sinir ve dallarının dış yapısı ve topografyası hakkında yeni veriler elde edildiğini belirtmek gerekir. Bu sinirlerin dış yapısının namlu içi yapılarından daha önce kesin duruma ulaştığı tespit edilmiştir.

Anahtar kelimeler: yüz siniri, maksillofasiyal bölge, yüz kasları.

ABSTRACT

Considering the age-related features of the branching of the facial nerve, it should be noted that the maxillofacial region of the head in its development changes shape and has characteristic structural features at different periods of life. In newborns, the main trunk of the facial nerve is located almost horizontally (7 mm below the external auditory canal), its topography changes with age. The length of the main trunk and its individual branches increases, as well as the distance between them and the depth of the nerve - in the thickness of the parotid saliva. In newborns, the facial nerve enters the gland at a distance of 15-20 mm from the lower edge of the zygomatic arch and 5-15 mm from the angle of the lower jaw. The length of the nerve trunk is in the range of 12-14 mm and it lies at a depth of 5 to 7 mm. The facial nerve penetrates the outermost layer of the gland, and its branches lie on the fascia of the masticatory muscle, then on the capsule of the fatty body and approach the facial muscles. In newborns and children up to one year old, the I temporal branch goes obliquely upward, closer to the horizontal and crosses the zygomatic arch at a distance of 0.5 to 1.5 cm. The II temporal branch is often located close to the horizontal. The cheek and zygomatic branches also have a horizontal direction. The marginal and cervical branches extend from the lower portion, often below the angle of the lower jaw and rarely at a level above the angle of the jaw. It should be noted that this

arrangement of branches depends on the shape, as well as on the shape of the face. Thus, when making incisions on the face, one should be guided by the topography and projection of the main branches of the facial nerve, in accordance with which the incisions should have a radial direction from the ear tragus to the outer corner of the eye, to the tip of the nose, to the corner of the mouth, and also parallel to the mandibular edge on 1-1.5 cm below it. In conclusion, it should be noted that as a result of this study, new data were obtained on the external structure and topography of the facial nerve and its branches. It has been established that the external structure of these nerves reaches the definitive state earlier than their intrabarrel structure.

Key words: facial nerve, maxillofacial region, facial muscles.

DIAGNOSIS OF RUPTURE OF ANCHOR STAPLE PINS THAT HAVE UNDERGONE THE PHENOMENON OF CORROSION

Hajar Sadeq[1*], Abdelkader Nasser[1] , Abdelhamid Kerkour El Miad[1]

[*1]Mohammed First University Oujda, Faculty of Science Oujda, Laboratory of Materials, Wave, Energy and Environment (LaMOn2E), Oujda, Morocco

*ORCID NO: 0000-0003-3516-0031

ABSTRACT

The staple is part of the family of anchors and tensioning devices used to maintain cables in mechanical tension. After 4 years of their commissioning, rupture incidents of the axes of these clips were noted. In this study we conducted a metallurgical expertise in order to verify the quality of the material used as well as to propose a material more suited to the environment in which they are placed. Based on metallographic examination, hardness testing, chemical analysis and finally corrosion tests, we noticed that the axes have undergone different corrosion phenomena that influenced their characteristics and have contributed to the rupture of these axes.

The corrosion is the phenomenon according to which metals tend, under the action of atmospheric agents or chemical reagents, to return to their original state of oxide, carbonate, more stable with respect to the medium considered, and thus to undergo a deterioration of their properties.

The results of this study show on the one hand that the type of material used did not comply with the standard, on the other hand the choice of material was not suited to the conditions in which the anchoring system is put into service. This is why we proposed to change the type of material.

Keywords: stainless steel, corrosion, corrosion resistance, hardness, chemical compositionpassivation, corrosive environment

SHIFTING RESONANCE AND ANTI-RESONANCE FREQUENCIES OF A SHAFT-DISK-BEARING ROTOR SYSTEM TO DESIRED VALUES BY USING FREQUENCY RESPONSE FUNCTIONS

Murat Şen[1*]

Firat University, Engineering Faculty, Mechanical Engineering Department, Elazığ, Turkey

ORCID NO: 0000-0002-3063-5635

Orhan Çakar

Firat University, Engineering Faculty, Mechanical Engineering Department, Elazığ, Turkey

ORCID NO: 0000-0001-6947-3875

ABSTRACT

In engineering applications, in design and product improvement studies, it is sometimes desired that the resonance or anti-resonance frequencies of the system under study are at certain values or be within or outside a certain frequency band. This is an even more important issue in moving systems such as rotors. In this study, a method is presented to shift resonance and anti-resonance frequencies of rotor systems by using Sherman-Morrison based structural modification technique. In the presented method the frequency response functions of the system are used directly and there is no need a mathematical, finite element or modal model of the system. Some numerical applications are made with mass and grounded spring modifications with considerably good results.

Keywords: Structural Modification, Frequency Response Function, Sherman-Morrison Formula, Mass Modification, Stiffness Modification

CONTRIBUTIONS TO THE KNOWLEDGE OF WATER BEETLES (COLEOPTERA: HYDROPHILIDAE, HELOPHORIDAE) FAUNA IN BEYŞEHIR LAKE (KONYA), TURKEY

Ayçin AKÜNAL

Selçuk University, Department of Emergency and Disaster Management, Konya, Turkey

ORCID NO: 0000-0002-0287-1227

ABSTRACT

Turkey has natural riches in terms of biological diversity that only have a few countries in the world. A comprehensive inventory of all living groups in Turkey is required in order to be aware of the biological richness we have and to protect these species, each of which is a balance element in the ecosystem. Studies based on aquatic insects are generally focused on certain groups in Anatolian Peninsula. Hydrophilidae and Helophoridae represent the largest beetle groups of the superfamily superfamily Hydrophiloidea. Hitherto, 19 genera, 105 species and 3 subspecies of hydrophilids within two subfamilies have been known from Turkey. Turkish Helophoridae fauna involves 50 species and 2 subspecies classisfied in 6 subgenera. Faunistic studies have been performed mainly in the Eastern, Black Sea, Central Anatolia, and Aegean parts of Turkey. The aim of the present study is to determine the species diversity of Hydrophilidae and Helophoridae occurring in Beyşehir Lake (Konya) which is in Lake District in Turkey. Field surveys were performed during in 2018-2020. Totally, 19 species belonging to 7 genera water beetles belonging to Hydrophilidae and Helophoridae were identified. According to obtained data 15 of the species were not reported from Konya province previously. *Anacena globulus* Paykull, 1798 and *Laccobius obscratus orchymonti* Gentili, 1976 firstly reported from the Central Anatolia of Turkey with this study. There is still little data from many regions of Turkey, especially Mediterranean, Thrace, and Marmara regions where there are numerous water sources. Further studies of hydrophilids and helophorids are intended to contribute Hydrophiloidea fauna of Turkey.

Keywords: Hydrophilidae, Helophoridae, Beyşehir Lake, Konya, Turkey.

MORPHOLOGICAL AND TECHNOLOGICAL CHARACTERISTICS OF ISOLATED YEAST AND LACTIC ACID BACTERIA SPECIES FROM SOURDOUGH SAMPLES

Sinem Koçaslan[1*],

Department of Food Engineering, Faculty of Engineering, Gaziantep University, 27310 Gaziantep, Turkey

ORCID NO: 0000-0002-8551-9084

Ayşe Sevgili[2]

Vocational School of Technical Sciences, Gaziantep University, 27310 Gaziantep, Turkey

Osman Erkmen

Department of Food Engineering, Faculty of Engineering, Gaziantep University, 27310 Gaziantep, Turkey.

ABSTRACT

Bread is a widely consumed food in the world because bread is a good source of energy. It was discovered that the first sourdough was produced by the Egyptians in 1800 BC. Sourdough is made by fermenting a mixture of flour and water with the microorganisms. This fermentation is carried out by lactic acid bacteria and yeasts. Lactic acid bacteria have a positive effect on the taste and aroma of bread and delay the growth of mold or bacteria and stale of the bread. In this study, 12 sourdough samples were collected from Gaziantep and Mardin for each region and it was aimed to isolate and classify lactic acid bacteria and yeast from sourdough samples. LAB isolation, it was left to incubate for 3 days at 37°C and yeasts, it was incubated at 25°C for 2 days. Then, bacteria and yeasts were classified according to their morphological structures. After that, gram staining was applied to bacteria and yeasts and examined under a microscope with an oil immersion technique. As a result of this examination, it was observed that the LABs were gram-positive and catalase-negative. Yeasts were catalase positive. As a result of this study, more higher number of bacilli and heterofermentative than cocci and homofermentative was observed in isolates obtained from Gaziantep and Mardin. Yeasts didn't grow on lactose and didn't contribute to gas formation. The most growth and gas formation was observed in glucose.

Keywords: Sourdough, Isolation, Microflora, Lactic acid bacteria, Yeast.

SEXUAL DYSFUNCTION IN PATIENTS WITH MULTIPLE SCLEROSIS: A BRIEF REVIEW

Aline A. Yacoubian[1], MS; Jad Degheili[2], MD; Nassib Abou Heidar[1], MD; Rami Nasr[1], MD

[1]Division of Urology, Department of Surgery, American University of Beirut Medical Center, Riad El-Solh 1107 2020, Beirut, Lebanon.

[2]Division of Pediatric Urology, Department of Surgery, Children's Hospital of Eastern Ontario, University of Ottawa, Ontario, Canada

ABSTRACT

Background and Purpose: Multiple sclerosis is a chronic, inflammatory, demyelinating, and neurodegenerative disease. It is one of the most common causes of neurological disability in young adults across the globe. The onset usually occurs in adulthood, targeting those aged 20-40 years. It is a recurring autoimmune condition that results in diverse disabilities. Sexual dysfunction is a widespread and underdiagnosed symptom that is not considered a standard routine of consultation. The aim of the paper is to review the most recent studies related to sexual dysfunction in multiple sclerosis patients.

Methods: Literature review was performed from PubMed, Google Scholar, and Scopus, to identify various studies that discuss sexual dysfunction in both males and females.

Results: Numerous studies show that sexual dysfunction negatively impacts multiple sclerosis patients. Sexual dysfunction is an overwhelming problem in young age groups. The etiology of sexual dysfunction is multifactorial and can be classified as primary, secondary, or even tertiary. Nevertheless, it remains underdiagnosed, underestimated, and even undertreated. Although earlier studies have located certain factors that affect sexual dysfunction such as age, marital status, number of children, education, and relationship duration, there are still confounding elements under study (like disease duration and status, psychological, and psychosocial factors). The impact of disease is drastic on the quality of life, mental health, well-being, family planning and self-esteem of patients. Sexual dysfunction may lead to depression and other psychiatric problems which in turn will worsen the sexual dysfunction if not addressed properly in the early onset of the disease.

Conclusion: Sexual dysfunction is a prevalent concern in multiple sclerosis patients. More time and effort should be allocated for discussing sexual dysfunction in multiple sclerosis patients. A referral to a urologist is a crucial part in the treatment of such patients. The need of an accurate history taking is indispensable. Healthcare professionals should assess patients' sexuality and measure the degree of sexual impairment and its impact on patients' quality of life, to optimize treatment. Management of sexual dysfunction can only be accomplished in a holistic and multidisciplinary team between neurologists, urologists, specialized nurses, and psychotherapists. There is a necessity for supplementary education and awareness for providers to prepare them to readily discuss sexuality of multiple sclerosis patients in an open and comfortable environment.

Keywords: Multiple sclerosis, sexual dysfunction, diagnosis, treatment

AN OVERVIEW OF PROJECT MANAGEMENT PROFESSIONALIZATION FROM CROATIAN PERSPECTIVE

Ph.D. Marija Šiško Kuliš

HEP Production Ltd. Croatia

Senad Hodžić

High International school Cazin, Bosnia and Herzegovina

ABSTRACT

Projects have been inherent in the development of human civilization since ancient times, the Egyptian pyramids, the Great Wall of China and today there is projectification of the economy and societies as a whole. However, project management as a discipline was recognized twenty years ago only. Moreover, in scientific circles, and even less so in the economy, there is no consensus on whether project management is a profession or not. In addition, according to data from relevant research. There is a mismatch between market needs for project management professionals and their available number.

The aim of this paper is to provide: (1) Brief analysis of the mentioned disparity between market needs for project management professionals and their available number. (2) Critical review of project management professionalization at the global level. (3) Critical review of project management in Croatia. Methods / Approach: This article is a scientific review of previously published exploration - linked to project management professionalization.

The paper provides a good review on existing literature in this important field of research with special reference to Croatian occasions.

While significant progress is being made at the global level related to the professionalization of project management, there are no obvious indications of significant positive changes in Croatia. The exception is the issue of certification of project managers because the possession of certificates has become mandatory for projects in construction. However, the project manager has not yet been recognized as profession in Croatia, which is quite paradoxical.

Keywords: management, project, profession, Croatia, certification

FIRAT ÜNİVERSİTESİ BİTKİ DOKU KÜLTÜR LABORATUVARI VE SERA'DA ENDEMİK TÜRLERİN ÜRETİMİ VE DOĞAL KOŞULLARA UYUMU ÜZERİNE ÇALIŞMALAR

STUDIES ON REPRODUCTION OF ENDEMIC SPECIES AND THEIR ADAPTATION TO NATURAL CONDITIONS AT FIRAT UNIVERSITY PLANT TISSUE CULTURE LABORATORY AND GREENHOUSE

Aykut TOKDEMİR

Fırat Üniversitesi, Mühendislik Fakültesi, Biyomühendislik Bölümü, Elazığ, TÜRKİYE

ORCID NO: 0000-0002-9112-4767

Tuba OKUTAN

Fırat Üniversitesi, Fen Bilimleri Enstitüsü, Biyoloji Bölümü, Elazığ, TÜRKİYE

ORCID NO: 0000-0001-8745-0343

Pelin ERDEMİR

Fırat Üniversitesi, Fen Bilimleri Enstitüsü, Biyomühendislik Bölümü, Elazığ, TÜRKİYE

ORCID NO: 0000-0003-4308-8439

Sümeyye BÜRKEV

Fırat Üniversitesi, Fen Bilimleri Enstitüsü, Biyomühendislik Bölümü, Elazığ, TÜRKİYE

ORCID NO: 0000-0003-2741-3764

Busenaz TUNCAY

Gazi Üniversitesi, Fen Bilimleri Enstitüsü, Biyoloji Bölümü, Elazığ, TÜRKİYE

ORCID NO: 0000-0001-8700-7958

Fadime KARABULUT

Fırat Üniversitesi, Fen Bilimleri Enstitüsü, Biyoloji Bölümü, Elazığ, TÜRKİYE

ORCID NO: 0000-0001-5186-2303

ÖZET

Türkiye, coğrafyası ve iklimsel özellikleri nedeniyle floristik zenginlik açısından dünyada ilk sırada yer almaktadır. Ülkemizde 12 bini aşkın bitki çeşidinin yaklaşık 3642'si endemik türlerdir. Ekonomik değeri olan endemik türlerin üretiminin yanı sıra ekonomik değeri olmayan endemik türlerin de üretilmesi ve doğaya kazandırılması biyoçeşitliliğin devamı için oldukça önemlidir. Endemik türlerin üretiminde klasik yöntemlerden farklı olarak bitki doku kültüründe yapılacak çalışmalar oldukça önemlidir. Bu çalışmada endemik Hyancinthus orientalis subsp. chionophilus, Rosularia blepharophylla, Ajuga xylorrhiza, Orchis sp.(Karabük), Crocus sativus, Orchis sp. (Elazığ) ve Fritillaria baskilensis Behçet türleri araştırıldı. İncelenen türlerin yayılış gösterdiği alanlar belirlenmiş ve yetiştikleri iklim özellikleri üzerinde araştırmalar yapılmıştır. İklim odalarında yetiştirilen Hyancinthus orientalis sbusb chionophilus'a uygun sterilizasyon protokolleri uygulanarak hipokotil eksplantları alınmış ve mikroçoğaltma başlatılmıştır. Ajuga xylorrhiza tohumlarının dormansi kırılıp istenilen çimlenme boyutlarına ulaşıldıktan sonra uygun eksplant kaynakları için alt kültürler hazırlanmış ve toprak alışma aşamaları başarılı olmuştur. Rosularia blepharophylla tohumlarının çimlenmesi ve sterilizasyonu için uygun protokoller belirlenmiş ve çimlenme eksplant kaynağı olarak

kullanılmaya başlanmıştır. Fritillaria baskilensis Behçet'in tohum dormansisi kırılarak ve bitki büyüme düzenleyicilerinin doğru konsantrasyonu belirlenerek kallus oluşumu sonrası genç sürgünler ve kökler oluşmuş ve iklimlendirme işlemi başarılı olmuştur. Crocus sativus yumrularının bitki büyüme düzenleyicileri ile ex vitro üremesi sağlanarak eksplant kaynaklarının sayısının arttırılması hedeflenmektedir. Orchis sp.(Karabük ve Elazığ) ile ilgili yumru çalışmaları araştırılmaktadır. Bu çalışmalar ile üretimde zorluk yaşayan endemik türlerimizin korunmasına yönelik çalışmalar ile biyoçeşitliliğimizin korunmasına yönelik yapılacak çalışmalara öncülük edilmesi hedeflenmektedir.

Anahtar Kelimeler: Endemik türler, Mikro çoğaltma, Bitki doku kültürü, *Ex situ*, İklimlendirme

ABSTRACT

Turkey ranks first in the world in terms of floristic richness due to its geography and climatic characteristics. Approximately 3642 of more than 12 thousand plant varieties in our country are endemic species. In addition to the production of endemic species with economic values, it is very important for the continuation of biodiversity to produce and bring into nature the endemic species that have no economic value. In the production of endemic species, studies to be carried out in plant tissue culture, unlike classical methods, are very important. In this study, endemic species *Hyancinthus orientalis subsp. chionophilus, Rosularia blepharophylla, Ajuga xylorrhiza, Orchis sp*.(Karabuk), *Crocus sativus, Orchis sp*. (Elazıg) and *Fritillaria baskilensis* Behçet were investigated. The areas where the studied species spread were determined, and researches were carried out on the climatic characteristics in which they grow. Hypocotyl explants were taken and micropropagation was started by applying appropriate sterilization protocols to *Hyancinthus orientalis* sbusb. *chionophilus* grown in climate chambers. After breaking the dormancy of the *Ajuga xylorrhiza* seeds and achieving the desired germination dimensions, subcultures were prepared for suitable explant sources and the soil acclimation stages were successful. Appropriate protocols have been determined for the germination and sterilization of *Rosularia blepharophylla* seeds, and germination has begun to be used as an explant source. By breaking the seed dormancy of *Fritillaria baskilensis* Behçet and determining the correct concentration of plant growth regulators, young shoots and roots were formed after callus formation, and the acclimatization process was successful. It is aimed to increase the number of explant sources by providing ex vitro reproduction of *Crocus sativus* tubers with plant growth regulators. Tuber studies on *Orchis* sp.(Karabük and Elazığ) are being investigated. With these studies, it is aimed to lead the studies to be carried out for the protection of our biodiversity with the studies on the protection of our endemic species, which have difficulties in production.

Keywords: Endemic species, Micro propagation, Plant tissue culture, *Ex situ*, Acclimatization

THE EFFECTS OF DIFFERENT APPLICATIONS ON THE BREAKING OF SEED DORMANCY IN ENDEMIC Ajuga xylorrhiza KIT TAN

Aykut TOKDEMİR

Fırat Üniversitesi, Mühendislik Fakültesi, Biyomühendislik Bölümü, Elazığ, TÜRKİYE

ORCID NO: 0000-0002-9112-4767

Busenaz TUNCAY

Gazi Üniversitesi, Fen Bilimleri Enstitüsü, Biyoloji Bölümü, Elazığ, TÜRKİYE

ORCID NO: 0000-0001-8700-7958

Pelin ERDEMİR

Fırat Üniversitesi, Fen Bilimleri Enstitüsü, Biyomühendislik Bölümü, Elazığ, TÜRKİYE

ORCID NO: 0000-0003-4308-8439

Tuba OKUTAN

Fırat Üniversitesi, Fen Bilimleri Enstitüsü, Biyoloji Bölümü, Elazığ, TÜRKİYE

ORCID NO: 0000-0001-8745-0343

Fadime KARABULUT

Fırat Üniversitesi, Fen Bilimleri Enstitüsü, Biyoloji Bölümü, Elazığ, TÜRKİYE

ORCID NO: 0000-0001-5186-2303

Sümeyye BÜRKEV

Fırat Üniversitesi, Fen Bilimleri Enstitüsü, Biyomühendislik Bölümü, Elazığ, TÜRKİYE

ORCID NO: 0000-0003-2741-3764

ÖZET

Lamiaceae familyasında Türkiye' ye ait endemik tür olan *Ajuga xylorrhiza* KIT TAN çok yıllık otsu yapıya sahip bir bitkidir. Aynı zamanda ülkemizde *Ajuga xylorrhiza* KIT TAN endemik türü tıbbi süs ve farmakolojik gibi farklı alanlarda kullanılması sebebiyle bilimsel çalışmalarda önemli bir yer teşkil etmektedir. Endemik türlerde genellikle dormansinin kırılmamasından dolayı tohum çimlenme aşaması daha yavaş gerçekleşmektedir. Bu çalışmada *Ajuga xylorrhiza* KIT TAN türünün dormansisinin kırılması için hidropriming ve HCl asit ile muamele yapılarak hızlı tohum çimlenmesi amaçlanmıştır. Her uygulama grubundan 3 siyah ve 3 beyaz *Ajuga xylorrhiza* KIT TAN tohumları olmak üzere hidropriming ve % 30' luk HCl asit muamelesi yapılmıştır. Tohumlar hidropriming uygulamasında 1 gece, % 30' luk HCl asit muamelesinde ise 15 dk bekletilmiştir. Daha sonra bu tohumların testası stereo mikroskop altında çatlatılarak hormonsuz MS besiyeri ortamına ve saksıya alınmıştır. Uygulama yapılan *Ajuga xylorrhiza* KIT TAN tohumları 22±2 ° C, 16/8 fotoperiyotta olan iklimlendirme odalarına alınmıştır. Sonuç olarak, hidropriming uygulanan siyah tohumlar hem MS besi yeri ortamında hem de saksı da önemli derecede çimlenme gözlenmiştir. Yapılan tüm HCl asit muameleleri ile çatlatılmamış siyah ve beyaz tohumlarda herhangi bir çimlenme gözlemlenmemiştir. Endemik tür olan *Ajuga xylorrhiza* KIT TAN tohumların in vitro şartlarda dormansisi kırılarak çoğaltımı sağlanmıştır. Sonuç olarak, elde edilen sonuçların ülkemizde sadece Diyarbakır yöresinde dar bir yayılış gösteren bu türün ex situ koruma çalışmalarına katkıda bulunacağı düşünülmektedir.

Anahtar Kelimeler: *Ajuga xylorrhiza* KIT TAN, dormansi, endemik türler, bitki doku kültürü

ABSTRACT

Ajuga xylorrhiza KIT TAN, an endemic species belonging to Turkey in the Lamiaceae family, is a perennial herbaceous plant. At the same time, *Ajuga xylorrhiza* KIT TAN endemic type occupies an important place in scientific studies due to its use in different fields such as medical ornaments and pharmacology. In endemic species, seed germination is slower due to the fact that dormancy is not broken. In this study, fast seed germination was aimed by hydropriming and treatment with HCl acid to break the dormancy of *Ajuga xylorrhiza* KIT TAN species. Hydropriming and 30% HCl acid treatment were performed as 3 black and 3 white *Ajuga xylorrhiza* KIT TAN seeds from each application group. Seeds were kept for 1 night in hydropriming application and 15 minutes in 30% HCl acid treatment. Then, the testa of these seeds were cracked under a stereo microscope and placed in a hormone-free MS medium and pot. The treated *Ajuga xylorrhiza* KIT TAN seeds were taken into conditioning chambers at 22 ± 2 °C, 16/8 photoperiod. As a result, a significant germination was observed in the hydroprimed black seeds both in the MS medium and in the pot. No germination was observed in black and white seeds that were not cracked with all HCl acid treatments. The endemic type Ajuga xylorrhiza KIT TAN seeds were reproduced by breaking the dormancy in vitro conditions. As a result, it is thought that the results obtained will contribute to the ex situ conservation studies of this species, which has a narrow distribution only in Diyarbakır in our country.

Keywords: *Ajuga xylorrhiza* KIT TAN, Dormancy, Endemic species, Plant tissue culture

THE EFFECTS OF SOURDOUGH ON THE OF MORPHOLOGICAL STRUCTURE OF BREAD

Kübra Büyük

Gaziantep University, Institude of Science, Food Engineering Department, Gaziantep, Turkey

ORCID NO: 0000-0003-3357-365X

Ayşe Sevgili

Vocational School of Technical Sciences, Gaziantep University, 27310 Gaziantep, Turkey

Osman Erkmen

Department of Food Engineering, Faculty of Engineering, Gaziantep University, 27310 Gaziantep, Turkey

ABSTRACT

The sourdough is a traditional method that has been used in bread making from ancient times and positively affects the quality and shelf life of bread. It occurs as a result of spontaneous fermentation of dough through the microorganisms from flour, water and environment; or it is produced by adding lactic acid bacteria (LAB) as a starter to the flour and water mixture. In both methods, the formed metabolites depending on the sourdough microflora affect the nutritional, flavor, textural and color characteristics of the bread. In the acceptability or selection of foods, their physical properties are of most importance as well as their chemical properties. Bread crust color, texture and softness of the bread crumb are the most important criteria by consumers to evaluate the quality characteristics of bread. Change in physical properties usually occur with decaying during shelf life. These changes are; changing in taste and smell, increasing in hardness, losing of vitality of the bread crust, the crumbly structure of the bread crumb, increasing in the opacity of the crumb, decreasing in the moisture-holding capacity of the crumb, decreasing in the sensitivity of the starch to the amylase enzyme, decreasing in the content of dissolved starch extractable from the bread, bread taste and smell flavor reduction due to the loss of its compounds can be determined as microbial spoilage due to mold growth. Thanks to the LAB found in bread made with sourdough, the shelf life of the bread can be extended. Generally, LAB ensures that fermented foods are prevented from being spoiled by microorganisms. Breads made with sourdough have a stronger and more pleasant aroma than breads made with other yeasts.

Keyword: Sourdough, Bread, Morphological structure

CONGKAKMATIK: FAMILIARIZING STUDENTS WITH MATHEMATICAL OPERATIONS THROUGH AN ADAPTED VERSION OF CONGKAK

Haidil Sainal

Keningau Vocational College, Science and Mathematics Department, Keningau, Sabah

ABSTRACT

Congkakmatik is an adapted version of the traditional game known as “Mancala” in Southeast Asia and locally referred to “congkak” in Malaysia. It was an innovation that was based on the concept of learning through play. It is used to educate pre-diploma students of vocational schools in mathematics. It was discovered that a lot of the students displayed limited understanding of basic mathematical operations and concepts and this could prevent them from applying these concepts in their daily routines. It could also be deduced that they showed little interest in mathematics. This project attempts to revive this traditional game by adapting the traditional game to become an educational tool in mathematics lesson. The games equipment included the congkak board, marbles, white board, marker pen and set of mathematic question cards. This game can be played in pairs or in a team of maximum three members. The expected outcome was that the student would have high level of motivation and strong interest for them to be persistent in solving mathematical problems presented to them.

Keywords: Mancala, mathematical operation, vocational.

THE EFFECT OF TRANSPORT PROCESS ON THE MICRONUCLEI FREQUENCY IN ERYTHROCYTES OF THE COMMON CARP *Cyprınus* carpıo L.

Funda TURAN

Faculty of Marine Science and Technology, University of Iskenderun Technical, Iskenderun, Hatay, Turkey

ORCID NO : 0000-0001-9186-3909

Ayşegül ERGENLER

Faculty of Marine Science and Technology, University of Iskenderun Technical, Iskenderun, Hatay, Turkey

ORCID NO: 0000-0002-0257-6009

ABSTRACT

In this study, the effect of transport process on the micronucleus frequency in erythrocytes of common carp has been investigated. Blood samples taken from carps which after immediately from transport process (t0 group), after 6 hours from transport process (t6 group), after 12 hours from transport process (t12 group) and not applied transport process (control group) have been investigated and the results have been compared as statistically. The frequencies of both micronuclei and nuclear abnormalities were evaluated in peripheral erythrocytes. As result of the study, it is determined that the highest MN frequency is significantly observed in t0 group ($p<0.01$). Besides, it is observed that the other nuclear abnormalities (NAs) in the blood samples of t0, t6 and t12 groups are significantly higher ($p<0.01$) compared to the control group

Key words: *Cyprinus carpio*, Fish transport, Micronucleus test.

NANOTOXICOLOGICAL EFFECTS OF GRAPHENE BASED MATERIALS ON AQUATIC ORGANISM

Ayşegül ERGENLER

Faculty of Marine Science and Technology, University of Iskenderun Technical, Iskenderun, Hatay, Turkey

ORCID NO: 0000-0002-0257-6009,0553 634 24 83

Funda TURAN

Faculty of Marine Science and Technology, University of Iskenderun Technical, Iskenderun, Hatay, Turkey

ORCID NO: 0000-0001-9186-3909

ABSTRACT

Intelligent nano materials, which are marvels of nanotechnology, make our lives easier with their effective and ergonomic features. These smart designs have unique physical, chemical and biological properties due to differences in size, distribution and morphology. With the potential benefits of nanotechnology and its products, it is expected to gain more momentum in the future. The development of nanotechnology will mean more contact of living things with nanoparticles. This situation causes some question marks in minds. Due to this situation, a new branch of nanotoxicology has been born. Graphene based materials are promising candidates for important biomedical applications because of their versatility. The potential use of graphene-based materials in a biological context requires a detailed comprehension of the toxicity of these materials. However, the extensive use and exposure to graphene based materials might pose a great threat to living organisms and ultimately to human health. The toxicity data for graphene-based materials are still insufficient to show adverse effects on different aquatic organisms. Their accumulation in the aquatic environment can create complex problems in aquatic food chains and aquatic habitats leading to debilitating health effects on humans. These studies investigated the effects of nanostructure / biological interactions on different organizational levels of the living system, from biomolecules to animals. In this review are discussed recent results based on in vitro and in vivo cytotoxicity and genotoxicity studies of graphene-related materials on the aquatic organism.

Key Words: Graphene, Graphene oxide, Toxicity, Aquatic Organis

MORPHOLOGY AND PECULIARITIES OF THE MICROVASCULAR BED OF THE NERVOUS PLEXUSES OF THE LARGE INTESTINE

Ramila Babayeva

Azerbaijan Medical University, Department of Human Anatomy and Medical Terminology, Baku, Azerbaijan

ORCID NO: 0000-0002-0582-0337

ABSTRACT

Purpose of the work: to study the structure and microvascular bed of the nervous plexuses of the large intestine.

Material and research methods. The work was carried out on 30 sexually mature Wistar rats at the age of 3-4 months, having a mass of 180-320 gr by the beginning of the experiment. To achieve this goal, a universal method of impregnation was used, based on classical impregnation methods: intravascular - Rannier-Goyer and immersion - Bilshovsky-Gros. The study was conducted in 2019-2020. The calculations were carried out in the programs of the statistical package "MS EXCEL-2016" and "SPSS-22".

Results. According to our data, the large intestine has intraorgan ganglia located in the intermuscular and submucosal plexuses. The intermuscular plexus of the large intestine looks like a network with the cells of various shapes and consists of nervous ganglia containing Dogiel type I and II neurons. Along the periphery of the ganglion, these cells have a unipolar, pseudo-unipolar or bipolar shape, while in the center there are also the multipolar cells. The number of the processes in these cells ranges from 2 to 6. Most of the processes of the cells are very long, which extend beyond the ganglion, and pass as part of the interganglionic strands.

Syncytial connections of the processes and bodies of two neurocytes in the intestinal vegetative ganglia were constantly detected. Based on our observations, the protoplasmic processes of nerve cells diverge in different directions, meeting the similar branches, joining them, form a narrow or wide-looped network. Syncytial connections between the bodies of neurons and peripheral processes form closed annular anastomoses.

In each ganglion of the intermuscular and submucosal nervous plexuses of the large intestine, a connecting capsule has formed.

The structural organization of the microvascular bed of the nervous plexus of the large intestine is based on a modular principle. A microvascular bed is formed in the ganglia, the module of which is built like a network with short but wide arterioles and venules. A large number of extracapillary blood flow pathways were found in the submucosa and intermuscular connective tissue. They were of considerable length, 60-85 μm in diameter.

Keywords: plexuses of the large intestine, microvascular bed of nervous plexus, Dogiel cells, syncytial connections

İNİN İNCELENMESİ: ÇANKIRI İLİ ÖRNEĞİ

INVESTIGATION OF THE SUSTAINABILITY OF RURAL BUILDINGS: THE CASE OF CANKIRI

Ayse ARICI

Uluslararası Vizyon Üniversitesi, Mühendislik ve Mimarlık Fakültesi, İnşaat Mühendisliği Bölümü, Gostivar, Kuzey Makedonya.

ORCID ID: 0000-0002-8449-6052

ÖZET

Kırsal kalkınma; kırsal alanlarda yaşayan insanların sosyo-ekonomik ve kültürel açıdan yapısını değiştirecek biçimde üretim, gelir ve refah düzeylerinin geliştirilmesi, dengesizliklerin giderilmesi, kentsel alanlarda mevcut fiziksel ve toplumsal alt yapının kırsal alanlarda da oluşturulması, tarımsal ürünlerin daha iyi değerlendirilmesi yönündeki süreçleri, etkinlik ve örgütlenmeler üst düzeye çıkartılarak kırsal alanların mevcut doğal yaşam koşullarına uyacak şekilde modern ve konforlu yapılar entegre edilerek ekonomik hareketlilik sağlanırken insanların kendi topraklarında sürdürülebilir bir yaşama ulaşmalarının önünün açılması ile mümkün olabilir. Kırsal alanların tarımsal üretim ve diğer ticaret alanları hacmini ve dolayısıyla istihdam ve iş imkanlarını arttıracak sorunların çözülmesi oldukça önem arz etmektedir. Sürdürülebilirlik son yıllarda en çok üzerinde durulan konulardandır. Yeryüzünde bulunan kısıtlı kaynakların kullanımı ve verimli kaynak yönetimi yapılamamasından dolayı sorunlar yaşanmaktadır. Kaynakların verimli kullanılması adına sürdürülebilirliğin sağlanması gerekmektedir. Türkiye'deki kırsal yaşam alanları genellikle ekonomik ve sosyal açıdan az gelişmiş, alt yapı yetersizliği nedeniyle yatırım cazibesi olmayan bir yapı göstermektedir. Alt yapı sorunlarının çözülmesi, kırsal alanlardaki tarımsal üretim ve diğer ticari faaliyet hacminin geliştirilmesi ile istihdam ve iş imkanlarını artıracak en önemli faktördür. Kırsal alanların altyapı önceliklerinin yanı sıra, temel ihtiyaçların başında gelen diğer önemli unsur da eğitim ve sağlık hizmetlerinin bu bölgelere ulaştırılmasıdır. Yapı –inşaat ve mimari ölçekte gelişim ve tasarım sürecinde oluşturulması gereken mekanlardan, kullanılması gereken yapı malzemelerine kadar çevresel verilerin göz önünde bulundurulması gerekmektedir. Çalışmanın amacı, kırsal alanlarda Avrupa birliği programı kapsamında kırsal alanlarda yapılaşma ile yerleşik hayata geçerek kentlere göç etme ihtiyacının azalması, yöre halkının kendi bildiği topraklarda kendi bildiği işleri yaparak ekonomik güçlerini kazanmaları sonucu kırsal alanlarda sürdürülebilirliğin sağlanabilirliğini değerlendirmek ve AB standartlarında çiftlik faaliyetleri kapsamında yan mesleklerin doğması, sosyo-kültürel mekanlara gereksinimlerin artması yönündeki istek ve etkilerin incelenmesidir.

Anahtar Kelimeler: Kırsal alan, Sürdürülebilirlik, Yaşam Standartları.

ABSTRACT

Rural development; The processes of improving the production, income and welfare levels of the people living in rural areas in a way that will change their socio-economic and cultural structure, eliminating the imbalances, creating the existing physical and social infrastructure in urban areas in rural areas, making better use of agricultural products, activities and organizations to a higher level. This can only be possible by paving the way for people to reach a sustainable life in their own lands while providing economic mobility by integrating modern and comfortable structures to suit the existing natural living conditions of rural areas.

It is very important to solve the problems that will increase the volume of agricultural production and other trade areas in rural areas and therefore employment and job opportunities. Sustainability is one of the most emphasized issues in recent years. Problems are experienced due to the use of limited resources on earth and the inability to manage efficient resources. Sustainability must be ensured in order to use resources efficiently. Rural living areas in Turkey are generally economically and socially underdeveloped and lack investment attractiveness due to insufficient infrastructure. Solving infrastructure problems is the most important factor that will increase employment and job opportunities by improving the volume of agricultural production and other commercial activities in rural areas. In addition to the infrastructure priorities of rural areas, another important element that comes first is the delivery of education and health services to these regions. Environmental data should be taken into consideration, from the spaces that need to be created during the development and design process at building-construction and architectural scale to the building materials that should be used. The aim of the study is to evaluate the sustainability of sustainability in rural areas as a result of the decrease in the need to migrate to the cities by settlement in rural areas within the scope of the European Union program in rural areas, the local people gaining their economic strength by doing their own work in the lands they know, and the emergence of subsidiary occupations within the scope of farm activities in EU standards, The aim of this study is to examine the demands and effects of increasing the needs for socio-cultural spaces.

Keywords: Rural area, Sustainability, Living standarts.

NEW ETHYLENEDIAMINE CROSSLINKED 2D-CELLULOSE ADSORBENT FOR NANOENCAPSULATION REMOVAL OF PB (II) AND CU (II) HEAVY METAL IONS: SYNTHESIS, CHARACTERIZATION APPLICATION AND RSM-MODELLING

Issam Jilal[1], Soufian El Barkany[1], Zahra Bahari[1], Youssef El Ouardi[2,3], Mohamed Loutou[1], Hassan Amhamdi[4], Mohamed Abou-Salama[1], Amin Salhi[4], Abderrahmane El Idrissi[5], Katri Laatikainen[3]

[1]Laboratory of Molecular Chemistry, Materials and Environment (LMCME), Department of Chemistry, Faculty Multidisciplinary Nador, Mohamed 1st University, P. B. 300, Nador 62700, Morocco.

[2]LIMOME Laboratory, Dhar El Mehraz Faculty of Sciences, Sidi Mohamed Ben Abdellah University, B.P. 1796 Atlas, Fes 30000, Morocco

[3]Laboratory of Separation Technology, Lappeenranta University of Technology, P.O. Box 20, FI-53851 Lappeenranta, Finland.

[4] Applied Chemistry Unit, Sciences and Technologies Faculty, Abdelmalek Essaadi University, 32 003 Al Hoceima, Morocco

[5]Laboratory Applied Chemistry and Environmental (LCAE-URAC18), Faculty of Sciences of Oujda, Mohamed1stUniversity, 60000 Oujda, Morocco

ABSTRACT

A new quaternized cellulose derivative based on Ethylenediaminetetraacetic acid (EDTA) and hydroxyethyl cellulose (HEC) is successfully prepared in homogeneous medium. The resulted product is characterized using spectroscopy techniques (FTIR, 1H NMR and 13C NMR). At the supramolecular level, the x-ray patterns show that a high hydrogen bond density occurs by grafting EDTA on the HEC fibers. The new adsorbent (HEC-EDTA) shows a high adsorption capacity of heavy metals (Pb (II) and Cu (II)) from aqueous metals solutions. The adsorption of the both metal ions follows the pseudo-second-order kinetic model, while the adsorption isotherms are well described by the Langmuir model. The q_m values are determined for Pb (II) and Cu (II), respectively. For each metal, the equilibrium adsorption time is found to be 30 min. Moreover, the HECEDTA adsorption capacity is strongly dependent on the pH value; and the adsorption is favorable for pH values between 4 and 6. Moreover, the results show a high affinity toward Cu (II) than Pb (II)

Keywords: Quaternized cellulose, EDTA-Edta, Adsorption capacity, Lead, Copper, Langmuir isotherm

THE EFFECT OF CURCUMIN ON SOME OXIDATIVE STRESS PARAMETERS, LIVER ENZYMES AND CYTOKINES IN RATS GIVEN AFLATOXIN B1 ORALLY

Durmus HATİPOĞLU

Selcuk University, Faculty of Veterinary Medicine, Department of Physiology, Konya, Turkey

ORCID NO: 0000-0003-3790-7821

Ercan KESKİN

Selcuk University, Faculty of Veterinary Medicine, Department of Physiology, Konya, Turkey

ORCID NO :0000-0003-3839-0414

ABSTRACT

The purpose of this study was to see how curcumin affected various liver enzymes, cytokines, and kidney functions in rats suffering from chronic aflatoxicosis caused by oral Aflatoxin B_1 (AFB_1) treatment. The study lasted 60 days, and 38 healthy 2-week-old Wistar albino rats were employed during that time. The overall health parameters of the animals were checked prior the commencement of the investigation, their body weight and their average weight were classified into five groups. Control (K), Dimethylsulfoxide (D), Curcumin (Kur), AFB_1 (AF) and AFB_1 + Curcumin (AF + Kur). 10% DMSO was administered orally to the rats in group D. 300 mg/kg curcumin dissolved in 10% DMSO was administered orally to the rats in the Kur and AF + Kur groups. 250 µg / kg AFB_1 dissolved in 10% DMSO was administered to the rats in AF and AF + Kur groups. MDA, SOD, GSH, ALT, AST, ALP, GGT, IL-1β, IL-6, and TNF-α concentrations were assessed from blood samples provided from the animals in the groups at the end of the study. The MDA level in the AF group increased significantly when compared to the other four groups ($p<0.05$), and following the addition of curcumin, the MDA level in the AF + Kur group was statistically lower than the AF group ($p<0.05$). GSH levels were found to be statistically lowest in the AF group (p 0.05). The GSH level in the AF + Kur group was found to be substantially greater than in the AF group (p 0.05). SOD levels were substantially lower in the AF group than in the other groups (p 0.05), but significantly higher in the AF + Kur group than in the AF group ($p<0.05$). The AF group had considerably greater IL-6 and TNF-α levels than the other four groups ($p<0.05$). IL-6 and TNF-α levels were considerably lower in the AF + Kur group than in the AF group ($p<0.05$). IL-1β levels decreased in the AF + Kur group compared to the AF group, although this decline was not statistically significant ($p> 0.05$). AST, ALT, ALP, and GGT levels were statistically greater in the AF group than in the other groups ($p<0.05$). The plasma AST, ALT, ALP, and GGT levels in the Afla + Kur group were found to be considerably lower than those in the AF group ($p<0.05$). In conclusion, it was concluded that curcumin, which is known as a good antioxidant and anti-inflammatory system to heal liver damage, control inflammation, reduce oxidative stress and support the antioxidant defence system in rats with experimental chronic aflatoxicosis with AFB_1 may be very useful in preventing or mitigating the harmful effects of AFB_1 toxicity in terms of parameters examined.

Keywords: AFB_1, curcumin, liver enzymes, oxidative stress, cytokines

EFFECT OF FIBER TYPE AND UTILIZATION RATE ON PERMEABILITY PROPERTIES AND FREEZE-THAW RESISTANCE OF MORTAR MIXTURES

Öznur Biricik

Department of Civil Engineering, Faculty of Engineering, Bursa Uludag University, Nilüfer-Bursa, Turkey

ORCID NO: 0000-0003-4884-7350

Yahya Kaya

Department of Civil Engineering, Faculty of Engineering, Bursa Uludag University, Nilüfer-Bursa, Turkey

ORCID NO: 0000-0002-4361-2387

Sultan Husein Bayqra

Department of Civil Engineering, Faculty of Engineering, Bursa Uludag University, Nilüfer-Bursa, Turkey

ORCID NO: 0000-0001-6889-2584

Ali Mardani-Aghabaglou

Department of Civil Engineering, Faculty of Engineering, Bursa Uludag University, Nilüfer-Bursa, Turkey

ORCID NO: 0000-0003-0326-5015

ABSTRACT

Today, fibers are used extensively in addition to mineral and chemical additives to improve the mechanical, physical and durability properties of cementitious systems. In this study, the effect of different fiber types and usage rates on the water absorption capacity and freeze-thaw resistance of mortar mixtures was investigated. For this purpose, three different types of fibers are used, namely polypropylene, polyamide and basalt, with a length of 12 mm. It was aimed to produce 13 mortar mixes in total by adding different types of fiber instead of aggregate at the rate of 0.25, 0.50, 0.75 and 1% of the total volume to the control mixture without fiber. However, since the target slump-flow value could not be achieved in mixtures containing fiber at proportions of 0.75% or more, 8 different mortar mixtures were produced. In all mixtures, water / binder ratio, sand / binder ratio and slump-flow value were kept constant as 0.485, 2.75 and 200 ± 20 mm, respectively. In order to achieve the desired spreading value, a single type of polycarboxylate-ether based high water reducing admixture was added to the mixture in different dosages. CEM 1 42.5 R type cement was used as a binder in the production of mortar mixtures, and crushed limestone aggregate with a maximum grain size of 0-4 mm was used as aggregate. According to the results, it was understood that the permeability of the mixtures was negatively affected by the use of fiber, but the freeze-thaw resistance was positively affected. The mixture containing 0.5% polypropylene fiber showed the best performance in terms of freeze-thaw resistance.

Keywords: Polypropylene fiber, Polyamide fiber, Basalt fiber, Freeze-thaw resistance, Water absorption capacity

EFFECT OF USING SHRINKAGE-REDUCING ADMIXTURE ON THE FLOWABILITY AND SHRINKAGE PROPERTIES OF KHORASAN MORTAR

Tuğçe İsafça

Department of Civil Engineering, Faculty of Engineering, Bursa Uludag University, 16059, Nilüfer- Bursa, Turkey

ORCID NO: 0000-0002-9331-1339

Kemal Karakuzu

Department of Civil Engineering, Faculty of Engineering, Bursa Uludag University, 16059, Nilüfer- Bursa, Turkey

ORCID NO: 0000-0002-1023-3962

Süleyman Özen

Department of Civil Engineering, Faculty of Engineering and Natural Science, Bursa Technical University, 16310, Yıldırım-Bursa, Turkey

ORCID NO: 0000-0001-5522-427X

Adem Doğangün

Department of Civil Engineering, Faculty of Engineering, Bursa Uludag University, 16059, Nilüfer- Bursa, Turkey

ORCID NO: 0000-0002-1867-7103

Ali Mardani-Aghabaglou

Department of Civil Engineering, Faculty of Engineering, Bursa Uludag University, 16059, Nilüfer- Bursa, Turkey

ORCID NO: 0000-0003-0326-5015

ABSTRACT

Khorasan mortar is a type of mortar and plaster obtained by lime as a binder, river sand and baked clay materials such as ground brick and tile as aggregate. Due to its water resistance, Khorasan mortar was preferred in structures that are exposed to water during the Byzantine, Seljuk and Ottoman periods. Today, during the restoration works of these structures, Khorasan mortar is used in order to be compatible with the original material. Although there are studies aiming to improve the mechanical and durability properties of other lime-based repair mortars with the use of chemical admixtures, there is no study in this direction has been found about Khorasan mortar. In this study, reducing the shrinkage cracks, which negatively affect the mechanical and durability properties of Khorasan mortar, by using a shrinkage reducer admixture (SRA) was investigated. For this purpose, in addition to the control mixture without admixture, a total of 4 different mixtures by using SRA 0.05, 0.10 and 0.15 w.t. % of the binder mass were prepared. According to the results, it was understood that the use of SRA did not have a significant effect on the flow value of the mixtures. It was determined that the shrinkage amount of the mortar samples decreased with the addition of SRA, regardless of the admixture dosage. At the end of 28-day measurements, it was observed that the shrinkage amounts of the mortar mixtures containing 0.05, 0.10, 0.15 % SRA were 28, 18, 11% less than the control mixture. In this context, it has been determined that the admixture dosage in Khorasan mortar mixtures is more than 0.05%, which negatively affects the drying shrinkage values.

Keywords: Khorasan Mortar, Drying Shrinkage, Shrinkage- Reducing Admixture, Flow Value

ANTIMICROBIAL ACTIVITY MOLECULAR DOCKING AND ADMET PROPERTIES OF THE ESSENTIAL OIL OF SALVIA LAVANDULIFOLIA

Ilham AANOUZ [a], Khalil EL KHATABI[a], Aziz BOUYMAJANE[c], Maryame Sabiri [a] Tahar LAKHLIFI[a], Mohammed BOUACHRINE[a, b]

[a] Molecular Chemistry and Natural Substances Laboratory, Faculty of Science, Moulay Ismail University of Meknes, Morocco

[b] EST Khenifra, Sultan Moulay Sliman University, Khenifra, Morocco

[c]Department of Biology, Team of Microbiology and Health, Laboratory of Chemistry-Biology Applied to the Environment, Moulay Ismail University, Faculty of Sciences, Morocco

ABSTRACT

Essential oil from the leaves of ***Salvia lavandulifolia***. (Composite) cultivated in Morocco was investigated for its chemical composition, biological activities including antibacterial and molecular docking. The constituents of essential oils isolated by hydro-distillation were examined by GC-MS and a total of 8 components were identified. Alpha-pinene, Camphene, Tricyclene, D-Limonene, 1, 8-Cineol, D-Camphor, Borneol, and Beta-Caryophyllene are the first major compounds. The antibacterial activity was carried out by agar diffusion and microplates methods against Escherichia coli, Staphylococcus aureus, Pseudomonas aeruginosa, and Streptococcus faecalis, which we concluded that the essential oil has an important antibacterial power, and finally we established the molecular docking of which we chose the majority compounds as ligand and a receiver downloaded via databank (PDB: 1JIJ, 3JPU and 1VBN) as receptor to predict and propose the molecule responsible for the antibacterial effect.

Key words: Antibacterial activity, GC-MS; Molecular docking; essential oil

PEM YAKIT PİLLERİNDE ENGEL KONUMLARININ KÜTLE DAĞILIMLARI ÜZERİNDEKİ ETKİLERİNİN İNCELENMESİ

EXAMINATION OF THE EFFECTS OF BLOCKAGE POSITIONS ON MASS DISTRIBUTIONS IN PEM FUEL CELL

İbrahim Halil HAZAR

Fırat Üniversitesi, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, Elazığ, Türkiye.

ORCID ID: 0000-0002-2688-7661

ÖZET

Alternatif enerji kaynaklarının çeşitlendiği ve önem kazandığı günümüzde, temiz, yenilenebilir ve verimli enerji kaynaklarından olan hidrojen enerjisi dikkat çekmektedir. Proton değişim membranlı yakıt pilleri (PEMFC) elektrokimyasal reaksiyonlar sonucunda elektrik üreten bir cihazdır. Bu elektrokimyasal reaksiyonların gerçekleşme durumlarına göre yakıt hücresinin ürettiği akım yoğunluğu değerleri farklılık göstermektedir. Yakıt pillerinde, reaktanların membran ve katalizör yüzeylerine yayılmasını sağlayan, bipolar plakaların üzerindeki kanal yapılarıdır. Farklı kanal tasarımı hem anot hem de katot bölgesinde farklı reaktan dağılımına neden olmaktadır. Bu durum ise katalizör ve membran yüzeyinde gerçekleşen reaksiyon bölgelerinin yoğunlaşmasına veya ölü (reaksiyon oranı düşük) bölgelerin oluşmasına neden olabilmektedir. Akış kanalları üzerine yerleştirilen engellerin, şekil, ölçü ve konumlarına göre yakıt hücresinin reaktan dağılımlarını ve elektriksel performansını iyileştirme potansiyeli mevcuttur. Kanal üzerine yerleştirilen engellerin konumlandırılan bölgedeki reaktanın basınç, hız ve doğrultusunu değiştirerek, bölgesel olarak ihtiyaç duyulan fiziksel varyasyonlar sağlanabilmektedir. Bu çalışmada, anot ve katot bölgelerinde konumlandırılan engellerin hücre yapısındaki reaktan ve su (H_2O) kütle dağılımları üzerindeki etkileri nümerik olarak incelenmiştir. Bu amaçla, sabit bir engel tipi (sabit şekil, sabit sıklık, sabit ölçü) belirlenmiş ve üç farklı durumda yakıt hücresinde konumlandırılmıştır. Engeller önce sadece anot akış alanında kullanılmıştır (durum 1), daha sonra sadece katot tarafında kullanılmıştır (durum 2), son olarak hem anot hem de katot akış alanlarında beraber kullanılmıştır (durum 3). Farklı durumların etkilerinin karşılaştırılması amacıyla aynı fiziksel ölçülere ve çalışma koşullarına sahip herhangi bir engel bulunmayan yakıt hücresi değerleri kullanılmıştır. Analizler, ANSYS Fluent paket programı kullanılarak hesaplamalı akışkanlar dinamiği (CFD) yöntemiyle gerçekleştirilmiştir. Çalışmada, 50 cm^2 aktif alana sahip, üç boyutlu, tek hücreli bir yakıt pili modellenmiştir. Analizler, reaktanların ideal gaz kabul edildiği ve sıvı su fazının mevcut olmadığı koşullarda gerçekleştirilmiştir. Anot tarafında, hidrojen (H_2) kütle dağılımı, katot tarafında oksijen (O_2) ve H_2O kütle dağılımları dikkate alınmıştır. Sonuçlar, engel konumlarının kütle dağılımları üzerinde etkili olduğunu göstermiştir. Buna ek olarak, gas difüzyon tabakasındaki reaktanların kütle miktarları da değişkenlik göstermiştir.

Anahtar Kelimeler: PEMFC, CFD, Akış alanı, Kütle dağılımı.

ABSTRACT

Hydrogen energy, which is one of the clean, renewable and efficient energy sources, draws attention today, where alternative energy sources are diversifying and gaining importance. Proton exchange membrane fuel cells (PEMFC) are devices that generate electricity as a result of electrochemical reactions. The current density values produced by the fuel cell vary according to the realization of these electrochemical reactions. In fuel cells, it is the channel

structures on the bipolar plates that allow the reactants to spread to the membrane and catalyst surfaces. Different channel design causes different reactant distribution in both anode and cathode regions. This situation may cause the concentration of the reaction zones occurring on the catalyst and membrane surface or the formation of dead (low reaction rate) zones. The blockages placed on the flow channels have the potential to improve the reactant distributions and electrical performance of the fuel cell, depending on their shape, size and location. By changing the pressure, velocity and direction of the reactant in the region where the blockages placed on the channel are located, physical variations required locally can be achieved. In this study, the effects of blockages located in the anode and cathode regions on the mass distribution of reactant and water (H_2O) in the cell structure were investigated numerically. For this purpose, a fixed blockage type (fixed shape, fixed frequency, fixed size) was determined and positioned in the fuel cell in three different situations. Blockages were first used only in the anode flow field (case 1), then only on the cathode side (case 2), and finally in both the anode and cathode flow fields together (case 3). In order to compare the effects of different situations, fuel cell values with the same physical dimensions and operating conditions without any blockages were used. Analyzes were performed using the ANSYS Fluent package program using the computational fluid dynamics (CFD) method. In the study, a three-dimensional, single-cell fuel cell with an active area of 50 cm^2 was modeled. Analyzes were performed under conditions where the reactants were considered ideal gases and no liquid water phase was present. On the anode side, the hydrogen (H_2) mass distribution, on the cathode side, the oxygen (O_2) and H_2O mass distributions are taken into account. The results showed that obstacle locations have an effect on mass distributions. In addition, the mass fractions of the reactants in the gas diffusion layer also varied.

Keywords: PEMFC, CFD, Flow field, Mass fractions.

PEM YAKIT PİLLERİNDE KANAL BLOKAJ ŞEKİLLERİNİN PERFORMANS ÜZERİNDEKİ ETKİLERİNİN ARAŞTIRILMASI

INVESTIGATION OF THE EFFECTS OF CHANNEL BLOCKAGE TYPES ON PERFORMANCE IN PEM FUEL CELL

İbrahim Halil HAZAR

Fırat Üniversitesi, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, Elazığ, Türkiye.

ORCID ID: 0000-0002-2688-7661

ÖZET

Artan insan nüfusu, azalan fosil yakıt kaynakları ve artış gösteren hava kirliliği insanoğlunu yeni ve temiz enerji kaynakları aramaya yöneltmiştir. Bu amaca yönelik olarak hidrojen enerjisi yüksek verimli, temiz ve yenilenebilir olma özellikleriyle dikkat çeken bir alternatif enerji kaynağı haline gelmiştir. Günümüzde ise hidrojenden elektrik üretmek için kullanılan yakıt pili teknolojisi küresel olarak kullanılabilecek bir enerji aracı olarak görülmektedir. Yakıt pilleri arasında PEMFC'ler (Polimer elektrolit membranı yakıt hücresi) yüksek verim, düşük çalışma sıcaklığı ve mobil uygulamalarda kullanabilme kabiliyetiyle ön plana çıkmaktadır. PEMFC'ler günümüzde ticari olarak kullanılmaya başlanmış olmasına rağmen, tasarım, dayanıklılık/ömür, maliyet, güvenlik ve verim gibi konularda gelişmeye ihtiyaç duymaktadır. Yakıt pillerinde reaktanların katalizör ve membran yüzeyine dağılımını ve yönlendirilmesini sağlayan, hücre ve yığın yapısına mekanik destek sağlayan, sıcaklık ve elektrik iletme görevlerine sahip bipolar plakaların tasarımsal olarak geliştirilmesi yakıt pillerinin elektriksel performansını doğrudan etkilemektedir. Akış alanı desen tasarımının yapılması, akış alanı üzerinde delik, engel ve oyukların yerleştirilmesi yapılan tasarımsal iyileştirme konularından bazılarıdır. Kanal üzerine çeşitli ölçü ve geometrilerde engellerin yerleştirilmesi ile reaktanların daha fazla gas difüzyon tabakasına yönlendirilmesi sağlanmaktadır. Bu çalışmada, bipolar plakalardaki akış alanlarına farklı şekillerde engeller yerleştirilerek yakıt hücresinin performansına olan etkileri nümerik olarak incelenmiştir. Bu amaçla ANSYS Fluent paket programı kullanılarak hesaplamalı akışkanlar dinamiği (CFD) yöntemiyle modellenen farklı akış alanları simüle edilmiştir. Üç farklı engel şekline sahip üç farklı akış alanı tasarlanmıştır. Tasarlanan engelli akış alanları literatürde standart olarak kabul gören serpentin akış alanı tipi ile kıyaslanmıştır. Bu çalışmada, üç boyutlu olarak tasarlanan ve 50 cm^2 aktif alana sahip tek bir yakıt hücresi modellenmiştir. Analizler, reaktanların ideal gaz kabul edildiği ve sıvı su fazının mevcut olmadığı koşullarda gerçekleştirilmiştir. Yakıt hücresinin performansı değerlendirilirken akım-güç yoğunluğu (polarizasyon) grafiği, basınç ve sıcaklık dağılımları dikkate alınmıştır. Basınç ve sıcaklık dağılımları hücrenin maksimum güce ulaştığı 0,4V geriliminde incelenmiştir. Sonuçlar, akış kanalı boyunca engellerin yerleştirilmesinin, yakıt pilinin akım değerlerini olumlu yönde etkilediğini göstermiştir. Engel şekillerinin, akım-güç dağılımı ve bölgesel sıcaklık-basınç dağılımları üzerinde etkilere sahip olduğu görülmüştür.

Anahtar Kelimeler: PEMFC, CFD, Bipolar Plaka, Performans.

ABSTRACT

Increasing human population, decreasing fossil fuel resources and increasing air pollution have led human beings to seek new and clean energy sources. For this purpose, hydrogen energy has become a remarkable alternative energy source with its highly efficient, clean and renewable features. Today, fuel cell technology, which is used to generate electricity from hydrogen, is

seen as an energy tool that can be used globally. Among fuel cells, PEMFCs (Polymer electrolyte membrane fuel cell) stand out with their high efficiency, low operating temperature and ability to be used in mobile applications. Although PEMFCs have started to be used commercially today, they need improvement in terms of design, durability/lifetime, cost, safety and efficiency. The design development of bipolar plates, which provide the distribution and orientation of the reactants on the catalyst and membrane surface, provide mechanical support to the cell and bulk structure, and have temperature and electrical conduction functions in fuel cells, directly affects the electrical performance of fuel cells. Designing the flow area pattern, placing holes, blockage and cavities on the flow area are some of the design improvement issues. By placing blockages of various sizes and geometries on the channel, more of the reactants are directed to the gas diffusion layer. In this study, the effects of different shapes of blockages on the performance of the fuel cell were investigated numerically in the flow fields of the bipolar plates. For this purpose, different flow fields modeled by the computational fluid dynamics (CFD) method were simulated using the ANSYS Fluent package program. Three different flow areas with three different obstacle shapes were designed. The designed obstructed flow fields are compared with the serpentine flow field type accepted as a standard in the literature. In this study, a single fuel cell with an active area of 50 cm^2 is modeled in three dimensions. Analyzes were performed under conditions where the reactants were considered ideal gases and no liquid water phase was present. While evaluating the performance of the fuel cell, the current-power density (polarization) graph, pressure and temperature distributions were taken into account. Pressure and temperature distributions were investigated at a voltage of 0.4V, where the cell reached maximum power. The results showed that the placement of blockages along the flow channel positively affects the current values of the fuel cell. It has been observed that blockages shapes have effects on current-power distribution and regional temperature-pressure distributions.

Keywords: PEMFC, CFD, Bipolar Plates, Performance.

NANO GÜMÜŞ PARTİKÜLLERİNİN ÜRETİMİ, GIDA ALANINDA KULLANIMI VE TOKSİK ETKİLERİ

PRODUCTION, FOOD USE AND TOXIC EFFECTS OF NANO SILVER PARTICLES

Arzu ODUNKIRAN

Iğdır Üniversitesi, Iğdır Meslek Yüksekokulu, Otel, Lokanta ve İkram Hizmetleri, Iğdır, Türkiye

ORCID ID: 0000-0002-6455-8594

Mine KÖKTÜRK

Iğdır Üniversitesi, Uygulamalı Bilimler Yüksekokulu, Organik Tarım İşletmeciliği, Iğdır, Türkiye

ORCID ID: 0000-0003-4722-256X

Memnune ŞENGÜL

Atatürk Üniversitesi, Ziraat Fakültesi, Gıda Mühendisliği, Erzurum, Türkiye.

ORCID ID: 0000-0003-3909-2523

ÖZET

İlk kez 1959 yılında ortaya atılan nanoteknoloji, günümüze gelinceye kadar tıp, gıda, kozmetik gibi birçok kullanım alanı bulmuştur. Bununla birlikte, şu anda tıbbi amaçlarla sadece birkaç nano partikül kullanılmaktadır. Bunlardan en göze çarpan nano ürün, nano gümüş olmaktadır. Nano gümüş parçacıkları genellikle 100 nm' den küçük olmakta ve 20–15.000 gümüş atomu içermektedir. Nano ölçekte gümüş partiküller, oldukça sıra dışı fiziksel, kimyasal ve biyolojik özellikler sergilemektedir. Gümüş nanopartiküller (AgNP'ler) birçok uygulamada potansiyel kullanımlara sahip olmaktadır. Nano gümüş kaplamalar, güçlü antibakteriyel aktivitesi nedeniyle tekstil ve gıda alanında da kullanımı üzerine çalışılmıştır. Ayrıca nano gümüş, yaraların ve yanıkların tedavisi için kullanımının yanı sıra dezenfektan ve oda spreyi gibi ürünlerde pazarlanma alanı bulduğu bilinmektedir. Bunların yanı sıra yapılan bilimsel araştırmalarda, nano gümüşün sağlığımız üzerine etkisinin yanında bağırsak mikrobiyotası üzerine çalışılmış olup bu mikrobiyota üzerine olumlu ve olumsuz etkiler gözlemlenmiştir. Konu hakkında bugüne kadar yayınlanmış çok sayıda inceleme makalesi ve vaka çalışması olmasına rağmen, eşikleri ve güvenli dozları açıkça tanımlayan güncel çalışmalar yeterli olmamaktadır. Bu nedenle, eşik limitleri, güvenli gümüş dozları ve bununla ilgili nano ölçekli formlar hakkındaki en son bulgulara ve insan, kara ve su yaşamlarının güvenliğini ve sağlığını korumak için daha kapsamlı çalışmalara ihtiyaç duyulmaktadır. Bu nedenle, nano gümüş kullanımı tıpta ve ilgili uygulamalarda giderek daha yaygın hale gelmektedir ve bu durumda artan maruziyet nedeniyle toksikolojik ve çevresel sorunların ele alınması kaçınılmaz olmaktadır. Bu araştırmada gümüş nano partikül olarak adlandırılan nano gümüş partiküllerin üretimi, gıda ve sağlık sektöründe kullanım alanları ile birlikte kullanılan bu nano partiküllerin faydalı ve toksik etkileri üzerine çalışmalar bir araya getirilmiştir.

Anahtar Kelimeler: Nanoteknoloji, Nanogümüş, Toksik Etki, Gıda

ABSTRACT

First introduced in 1959, nanotechnology, , has found many uses such as medicine, food and cosmetics until recently. However, only a few nanoparticles are currently used for medical

purposes. The most outstanding nano product of these is nano silver. Nano silver particles may be in generall smaller than 100 nm and contain of 20–15,000 silver atoms. Nano-scale silver particles show very unusual physical, chemical and biological properties. Due to its strong antibacterial activity, nano silver coatings have also been studied in the field of such as textiles and food. Furthermore, nano-silver is known to be used as not only a birth control pill but as well for the treatment of wounds and burns, as well as being marketed in products such as disinfectants and air fresheners. Therefore, the use of nanosilver is increasingly common in medicine, and it is inevitable to focus on toxicological and environmental issues due to increased exposure. In this research, studies on the production of nano-silver particles called silver nanoparticles, their use in food and health sector and the beneficial and toxic effects of these nanoparticles were brought together.

Keywords: Nanothecnology, Nanosilver, Toxic Effect, Food.

ION ORIGINATING FROM ELECTROMAGNETIC FIELDS

Tuba ÖZTÜRK

Tekirdag Namık Kemal University, Çorlu Faculty of Engineering, Environmental Engineering, Tekirdag, Turkey.

ORCID ID: 0000-0003-1851-6120

ABSTRACT

Industrial production activities, which are accelerated and becoming prevalent worldwide due to industrialization, also bring about several problems associated with environmental pollution. With the disruption in natural balances, humanity is constantly encountering various forms of environmental pollution that constitute a threat to living beings and the continuation of life. In recent years, electromagnetic pollution, which is considered to be among new-generation environmental pollution forms, has started to be viewed as one of the most significant environmental problems especially regarding its potential effects, the prevalence of its sources and the place of these sources in our lives.

An electromagnetic field, which is also accepted to be electromagnetic pollution with the extent it has reached today, is a reality in our lives which consists of an electric field and a magnetic field and is in place in generally every environment involving electricity. Besides all these issues, the fact that the Earth has a substantial magnetic field and the release of electromagnetic radiation from the Sun in the form of heat and light show that electromagnetic fields are a part of the life within the balance of nature. Nevertheless, this situation has reached the level of pollution with the inclusion of artificial sources of electromagnetic fields developed by people in the daily lives of the people of our era. In general, all types of electric and electronic devices from cell phones to computers and from televisions to ovens that we use, large-scale power distribution lines, telecommunication lines and similar sources produce electromagnetic fields, and the artificial radiation that is produced by these sources has surrounded us in the form of a complex and dense web. The effects of electromagnetic pollution on living beings and health problems that will be caused by the prolonged exposure of people to this pollution cannot be completely explained yet. However, albeit not exactly proven, the fact that devices affect each other while working in a way that we can notice, and malfunctions originating from electromagnetic interference occur in aeronautic, medical and military systems is the most significant indicator that electromagnetic pollution could also have strong effects on biological systems.

Keywords: Artificial radiation, Electromagnetic interference, Electromagnetic Shielding.

ANTİEPİLEPTİK İLAÇLAR ve K^+ KANALLARI ARASINDA MOLEKÜLER YERLEŞTİRME İLE YAPI-AKTİVİTE İLİŞKİLERİNİN İNCELENMESİ

INVESTIGATION of THE STRUCTURE-ACTIVITY RELATIONSHIPS with MOLECULAR DOCKING for FAMILIAR ANTIEPILEPTIC DRUGS and K^+ CHANNELS

Esra Nur KÖMÜRCÜ

Kastamonu Üniversitesi, Mühendislik Fakültesi, Genetik ve Biyomühendislik, Kastamonu, Türkiye.

ORCID ID: 0000-0003-4033-5190

Mahmut GÜR

Kastamonu Üniversitesi, Orman Fakültesi, Orman Endüstiri Mühendisliği, Kastamonu, Türkiye.

ORCID ID: 0000-0001-9942-6324

Bayram KIRAN

Kastamonu Üniversitesi, Mühendislik Fakültesi, Genetik ve Biyomühendislik, Kastamonu, Türkiye.

ORCID ID: 0000-0001-9796-6028

ÖZET

Çalışmada epilepsi hastalığında ortaya çıkan konvülsif nöbetlerin tedavisinde kullanılan aktif moleküller kullanıldı. Bu moleküller; Vigabatrin, Lokosamidin, Zonisamid, Okskarbazepin, Levetiresetam, Tiagabin, Topiramat, Lamotrigin, Gabapentin, Felbamat, Ethosuximide, Valproik Asit, Mesuximide, Ethotoin, Primidon, Trimethadion, Fenitoin, Remasemid, Mefenitoin. Bu moleküller epilepsi hastalığının fizyopatolojik etki mekanizmaları dikkate alınarak seçilmiştir. Bunun nedeni, seçilen moleküllerin potansiyel bir antiepileptik ajan olarak kullanılması ve moleküler yerleştirme çalışmaları için uygun olmasıdır. Bu uyumluluğun bir sonucu olarak çalışmada, moleküllerin etki mekanizmalarından biri olan epilepside önemli rol oynayan potasyum kanallarına odaklanılmıştır. İçeri doğru doğrultucu potasyum kanalları (KIR3.2), nöbet oluşumunu tetikleyen aksiyon potansiyeli sırasında K^+ iyonlarının akışını sağlayarak hareket eder. Bu nedenle moleküler yerleştirme çalışması için epileptik nöbetlerin oluşumunda kanal üzerindeki aktivitesine göre agonist görevi gören PDB ID: 4KFM reseptörü seçilmiştir. Moleküler yerleştirme çalışmaları sonucunda elde edilen bağ türleri molekülden moleküle farklılık göstermektedir. Klasik hidrojen, karbon hidrojen, pi-pi stacked, pi-alkil, pi-anyon, pi-katyon ve pi- sigma bağları olarak farklı uzunluklarda bağ yapıları oluşmuştur. Sonuç olarak; Fenitoin, -6.2 kcal/mol değeriyle 4KFM için en iyi bağlanma afinitesini vermiştir. Diğer sonuçlar azalan düzende (kcal/mol olarak); Okskarbazepin (-6.0), Remasemid (-5.9), Topiramat ve Primidon (-5.8), Tiagabin, Felbamat ve Mesuximide (-5.7), Lamotrigin (-5.6) Zonisamid, Etotoin ve Mefenitoin, Lokosamidin (-5.5), Gabapentin (-4.8), Trimethadion (-4.7), Ethosuximide (-4.6), Levetiresetam (-4.5), Vigabatrin (-4.0), Valproik Asit (-3.9) olarak belirlendi.

Anahtar Kelimeler: Potasyum Kanalı, Epilepsi, Moleküler Docking, Ligand, Reseptör, İlaç

ABSTRACT

In the study, the active molecules used in the treatment of convulsive seizures occurring in epilepsy disease were used. These molecules; Vigabatrin, Lokosamidine, Zonisamide, Oxcarbazepine, Levetiresetam, Tiagabine, Topiramate, Lamotrigin, Gabapentin, Felbamat, Ethosuximide, Valproic Acid, Mesuximide, Ethotoin, Primidon, Trimethadion, Phenytoin, Remasemide, Mephenytoin. These molecules have been selected considering the physiopathological effect mechanisms of epilepsy disease. This is because the selected molecules are used as a potential antiepileptic agent and are suitable for molecular docking studies. As a result of this compatibility, the study focuses on potassium channels, which play an important role in epilepsy, which is one of the mechanisms of action of molecules. Inward rectifying potassium channels (KIR3.2) act by providing the flow of K^+ ions during the action potential that triggers seizure formation. For this reason, PDB ID: 4KFM receptor, which acts as an agonist according to its activity on the canal in the formation of epileptic seizures, was chosen for molecular docking study. The bond types obtained as a result of molecular docking studies differ from molecule to molecule. Bond structures of different lengths have been formed as classical hydrogen, carbon hydrogen, pi-pi stacked, pi-alkyl, pi-anion, pi-cation and pi-sigma bonds. As a result of molecular docking studies; Phenytoin gave the best binding affinity for 4KFM with a value of -6.2 kcal/mol. Other results in descending order (as kcal/mol); Oxcarbazepine (-6,0), Remasemide (-5.9), Topiramate and Primidon (-5.8), Tiagabine, Felbamat and Mesuximide (-5.7), Lamotrigin (-5.6) Zonisamide, Ethotoin and Mephenytoin, Lokosamidine (-5.5), Gabapentin (-4.8), Trimethadion (-4.7), Ethosuximide (-4.6), Levetiresetam (-4.5), Vigabatrin (-4.0), Valproic Acid (-3.9) determined as.

Keywords: Potassium Channels, Epilepsy, Moleculer Docking, Ligand, Receptor, Drug

PHOTOGRAMMETRY IN HISTORICAL BUILDING ANALYSIS

Beyza Nur YEŞİLYURT

Necmettin Erbakan University, Social Sciences Institute, Konya, Turkey

Assist. Prof. Dr. M. Ergün HATIR

Faculty of Fine Arts, Department of Interior Architecture and Environmental Design, Necmettin Erbakan University, Konya, Turkey

ABSTRACT

The development of contemporary documentation techniques in recent years has made significant contributions to the conservation and restoration processes. With photogrammetry, one of the contemporary techniques, more precise measurements are made than traditional methods, as well as saving time. In addition, scientific bases for conservation applications can be prepared by carrying out studies such as finite element analysis, deterioration detection and health assessment of monuments with the 3D data obtained from this method. In this study, an approach focusing on the integration of digital documentation methods and in-situ analysis is presented for the status assessment of the Öksüzce Fountain in the city of Ankara. For this purpose, firstly, 3D documentation of the monument was obtained with the photogrammetry method. Afterwards, the conservation status of the fountain was evaluated with both field investigations. The findings obtained from the study show that the photogrammetry method is an important tool in the protection process of cultural heritage.

Keywords: Photogrammetry, cultural heritage, Öksüzce Fountain.

CRANBERRY (*VACCINIUM MACROCARPON*) AND URINARY TRACT INFECTION

Serkan Aslan

School of Health Department of Nutrition and Dietetics, Tekirdağ, Turkey.

ORCID ID: 0000-0002-5834-5074

Izzet Ulker

Faculty of Health Sciences Department of Nutrition and Dietetics, Erzurum, Turkey.

ORCID ID: 0000-0001-9444-5243

ABSTRACT

Urinary tract infections (UTIs) are bacterial infections with a high prevalence, usually caused by Escherichia coli. Women and children are in the risk group for UTI. Improper or delayed treatment of urinary tract infections has negative consequences for health. This condition can harm the kidneys and fetus in pregnant women. Therefore, shortening the treatment process is important. Berry fruits have rich bioactive compounds such as phenolic substances and organic acids that show antimicrobial activity. Cranberry, which is included in the berry class, is an important functional food that is produced in agriculture, especially in the USA, Canada and Chile. The aim of this study is to show the relationship between cranberry, which has many functional nutrients, and UTI. We searched databases such as pubmed, sciencedirect and google databases the related to subject. Cranberry is one of the most researched fruits for urinary tract health. Studies show that different forms of the cranberries are used as extract, juice and powder. Cranberry is a rich source of flavonoids and anthocyanidins / proanthocyanidins. In addition, it contains terpenoid, catechin, ascorbic acid and some organic acids (citric acid, malic acid and quinic acid). It prevents UTI owing to its proanthocyanidin content, which prevents bacterial adhesion to the epithelial tissue. In addition, there are studies showing the effectiveness of quinic acid in apples on UTI. Quinic acid is thought to be responsible for the release of hippuric acid, which both increases the amount of urine and has the ability to acidify the urine. Studies have reported that cranberry extract significantly reduces the recurrence of UTIs. As a result, UTI is a disease that can cause significant health problems if not treated in a short time. Studies show that the consumption of cranberry in nutritional therapy has positive results. Therefore, Cranberry consumption is an option that will contribute to medical treatment in the treatment and prevention of UTI.

Keywords: Cranberry, urinary tract infection, nutrient

MICROALGAE FOR NUTRITION AND HEALTH

Serkan Aslan

School of Health Department of Nutrition and Dietetics, Tekirdağ, Turkey.

ORCID ID: 0000-0002-5834-5074

Izzet Ulker

Faculty of Health Sciences Department of Nutrition and Dietetics, Erzurum, Turkey.

ORCID ID: 0000-0001-9444-5243

ABSTRACT

Algae are divided into macro or micro algae according to their size. Microalgae are single-celled organisms that can be seen under a microscope, while macroalgae refer to organisms such as algae that can be seen with the naked eye. Microalgae are one of the oldest forms of life on earth and contain many bioactive components. Thanks to these components, microalgae have antioxidant, antimicrobial, anticarcinogen and antidiabetic properties. Microalgae have antioxidant, antimicrobial, anticarcinogenic and antidiabetic effects with β-carotene, astaxanthin, docosahexanoic acid, eicosapentanoic acid, polyphenols, flavonoids, phycobiliproteins and chlorophylls. In the researches, Spirulina (Arthrospira), Chlorella, Dunaliella salina, Haematococcus pluvialis, Coelastrella striolata, Phaeodactylum tricornutum and Isochrysis galbana stand out among microalgae. Microalgae consumption is increasing with the support of the food industry. Microalgae are used in food products such as vegan egg substitute, Spirulina-filled crackers, various beverages and baked goods. Spirulina, a microalgae, stands out with its high protein, carotonid, xanthophyll and vitamin A, B1, B2, B12 content. Studies have shown that Spirulina has antitumor and anticancer properties by providing a significant activity against free radicals. However, Chlorella cells, a microalgae, contain active immunostimulatory β-1,3-glucan. Studies have shown that Chlorella has positive effects on many diseases such as stomach ulcers, constipation, anemia, hypertension and diabetes. Haematococcus pluvialis is reported as the organism containing the highest rate of astaxanthin (1.5-3.0% in dry weight) in nature. Astaxanthin is a compound that has more antioxidant properties than vitamins C and E. Studies have shown that it has curative and preventive effects in cancer, eye diseases and cardiovascular diseases. Dunaliella is capable of producing high concentrations of β-carotene. It is reported that there is strong evidence that a diet rich in carotenoids and other bioactive components has a protective effect against various chronic diseases and functional disorders related to oxidative stress. In addition, it is stated that carotenoids can inhibit the onset of these diseases thanks to their antioxidant properties. As a result, there is a need to increase the studies on microalgae and to use different algae species in studies.

Keywords: Microalgae, health, nutrition

QUALITY ASSESSMENT OF RIVERS AND WELLS WATER USED FOR LOCUST BEANS 'IRU' (*PAKIA BIGLOBOSA*) PROCESSING IN ABEOKUTA METROPOLIS, NIGERIA

[1]Taiwo, A. G., [2]Eleyowo, I. O., and [2]Ibikunle, O.

[1]Moshood Abiola Polytechnic, Science Laboratory Technology Department, P.M.B. 2210, Ojere-Onikolobo road, Abeokuta, [2]The Gateway (ICT) Polytechnic, Saapade, General Studies Department, Isara Remo, Ogun State, Nigeria.

ABSTRACT

Water quality within permissible limits for portable water usage is to prevent possible health risks and hazards. This led to the assessment of two selected rivers and wells each (Ogun and Akomoje rivers, Arinlese and Adatan wells) within Abeokuta metropolis, Ogun State, Nigeria that are used for Locust beans 'Iru' (Pakia biglobosa) processing. This is to determine the extent of pollution of the water bodies as it affects environmental quality and sustainability via physic-chemical and microbial properties using standard laboratory procedures and the data subjected to statistical analysis using SPSS Version 20.0. pH ranged from 9.72 to 10.66, conductivity from 121 to 1013 μscm^{-1}, turbidity from 1.05 to 3.26 mg/L, alkalinity from 128 to 702±0.5 mg/L, total, magnesium and calcium ranged from 0.84 to 5.86 ±0.2 mg/L, while Total plate, *E coli*, yeast and mould counts ranged from 18 x 10^{-5} to 225 x 10^{-6} CFU/cm^3. The pH is averagely alkaline, with high alkalinity while total plate, *E coli*, and yeast and mould counts were above permissible limits which calls for serious health concern in food safety for regular consumers, so there's need for treatment before domestic, industrial and aqua-cultural usage. However, inhabitants in these communities should be advised not to dump locust beans and domestic wastes/refuse into the water bodies to prevent environmental pollution and its consequent effects.

Keywords: Abeokuta metropolis, rivers and wells, water quality and safety

THE EFFECT OF ETHANOL/ WATER ON POLYPHENOLS CONTENT, ANTIOXYDANT ACTIVITIES OF THE SOLID RESIDUES FROM HYDRO DISTILLATION OF ROSEMARY

Imane ZIANI

University Mohammed Premier, Faculty of Sciences, Chemistry Department (LCAE Laboratory, Physical Chemistry of the Natural Resources and Environment Team), BP 717, 60000, Oujda, Morocco.

ORCID NO: 0000-0003-0121-0774

Hamza BOUAKLINE

University Mohammed Premier, Faculty of Sciences, Chemistry Department (LCAE Laboratory, Physical Chemistry of the Natural Resources and Environment Team), BP 717, 60000, Oujda, Morocco

Abdesselam TAHANI

University Mohammed Premier, Faculty of Sciences, Chemistry Department (LCAE Laboratory, Physical Chemistry of the Natural Resources and Environment Team), BP 717, 60000, Oujda, Morocco

Ali EL BACHIRI

University Mohammed Premier, Faculty of Sciences, Chemistry Department (LCAE Laboratory, Physical Chemistry of the Natural Resources and Environment Team), BP 717, 60000, Oujda, Morocco

ABSTRACT

Rosemary is one of the most aromatic and medicinal plants widely used in the production of essential oils around the world, which creates a huge waste of solid residues.

The aim of our work is the identification of the main phenolic compounds of rosemary residues extracted by different ethanol / water solvents from Megrez forest in the Eastern region of Morocco by identifying their chemical composition by HPLC and quantification of the content of phenolic compounds, flavonoids for example as well as the evaluation of the antioxidant activity of those residues.

Quantitative estimation of flavonoids, total phenols by the colorimetric method and antioxidant properties using the DPPH free radical scavenging method of rosemary residues were significantly dependent on the concentration of ethanol/water solvents.

In particular, 50 wt. % Ethanol/ Water solvent have shown higher total phenols and the strongest antioxidant properties comparing with aqueous and ethanolic residues.

Keywords: Solid Residues, Rosemary, polyphenols, flavonoids, antioxidant activity.

STUDY OF INTERACTIONS BETWEEN POLY(VINYL ALCOHOL) AND BOVINE SERUM ALBUMIN IN SOLUTION

Maria Bercea, Ioana-Alexandra Plugariu

"Petru Poni" Institute of Macromolecular Chemistry, 41-A Grigore Ghica Voda Alley,

700487 Iasi, Romania

ABSTRACT

The knowledge of polymer/protein interactions is of high interest for pharmaceutical and biomedical applications. The requirements for the biomaterial design concern mainly the preservation of the functional integrity of biomolecules without adding toxicity. It is highly desirable that the biopharmaceutical based on polymers and proteins are stable and the eventually structural changes in non-physiological conditions (such as aggregation or phase transition) are reversible. The polymer/protein interactions during material formulation, packaging, storage as well as in physiological conditions have a significant influence on their efficiency.

For the present study, we selected a versatile neutral polymer, poly(vinyl alcohol) (PVA), and a model globular protein, bovine serum albumin (BSA), both of them being frequently used in biomedical applications. The PVA/BSA interactions were evaluated by means of viscometric parameters determined in dilute solutions and the rheological behavior was followed for semidilute and concentrated solutions. The miscibility was analyzed according to different criteria and the conditions of phase separation were investigated. From the experimental observations, an attempt to predict phase separation is presented.

ACKNOWLEDGEMENTS

This work was supported by a grant of the Executive Agency for Higher Education, Scientific Research, Development and Innovation Funding from Romania, UEFISCDI, project PN-III-P2-2.1-PED-2019-2484, contract number 494 PED/2020.

Poster presentation

RHEOLOGICAL BEHAVIOR OF BOVINE SERUM ALBUMIN IN SOLUTION

Ioana-Alexandra Plugariu, Maria Bercea

"Petru Poni" Institute of Macromolecular Chemistry, 41-A Grigore Ghica Voda Alley,
700487 Iasi, Romania

ABSTRACT

Many efforts were carried out to investigate the protein-protein interactions in solution in different concentration domains. The data obtained in dilute solutions when the macromolecules are isolated allow the understanding of their features at molecular level. The concentrated solutions are frequently considered as crowded, the protein/protein interactions increase, being influenced by the net charge in the environmental conditions.[1,2]

The present study concerns the rheological behavior of BSA solutions in different shear regimes. The results show that BSA solutions are complex fluids and their viscoelastic parameters are influenced by structural factors, shear history and salt addition.

ACKNOWLEDGEMENTS

This work was supported by a grant of the Executive Agency for Higher Education, Scientific Research, Development and Innovation Funding from Romania, UEFISCDI, project PN-III-P2-2.1-PED-2019-2484, contract number 494 PED/2020.

REFERENCES

1. R. Chari; K. Jerath; A. Badkar; D. S. Kalonia; *Pharm. Res.* **2009**, *26*(12), 2607–2618.

2. S. Yadav; J. Liu; S. J. Shire; D. S. Kalonia; *J. Pharm. Sci.* **2010**, *99*(3), 1152–1168.

STUDY OF THE INTERACTIONS BETWEEN SODIUM MONTMORILLONITE AND SODIUM ALGINATE AS ANIONIC POLYMER

BRAHMI MOHAMED

University Mohammed Premier, Faculty of Sciences, Departement of Chemistry, Laboratory of Environment and Applied Chemistry (LCAE), Oujda, Morocco.

ORCID ID: 0000-0002-0230-4492

ESSIFI KAMAL

University Mohammed Premier, Faculty of Sciences, Departement of Chemistry, Laboratory of Environment and Applied Chemistry (LCAE), Oujda, Morocco

ELBACHIRI ALI

University Mohammed Premier, Faculty of Sciences, Departement of Chemistry, Laboratory of Environment and Applied Chemistry (LCAE), Oujda, Morocco

TAHANI ABDESSALAM

University Mohammed Premier, Faculty of Sciences, Departement of Chemistry, Laboratory of Environment and Applied Chemistry (LCAE), Oujda, Morocco

ABSTRACT

The interactions between polymers such polysaccharides and clay can be controlled by different factors, such as the functional groups of the polymers, pH and salinity of the suspension. This study was conducted to understand the various kinds of interactions between sodium Alginate (NaAlg) a polyanion negatively charged and sodium montmorillonite (NaMmt). The adsorption isotherms of alginate onto montmorillonite at neutral and acidic pH show two different behavior, a strong adsorption of alginate at acidic (pH 960 mg/g) while for neutral pH the adsorbed amount is very low compared to acidic medium (~200 mg/g). The adsorption of NaAlg by NaMmt at low pH reduce the Zeta potential of the montmorillonite particles due to the protonated carboxylic groups fixed by the montmorillonite surface, diversly at neutral pH, the negative Zeta potential value increase as long as the initial polymer concentration increase till a maximum of (~45 mV), due to negative charge presented by both the NaMmt and NaAlg at this range of pH. XRD analysis was used to develop an overview about the interactions between the polyanion and the clay. The results shows that the modification of NaMmt at the two pH ranges has no effect on the dspacing of NaMmt, accordingly the adsorption occurs on the external surface of the clay layers without intercalation in interlayer of the clay. the small displacement and widening of the 001 line is due to the aggregation of the clay particles by adsorption of few polymeric chains on external surface.

Keywords: Adsorption,composite, montmorillonite, alginate, zeta potential.

SOME METHODS USED FOR THE BEST DIFFERENTIATIONS OF PARAGANGLES

НЕКОТОРЫЕ МЕТОДЫ, ПРИМЕНЯЕМЫЕ ДЛЯ ЛУЧШЕЙ ДИФФЕРЕНЦИРОВКИ ПАРАГАНГЛИЕВ

[1]Beshirova D.B., [2] Rzayeva A.M.

Department of Human Anatomy and Medical Terminology, Azerbaijan Medical University, Baku, Azerbaijan

ABSTRACT

The study of the chromaffin system began with the description of the adrenal glands by Eustachius in 1563. Then other similar organs were discovered. This was facilitated by the discovery of the chromaffin reaction - the ability of cells in the adrenal medulla to stain brown with chromium salts. According to the authors, chromaffin tissue develops from a common rudiment with the sympathetic nervous system, and there is a topographic-anatomical connection between them. It was their anatomical and genetic closeness that gave rise to A. Kohn (1903) to call the tissue "chromaffinic", and the organs consisting of it, "paraganglia" ("perinodes"). The study of the chromaffin system, the function of which is directly related to the activity of the nervous and endocrine systems, is not only of theoretical interest, but also of practical importance. Our goal is to study the abdominal aortic paraganglia in fetuses of the first and second half of development, newborns and children (116 preparations), using the method of fine dissection accordingpihfdz to V.P. Vorobiev, but not under a falling drop, but when the drug is immersed in water. For better differentiation of paraganglia from nerve and lymph nodes, the complexes as a whole were treated with solutions of chromium salts before dissection. The extraorganic blood vessels of the paraganglia were studied mainly after the injection of the vascular bed manually - with syringes, transcapillary masses - a suspension of Parisian blue in chloroform (in the veins), mercury cinnabar and red lead in gasoline (in the artery). The closer the injection cannula is inserted to the organ's power source, the better the result. In our studies, the best result was obtained when using a 3.5% solution of potassium dichromate. The fresh preparation was immersed for one day in a solution consisting of one part of a 10% formalin solution and nine parts of a 3.5% potassium solution.Then the preparation was transferred for three days in a clean 3.5% solution of dichromic acid potassium. The solution was changed daily. Paraganglia after processing take on a light . dark brown color. The chromaffin reaction is well pronounced on the part of the abdominal aortic paraganglia, regardless of their size and age of the studied object. Even the remains of clearly atrophied paraganglia of childhood were stained in various shades of brown. On complexes with injected blood vessels, paraganglia and their extraorganic vessels were simultaneously prepared. After fine dissection, they stand out well, differing from the surrounding organs and tissues in the intensity of the contours and the external structure of the bloodstream on the surface of the organ.

Key words: chromaffin system, paraganglion, methods of differentiation, sympathetic system

АБСТРАКТ

Изучение хромаффинной системы началось с описания надпочечников Евстахием в 1563 году. Потом были обнаружены и другие подобные органы. Этому способствовало открытие хромаффинной реакции – способности клеток мозгового слоя надпочечников окрашиваться солями хрома в коричневый цвет. По мнению авторов, хромаффинная

ткань развивается из общего зачатка с симпатической нервной системой и между ними существует топографоанатомическая связь. Именно их анатомическая и генетическая близость дала основание A.Kohn (1903) назвать ткань «хромаффинной», а органы, состоящие из нее, «параганглиями» («околоузлиями»). Изучение хромаффинной системы, функция которой непосредственно связана с деятельностью нервной и эндокринной систем, имеет не только теоретический интерес, но и практическое значение. Наша цель – изучить брюшной аортальный параганглий у плодов I и II половины развития, новорожденных и детей (116 препаратов), методом тонкой препаровки по В.П. Воробьеву, но не под падающей каплей, а при погружении препарата в воду. Для лучшей дифференцировки параганглиев от нервных и лимфатических узлов, комплексы в целом до препаровки подвергались обработке растворами солей хрома. Внеорганные кровеносные сосуды параганглиев, изучали в основном после инъекции сосудистого русла ручным способом – шприцами, транскапиллярными массами – взвесью парижской синей в хлороформе (в вены), ртутной киновари и сурика в бензине (в артерии). Чем ближе к источнику питания органа введена канюля для инъекции, тем лучше результат. В наших исследованиях наилучший результат получился при применении 3,5% раствора двухромовокислого калия. Свежий препарат погружали на одни сутки в раствор, состоящий из одной части 10% раствора формалина и девяти частей 3,5% раствора калия. Затем препарат переносили на трое суток в чистый 3,5% раствор двухромовокислого калия. Раствор ежедневно менялся. Параганглии после обработки принимают светло- или темно-коричневую окраску. Хромаффинная реакция хорошо выражена со стороны брюшных аортальных параганглиев, независимо от их величины и возраста исследуемого объекта. В различные оттенки коричневого цвета окрашивались даже остатки явно атрофированных параганглиев детского возраста. На комплексах с инъецированными кровеносными сосудами, одновременно отпрепарировались параганглии и их внеорганные сосуды. После тонкой препаровки они хорошо вырисовываются, отличаясь от окружающих органов и тканей интенсивностью контуров и внешней конструкцией кровеносного русла на поверхности органа.

Ключевые слова: хромаффинная система, параганглий, методы дифференцировки, симпатическая система

COMPARISON VALUES ON THE HEAT CAPACITY OF PUN NUCLEAR FUEL BY THE USE OF INTEGER AND NONINTEGER N-DIMENSIONAL DEBYE PARAMETER

E. Copuroglu, B.A. Mamedov

Gaziosmanpasa University, Faculty of Science and Art, Department of Physics

ABSTRACT

Actinite fuels have some higher thermal conductivity and solubility than oxide fuels. Therefore, interest in nitrite fuels is increasing. In addition to these advantages, uranium and plutonium mixed nitrites are among the preferred nuclear fuels in terms of high melting point and high fuel density. However, there are few studies in the literature to determine the physico-chemical properties of these fuels by determining their thermal and mechanical properties. In this study, we have given results for the integer and noninteger values of the n parameter that occurs in the n-dimensional Debye function used to calculate the constant volume heat capacity, which is one of the thermal properties of PuN.

Keywords: Nuclear fuel, Heat capacity, Debye approximation

DEMONSTRATING HEAT CAPACITY VARIATION OF THN NUCLEAR FUEL FOR INTEGER AND NONINTEGER N-DIMENSIONAL DEBYE PARAMETER

B.A. Mamedov, E. Copuroglu

Gaziosmanpaşa Üniversitesi, Fen Edebiyat Fakültesi, Fizik Bölümü

ABSTRACT

As is known, the use of nuclear energy plays an important role in the development of many countries. However, the selection of nuclear fuel suitable for both cost and security is essential for the industry. For this reason, nitrite based nuclear fuels have started to take priority among the fuels that are widely preferred in the nuclear industry. Scientists especially emphasize the determination of the thermophysical properties of nitrite based fuels. In this study, comparative results are given for the integer and noninteger values of the n parameter that arises in the n-dimensional Debye approach used to calculate the heat capacity of ThN , which is one of the nitrite based fuels.

Keywords: Nuclear fuel, Heat capacity, Debye approximation

THE EFFECT OF DRYING PROCESS ON THE BIOACTIVE COMPOUNDS OF P. LENTISCUS L. LEAVES EXTRACTS AND ESSENTIAL OIL

Hamza bouakline

University Mohammed Premier, Faculty of Sciences, chemistry department, Oujda, Morocco.

ORCID NO: 0000-0002-4908-6744

Imane zıani

University Mohammed Premier, Faculty of Sciences, chemistry department, Oujda, Morocco.

ORCID NO: 0000-0003-0121-0774

Abdesselam tahani

University Mohammed Premier, Faculty of Sciences, chemistry department, Oujda, Morocco

Ali EL bachiri

University Mohammed Premier, Faculty of Sciences, chemistry department, Oujda, Morocco

ABSTRACT

The plants are essential elements of nature, they are of great importance medically and economically all over the world, moreover have been the main source of primary health care, also have been a rich source of effective medicines.

The properties of aromatic and medicinal plants are generally depending on the region of production, the techniques and period of harvest, as well as the methods of conservation; the drying of plants is one of the most important operations in the process of conservation of aromatic and medicinal plants.

One of the drying main interests is conservation and increasing of the concentrations of active compounds ingredients and protection against any depreciation or rotting; these interests are affected by many characteristics such as the type and duration of drying, drying temperature.

Concerning our work we have brought to light the effect of air drying temperatures on the bioactive compounds of essential oils and extracts, both qualitatively and quantitatively.

Keywords: Drying; Essential oil; Extracts; Chemical Compounds.

BURDUR GÖLÜ HAVZASINA FONKSİYONEL YAŞAM ALANLARI EKLENEREK SÜRDÜRÜLEBİLİR EKOLOJİK YAŞAM ALANLARI OLUŞTURMAK

CREATING SUSTAINABLE ECOLOGICAL LIVING SPACES BY ADDING FUNCTIONAL LIVING SPACES TO THE BURDUR LAKE BASIN

Ayse ARICI

Uluslararası Vizyon Üniversitesi, Mühendislik ve Mimarlık Fakültesi, İnşaat Mühendisliği Bölümü, Gostivar, Kuzey Makedonya.

ORCID ID: 0000-0002-8449-6052

ÖZET

Ulusal ve yerel ölçekte ekonomiye ve insan yaşantısına katkısı olan turizm ve rekreasyon faaliyetlerinin doğru ve etkin gelişimi için doğal ve kültürel değerlerin korunması, planlı ve sürdürülebilir gelişiminin dikkate alınması gerekir. Burdur Gölü Söğüt Dağı ile Sulu dere Yayla dağ kütleleri arasında kuzeydoğu-güneybatı doğrultusunda uzanan oluk şeklindeki tektonik çöküntünün sularla dolması ile oluşmuştur. Göl su seviyesinin son yıllardaki aşırı düşüşüne gölü besleyen dere ve çaylar üzerinde yapılan barajlar ve son yıllardaki bölgede yaşanan aşırı kuraklığın neden olduğu sanılmaktadır.Çevre sorunları, günümüzün en önemli yaşamsal konuları arasında yer almaktadır. Özellikle Burdur gölünün kuruması sonrasında bölgenin ekolojik dengesi üzerine artan bilinçsiz tüketim ile birçok olumsuz sonucu beraberinde getirmektedir. Bu çerçevede, Türkiye'nin altıncı büyük gölüdür. Burdur Gölü Havzası'nın ekolojisinin ve özellikle alanın endemik bitki türlerinin ve özel kuş türlerinin korunması, burdur gölünün giderek kuruması sonucunda göl çevresinde olumsuz etkiler gözlemlenmektedir. Burdur göl çevresi sahip olduğu doğal güzellikleri küresel sorunlardan dolayı kaybetmektedir. Bu nedenlerden dolayı bu alanda konutlarda yasayacak olan halk içinde tercih sırasını kaybetmekte turizm açısından da cazibesini kaybetmektedir. Söz konusu nedenlerin çözülmesi amacıyla bu çalışmada, ulusal ve uluslararası literatüre ve ayrıca bölgedeki gözlemlere dayanarak havzayı etkileyen etmenlerin incelenerek bu havzada nasıl bir planlama- yapılaşma – sosyal yaşam alanları ve çözümler eklenerek olası çözümler üretilerek yenilikçi öneriler üzerinde durulmuştur.

Anahtar Kelimeler: Burdur gölü, çevre sorunları, ekoloji, fonksiyonel yapılar.

ABSTRACT

For the correct and effective development of tourism and recreation activities that contribute to the economy and human life on a national and local scale, the protection of natural and cultural values and their planned and sustainable development should be taken into account. It is formed by the filling of a single submerged depression in the form of a mountainous gutter between the northeast-south S between Burdur Söğüt Mountain and Su Lake and Yayla mountain stacks. It is thought that the extreme decrease in the lake water level in recent years is caused by the dams built on the streams and streams feeding the lake and the extreme drought in the region in recent years. The environmental problem is among the vital places for us. Especially after the drying of the Burdur lake, the increased unconscious consumption on the ecological balance of the region brings many negative consequences. In this context, it is Turkey's sixth largest lake. As a result of the protection of the ecology of the Burdur Lake Basin, especially the endemic plant species and special bird species of the area, and the gradual drying of the Burdur lake, negative effects are observed around the lake. The natural beauties of the Burdur lake environment are those who have gone through global problems. For these reasons, it loses the order of preference among the people who will live in residences in this area and loses its attractiveness in terms of

tourism. In order to solve the aforementioned reasons, in this study, based on the national and international literature, as well as the observations in the region, the factors affecting the basin were examined and innovative suggestions were emphasized by producing possible solutions by adding planning-building-social living spaces and solutions in this basin.

Keywords: Burdur lake, environmental problems, ecology, functional structures.

18 YAŞ ALTI HASTALARA VERİLEN EVDE SAĞLIK HİZMETLERİNİN DEĞERLENDİRİLMESİ

EVALUATION OF HOME HEALTH SERVICES PROVIDED TO PATIENTS UNDER 18 YEARS OF AGE

Uzm. Dr. Esra KURT CANPOLAT

Adıyaman Eğitim ve Araştırma Hastanesi, Başhekimlik

ORCID ID: 0000-0002-4370-9664

ÖZET

Evde bakım hizmeti; fiziksel, sosyal ve ruhsal açıdan bakıma ihtiyaç duyan bireylere evde ve aile ortamında tedavi, rehabilitasyon ve koruyucu amaçlı sağlık hizmetlerinin sürekli ve etkili bir biçimde sunulması şeklinde tanımlanmıştır. Evde bakım hizmetlerinden faydalanan yaş grupları değerlendirildiğinde, çoğunlukla yaşlı hastalar olduğu ancak bebek ve çocukların da bu hizmetlerden faydalandığını gördük. Çocuklar fiziksel, ruhsal, sosyal açıdan erişkinlerden farklılıklar gösterdiğinden , çocuklara verilen evde bakım hizmetleri de özel bir ilgi ve emek gerektirir. Çocukların sadece hastalığını değil aynı zamanda ruhsal ve sosyal ihtiyaçlarını da göz önünde tutmak gerekmektedir. Evde bakım hizmetlerinin, çocukların hastaneye yeniden yatışlarını azaltmada etkinliğine dair bir kanıt bulunmamış olsa dahi , hastanede yatış sürelerini önemli ölçüde azalttığı tespit edilmiştir. Ülkemizde son yıllarda evde bakım hizmetlerine ilgi hızla artmaktadır. Bu çalışma bir Eğitim ve Araştırma Hastanesi'nde Mayıs 2021 itibariyle Evde Sağlık Hizmetleri (ESH) Birimine kayıtlı 18 yaş altı pediatrik grubun cinsiyet, yaş, eşlik eden hastalıkları, fiziksel gereksinimlerini karşılama durumları gibi parametreleri değerlendirmiştir.51 hastanın 26 sı(%51) kız ,25'i (%49) erkekti.Yaş ortalamaları 11,078 yıl olup en küçüğü 2, en büyüğü 18 yaşındaydı.Hastaların yeme,içme,tuvalet,banyo ihtiyacı ve kişisel gereksinimlerini karşılama durumları incelendiğinde ; %74.5 'inin (n:38) yatağa tam bağımlı,%21'i (n:11) yatağa yarı bağımlıyken sadece 2 hastanın fiziksel gereksinimlerini karşılarken kimseye ihtiyaç duymadıkları görüldü.Hastaların %16'sı (n:8) yardımcı araç olarak tekerlekli sandalye kullanıyorken %12'si (n:6) ev tipi ventilatör kullanıyordu. 1 hasta koltuk değneği, 1 hasta akülü araba kullanıyordu. 5 hastada trekeostomi ,3 hastada nazogastrik sonda(NG) mevcutken, 3 kişi perkütan endoskopik gastrostomi (PEG) yardımıyla besleniyordu. 18 yaş altı ESH alan tüm pediatrik yaş grubunda en az 1 komorbit hastalık mevcuttu. Hastaların çok büyük bir kısmı %41'i Serebral Palsi tanısı ile takip edilmekteyken, %37'sinde(n:19) Epilepsi ,%16 'sında (n:8) Motor Mental Retardasyon (MMR) mevcuttu. 2 hastada Down Sendromu ve 2 hastada hipotiroidi tanısı vardı. Birer hastada West Sendromu,Spinal Musculer Atrofi ,Fenilketonüri, Duchenne Muskuler Distrofi, Spina Bifida, Osteogenezis İmperfecta, Guillain Barre , Atrial Septal Defekt, Extrofia Vezika mevcuttu.

Anahtar Sözcükler: Evde Sağlık, Hizmetler, 18 Yaş Altı Hasta

ABSTRACT

Home Care Service; It is defined as the continuous and effective provision of treatment, rehabilitation and preventive health services at home and in the family environment to individuals who need physical, social and spiritual care. When the age groups benefiting from home care services are evaluated, we see that mostly elderly patients, but infants and children also benefit from these services. Since children differ from adults physically, mentally and socially, home care services for children also require special attention and effort. It is necessary

to take into account not only the illness of children, but also their mental and social needs. Although there is no evidence of the effectiveness of home care services in reducing children's hospital readmissions, it has been found to significantly reduce the length of hospital stay.In our country, interest in home care services has been increasing rapidly in recent years. This study evaluated parameters such as gender, age, comorbidities, and physical needs of the pediatric group under the age of 18 registered to the Home Health Services (HHS) Unit in a Training and Research Hospital as of May 2021. Twenty-six (51%) of 51 patients were female and 25 (49%) were male. The mean age was 11,078 years, with the youngest 2 years old and the oldest 18 years old. When the patients' eating, drinking, toilet, bathroom needs and meeting their personal needs are examined; While 74.5% (n:38) were fully bedridden and 21% (n:11) semi-bounded, it was observed that only 2 patients did not need anyone while meeting their physical needs. While 16% (n:8) of the patients were using a wheelchair as an aid, 12% (n:6) were using a home ventilator. 1 patient was using crutches, 1 patient was using a battery car. While 5 patients had trecheostomy, 3 patients had nasogastric tube (NG), 3 patients were fed with percutaneous endoscopic gastrostomy (PEG).

There was at least 1 comorbid disease in all pediatric age group who received HHS under the age of 18. While 41% of the patients were followed up with the diagnosis of Cerebral Palsy, 37% (n: 19) had Epilepsy and 16% (n: 8) had Motor Mental Retardation (MMR). 2 patients had Down Syndrome and 2 patients had hypothyroidism. One patient each had West Syndrome, Spinal Muscular Atrophy, Phenylketonuria, Duchenne Muscular Dystrophy, Spina Bifida, Osteogenesis Imperfecta, Guillain Barre, Atrial Septal Defect, Extrophia Vesica.

Keywords: Home Health, Services, Patients Under 18

HURDA ARAÇ LASTİĞİNİN KENDİLİĞİNDEN YERLEŞEN DÜŞÜK GÜÇLÜ MALZEMEDE KULLANIMI

USE OF WASTE TIRES IN SELF-COMPACTING CONTROLLED LOW-STRENGTH MATERIAL

Osman OKUYUCU

Tekirdağ Namık Kemal Üniversitesi, Çorlu Mühendislik Fakültesi, İnşaat Mühendisliği Tekirdağ-Çorlu, Türkiye

ORCID ID: 0000-0002-4601-493X

ÖZET

Dünyanın birçok ülkesinde hurda araç lastikleri her yıl milyonlarca üretilmektedir. Bu üretilen hurda lastiklerinin geri kazanma yöntemleri ile birlikte inşaat mühendisliği alanında geri dönüşüm malzemesi olarak oldukça yaygın kullanılmaları mümkün olabilmektedir. Bu lastiklerin geri kazananımı çoğunlukla üç farklı yöntem ile yapılabilmektedir. Bunlardan birincisi doğrudan değerlendirme yani lastiği hiçbir işleme tabi tutmadan özelikle yarış pistlerinde güvenlik bariyeri olarak kullanılması. İkincisi malzeme olarak değerlendirme yani atık lastikleri öğütme makinalarında öğütülerek agrega biçimini alması ve agreganın yerine geçebilecek malzeme olarak inşaat mühendisliği uygulamalarında kullanılması. Ayrıca özelikle çocuk parklarında atık lastiklerin taban malzemesi olarak sıklıkla kullanıldığı bilinmektedir. Üçüncü olarak termik olarak kullanılmasıdır. Burada yakılması ile birlikte kömüre ile eşdeğer enerji elde edildiği bilinmektedir. Bu geri kazanımın sağlanması hem ekonomik açıdan hem sürdürülebilirlik açısından hem de çevre açısından çok önemlidir. Bundan dolayı hurda araç lastiklerinin inşaat mühendisliği uygulamalarında sıklıkla kullanılmaya başlanan Kendiliğinden Yerleşen Düşük Güçlü Malzeme (KYDGM) içinde kullanılması ile ilgili laboratuvar çalışmaları yapılmıştır. KYDGM akıcı bir malzeme olduğundan inşaat mühendisliğinde hendekleri doldurmada, yol alt temel malzemesi olarak kullanılması, boşlukların doldurulması gibi bir çok uygulamada kullanılmaktadır. KYDGM temel birleşenleri uçucu küller, çimento, ince kum ve akışkanlığı sağlayan sudur. Hurda araç lastikleri KYDGM de bulunan ince kum malzemesinin hacimsel olarak %2, %5, %8 ve %11 yerine kullanılmak sureti ile laboratuvarda basınç deneyleri yapılmıştır. Bu basınç deneyleri silindirik numunelerin hazırlanmasından 7 gün sonra yapılmış olup hurda araç lastiklerinin bu deney üzerindeki etkileri araştırılmıştır. Control karışımlarının(yani atık hurda lastiği kullanılmayan karışımlar) 7 gün sonunda basınç değeri 540 kPa, %2 ince kum yerine kullanılmış hurda araç lastikleri 400 kPa, %5 için 380 kPa %8 için 405 kPa ve %11 için 315 kPa olarak bulunmuştur. Bu durumda atık hurda lastiklerinin KYDGM de ince kum malzemesi yerine kullanılması 7 günlük basınç değerlerini yaklaşık %20 oranında düşürmüştür. Ancak inşaat mühendisliği alanındaki uygulamalarda hurda araç lastikleri ile kullanılan KYDGM nin 7 günlük basınç değerlerinin yeterli olduğu görülmektedir. Ayrıca KYDGM için çok önemli bir husus olan akışkanlık durumu da hurda araç lastiklerinin kullanılması ile değişkenlik göstermediği görülmüştür.

Anahtar Kelimeler: Hurda Araç Lastikleri, Kendiliğinden Yerleşen Düşük Güçlü Malzeme (KYDGM), Basınç, Geri Dönüşüm, İnce Kum

ABSTRACT

Millions of waste tires are produced in many countries in the world every year. Recycling methods of the waste tires enables them to be used commonly in the field of civil engineering as a recycling material. The waste tires are mostly recycled through three different methods. In the first method, waste tires are directly used as a safety barrier especially in racing tracks without subjecting them to any process. In the second method, the waste tires are utilized as a material; that is, they are grinded in grinding machines and used in the applications of civil engineering as materials alternative to aggregates. In addition, the waste tires are commonly used as a ground cover material particularly in playground. In the third method, they are used to obtain thermal energy. In this method, they are known to yield thermal energy equivalent to that of coal when they are burned. Such recycling methods are important for sustainability, economy and environmental aspects. Therefore, laboratory studies are carried out for use of waste tires in the Self-Compacting Controlled Low-Strength Material (SCCLSM) which has come to be used commonly in the applications of civil engineering field. SCCLSM is used in many applications of civil engineering such as trench filling, pavement base material, and void filling as it is a flowable material. Basic components of SCCLSM are fly ash, cement, fine aggregate, and water to enable flowability. Compressive strength tests were performed on waste tires SCCLSM in laboratory environment using waste tires as a replacement of fine aggregate in SCCLSM by 2%, 5%, 8%, and 11% of fine aggregate volume. The granule size of the waste tires used in the tests is 4.75 mm. Compressive strength tests were performed 7 days after following the preparation of cylindrical samples and the effects of the waste tires on compressive strength of SCCLSM were figured out. The compressive strength results of the control mix (that is, the mix in which waste tires is not used) was found 540 kPa at the end of day 7; the compressive strength values of the SCCLSM with waste tires at the rate of 2%, 5%, 8%, and 11% were found 400 kPa, 380 kPa, 405 kPa, and 315 kPa respectively. Consequently, the use of waste tires by partially replacement of fine aggregate in SCLSM reduced the 7-days compressive strength values by around 20%. Also, the 7-days compressive strength value of the SCCLSM containing waste tires was found sufficient for the applications in civil engineering. In addition, flowability, which is crucial for SCCLSM, doesn't vary by using waste tires.

Keywords: Waste Tires, Self-Compacting Controlled Low-Strength Material (SCCLSM), Compressive Strength, Recycling, Fine Aggregate

USE OF ZEOLITE IN FLOWABLE FILL MIXES

Osman OKUYUCU

Tekirdağ Namık Kemal University, Corlu Engineering Faculty, Tekirdağ-Corlu, Turkey

ORCID ID: 0000-0002-4601-493X

ABSTRACT

Natural zeolite has come to be used quite commonly in the field of civil engineering in recent years. As some studies show, high strength is achieved in concrete due to pozzolanic activity of natural zeolite. Another important feature of natural zeolite is the ability to absorb water through its highly porous particles. In order to measure the water absorption capacity of the natural zeolite in the laboratory environment, absorption test was performed on it as that performed on aggregates; consequently, water absorption capacity of natural zeolite was 22.14%. Absorption rate for normal fine aggregates varies between 0.5% and 2%. This indicates how much water the natural zeolite can absorb. The large amount of porous structure in the zeolite provides high water absorption capacity. Since the natural zeolite absorbs high amount of water in concrete, extra water or additives can be used in the mix to keep the concrete consistency constant. The result of the specific gravity test on natural zeolite in the laboratory was found 1.83. Thus, since the specific gravity of natural zeolites is particularly lower than coarse aggregate's and fine aggregate's specific gravity, they can be used in the production of lightweight concrete. Use of flowable fill in the field of civil engineering is very common nowadays. Fine aggregate constitutes a significant part of the flowable fill material by weight. The compressive strength test was performed on cylindrical samples of the flowable fill material which prepared by using natural zeolite as a replacement of 50% by volume of fine aggregate in the laboratory environment. When prepared flowable fill mixtures, the water, which absorbed by the zeolite in the flowable fill material, was added to the mix as an extra so that the flowable fill material keeps its flowability. The compressive strength test was carried out on cylinders following a waiting period for 7 days in the laboratory. Compressive strength results of control mixes were found 540 kPa at 7 days and the flowable fill material mixes prepared by using natural zeolite were found 230 kPa at 7 days. As can be understood from results, there is a significant strength loss in the zeolite flowable fill material. The reason for this is the extra water added to maintain the flowability of the flowable fill material.

Keywords: Natural zeolite, flowable fill, Compressive strength, flowability

SPORTİF PERFORMANSTA KAYROPRAKTİK MANİPÜLASYON TEDAVİSİNİN ETKİNLİĞİNİN ARAŞTIRILMASI

INVESTIGATION OF THE EFFICACY OF CHIROPRACTIC MANIPULATION THERAPY IN SPORTS PERFORMANCE

Sefa Haktan HATIK

Sinop University, Türkeli Vocational School, Sinop, Turkey

ORCID ID: 0000-0003-0517-4600

Berkay Eren Pehlivanoğlu

Istanbul Rumeli University, Vocational School Of Health, Istanbul, Turkey

ORCID ID: 0000-0002-1182-6161

ÖZET

Amaç: Sporcular sakatlık döneminde kayropraktik manipülasyon tedavisine sıklıkla başvurmaktadır. Özellikle Amerika kıtasında spor kulüplerinin sağlık kurullarında kayropraktik uzmanı bulunmaktadır. Günümüzde sporların rekabetçi doğası gereği, sportif performansı etkileyebilecek yasal tüm yöntemlere ilgi sürekli artarak devam etmektedir. Bu çalışmada kayropraktik manipülasyon tedavisinin sportif performansa olan etkisini araştırmak amacıyla planlanmıştır.

Yöntem: Spor performansının arttırılması amacıyla kullanılan kayropraktik manipülasyon tedavisini belirlemek amacıyla literatür taraması yapılmıştır. MEDLINE, CINAHL (Cumulative Index to Nursing and Allied Health Literature), AMED (Alternative Medicine), Alt HealthWatch (Alternative Health), Psychology & Behavioral Sciences Collection, The Cochrane Library, ICL ve Google Schoolar veri tabanında, 2000 ile 2021 yıllının Mayıs ayı arasında, ücretsiz ve tam metin erişimi hakkı olan araştırma makalesi, vaka ve pilot çalışmalardan konu ile ilgili 'chiropractic', 'spinal manipulation', 'manipulation', 'sports', 'athletes', 'performance', 'sports medicine', 'physical performance', athletic performance', 'sprint performance', 'exercise performans', 'grip strength', 'kicking speed performance', 'handgrip strength', 'power output', 'HVLA' ve 'performance enhancement' anahtar kelimeler ile taranmıştır.

Bulgular: Yapılan literatür taraması sonucunda 75 adet çalışmaya ulaşılmıştır. Bu çalışmalardan kayropraktik manipülasyon tedavisinin, sportif performansını etkinliğini özel olarak araştıran ve tartışan 19 adet çalışma dahil edilmiştir. Çalışamaya temas içeren, bireysel ve takım halinde yapılan farklı branşlardaki 343 elit veya amatör sporcu katılmıştır. Tedavi ve değerlendirme protokolü en az 4 hafta, en fazla ise 14 hafta sürmüştür. Dahil edilen çalışmada genellikle kayropraktik manipülasyon tedavisi, kontrol, sham ve diğer teknikler (germe, pilometrik ve dirençli egzersiz vb.) ile karşılaştırılmıştır.

Tartışma: Birçok çalışmada teorik açıdan bu konu öne sürülmüş ve tartışılmıştır. Gelişmiş sportif performans test sonuçlarında pozitif yönde etki etiğine dair zayıf kanıtlara ulaşılmıştır. Ancak kayropraktik manipülasyon tedavisinin performansı artırıcı umut verici verilere ulaşılmıştır. Bu alandaki araştırmaların niceliği ve niteliği artırılarak ikna edici kanırlara ulaşılabilir.

Anahtar Kelimeler; kayropraktik, manipülasyon, sportif performans

ABSTARCT

Objective: Athletes frequently resort to chiropractic manipulation treatment during disability. Especially in the Americas, there are chiropractic specialists in the health boards of sports clubs. Today, due to the competitive nature of sports, interest in all legal methods that can affect sports performance continues to increase. In this study, it was planned to investigate the effect of chiropractic manipulation treatment on sportive performance.

Method: A literature review was conducted to determine the chiropractic manipulation therapy used to increase sports performance. 2000 and May of 2021 in MEDLINE, CINAHL (Cumulative Index to Nursing and Allied Health Literature), AMED (Alternative Medicine), Alt HealthWatch (Alternative Health), Psychology & Behavioral Sciences Collection, The Cochrane Library, ICL and Google Schoolar databases Among the research articles, case and pilot studies with free and full-text access, 'chiropractic', 'spinal manipulation', 'manipulation', 'sports', 'athletes', 'performance', 'sports medicine', ' With keywords physical performance', athletic performance', 'sprint performance', 'exercise performance', 'grip strength', 'kicking speed performance', 'handgrip strength', 'power output', 'HVLA' and 'performance enhancement' scanned.

Results: As a result of the literature review, 75 studies were reached. Among these studies, 19 studies that specifically investigated and discussed the effectiveness of chiropractic manipulation therapy on sportive performance were included. 343 elite or amateur athletes in different branches, which involve contact, individually and as a team, participated in the study. The treatment and evaluation protocol lasted for a minimum of 4 weeks and a maximum of 14 weeks. The included study generally compared chiropractic manipulation therapy with control, sham, and other techniques (stretching, pilometric and resistance exercise, etc.).

Discussion: In many studies, this issue has been proposed and discussed from a theoretical point of view. There is weak evidence of a positive effect on advanced sportive performance test results. However, promising data have been obtained to improve the performance of chiropractic manipulation therapy. Convincing conclusions can be reached by increasing the quantity and quality of research in this area.

Keywords; chiropractic, manipulation, sports performance

ZEMİN SİLİKAT ENJEKSİYONLARINDA SICAKLIK İLE JELLEŞME SÜRESİ ARASINDAKİ İLİŞKİNİN İNCELENMESİ

INVESTIGATION OF THE RELATIONSHIP BETWEEN TEMPERATURE AND GELLING TIME IN SOIL SILICATE GROUTING

Eyübhan AVCI

Bursa Teknik Üniversitesi, Mühendislik ve Doğa Bilimleri Fakültesi, İnşaat Müh. Bölümü

ORCID NO: 0000-0001-7206-0158

Eray YILDIRIM

Bursa Teknik Üniversitesi, Mühendislik ve Doğa Bilimleri Fakültesi, İnşaat Müh. Bölümü

ORCID NO: 0000-0002-5134-0625

ÖZET

Bu deneysel çalışmada, sodyum silikat enjeksiyon işleminde jelleşme süresi ile ortam sıcaklığı arasındaki ilişki incelenmiştir. Deneylerde ana malzeme olarak sodyum silikat, reaktant olarak formamid (formik asitin amidi) kullanılmıştır. Enjeksiyon çalışmalarında dikkate alınması gereken en önemli parametrelerin başında jelleşme zamanı gelmektedir. Jelleşme süresini etkileyen en önemli parametreler malzeme ve sıcaklıktır. Farklı karışım oranlarında hazırlanmış sodyum silikat ve formamid solüsyonları üzerinde farklı ortam sıcaklıklarında jelleşme ölçümleri yapılmıştır. Atmosferik sıcaklık jelleşme süresini etkileyen dış faktörlerin başında gelmektedir. Bu çalışmada üç farklı atmosferik sıcaklık (+10 °C, +20 °C ve +30 °C) altında jelleşme süreleri incelenmiştir. Jelleşme zamanı dakika cinsinden kayıt edilmiştir. Ayrıca 10 °C, 20 °C ve 30 °C jelleşme zamanları arasında karşılaştırma yapılmıştır. Çalışmada kullanılan malzemeler ve yöntemler bütün jelleşme sıcaklıkları için aynı kullanılmıştır. 10 °C için ortalama jelleşme süresi 855 dakika, 20 °C için ortalama 303 dakika ve 30 °C için ise 239 dakika olarak hesaplanmıştır. Malzemenin jelleşme süresi, sıcaklık 30 °C'den 20 °C'ye düştüğü zaman yaklaşık 1,27 kat artmaktadır. 20 °C'den 10 °C'ye düştüğü zaman ise 2,82 kat kadar bir artış göstermektedir. Jelleşme sürelerinin kendi aralarındaki ilişkiyi ölçmek için regresyon analizi yapılmıştır. Regresyon analizi sonucunda belirlilik katsayıları 0,91'in üzerinde çıkmıştır. En yüksek belirlilik katsayı değerini 20 °C ile 30 °C arasında kurulan modelden elde edilmiştir. Regresyon analizi sonuçlarına göre farklı sıcaklık değerlerindeki jelleşme zamanı arasındaki ilişki derecesi oldukça yüksektir. Sodyum silikat ve formamid karışımları ile hazırlanan solüsyonlara yapılan deneysel ve analitik çalışmaların sonuçlarına göre yüksek sıcaklık değerlerinde jelleşme zamanı azalmakta düşük sıcaklık değerlerinde ise arttığı görülmüştür.

Anahtar Kelimeler: Zemin Enjeksiyonu, Jelleşme Süresi, Sodyum Silikat

ABSTRACT

In this experimental study, the relationship between gelling time and environmental temperature in sodium silicate injection process was investigated. In the experiments, sodium silicate was used as the main material and formamide (amide of formic acid) was used as the reactant. Gelling time is one of the most important parameters to be considered in injection studies. The most important parameters affecting the gelling time are material and temperature. Gelling time measurements were made at different environmental temperatures for Sodium Silicate and Formamide solutions prepared at different mixing ratios. Atmospheric temperature

is one of the external factors affecting the gelling time. In this study, gelling times were investigated under three different atmospheric temperatures (+10 °C, +20 °C and +30 °C). Gelling time was recorded in minutes. In addition, a comparison was made between the gelling times of 10 °C, 20 °C and 30 °C. The materials and methods used in the study were the same for all gelling temperatures. The average gelling time was calculated as 855 minutes for 10 °C, 303 minutes for 20 °C and 239 minutes for 30 °C. The gelling time of the materials increases approximately 1.27 times when the temperature drops from 30 °C to 20 °C. When the environmental temperature drops from 20 °C to 10 °C, the gelling time increases by 2.82 times. Regression analysis was performed to measure the relationship between gelling times. The coefficient of determination of the models were above 0.91. The highest coefficient of determination was obtained for the relationship between 20 °C and 30 °C with R^2 = 0.99. According to the results of the regression analysis, the correlation value between the gelling time at different temperature values is quite high. According to the results of experimental and analytical studies performed on solutions prepared with sodium silicate and formamide mixtures, it was observed that the gelling time decreades at high temperature values and increased at low temperature values.

Keywords: Soil Grouting, Gelling Time, Sodium Silicate

BİR GLOBE ÇEKVALFTE NÜMERİK YÖNTEM İLE DEBİ OPTİMİZASYONU

FLOW OPTIMIZATON OF A GLOBE CHECK VALVE WITH NUMERICAL METHOD

Nevzat Tugay Sayar

Ege Üniversitesi, Mühendislik Fakültesi, Makine Mühendisliği, İzmir, Türkiye.

ORCID NO: 0000-0002-4731-5478

Erbil İyim

Valf Sanayi A.Ş., Organize Sanayi Bölgesi, Kurtuluş Cad. No: 1, Manisa, Türkiye.

ORCID NO: 0000-0001-5969-1369

Aydoğan Özdamar

Ege Üniversitesi, Mühendislik Fakültesi, Makine Mühendisliği, İzmir, Türkiye.

ORCID NO: 0000-0002-6580-4101

ÖZET

Valfler, sıvı ve gazların hareketini kontrol etmek, debisini ayarlamak, geri dönüşünü engellemek, akış yönünü değiştirmek, akış basıncını sınırlamak ve akış emniyetini sağlamayı hedefleyen tesisat elamanlarıdır. Valfler, genel olarak emniyet valfi (relief valf), kelebek valf (butterfly valve), küresel valf (ball valve), çekvalf (check valve), sürgülü valf (gate valve), globe valf (globe valve) olarak sınıflandırılabilirler. Bir tesisatta akışın sağlanabilmesi için gereken enerji, sistem üzerinde bulunan vafler ayrıca borular, dirsekler vb. elemanlardan kaynaklanan yerel basınç kayıpları nedeniyle artmaktadır. Bu kayıplar, tesisat elemanlarının geometrik optimizasyonu ile en az seviyeye indirilebilir. Tesisat elemanlarından globe valfler; bir milin ucuna bağlı klapenin, akışkan geçiş deliğinin üstüne oturtulması veya kaldırılması ile akışkan geçişini kesip, açarak çalışan vanalardır. Ayrıca globe valfler, klape-mil bağlantı şekline göre kumandalı çekvalf veya yaylı çekvalf olarak sınıflandırılabilirler. Globe valfler, su, sıcak su, kızgın su, buhar, kızgın yağ, basınçlı hava, akaryakıt, LPG, ısı transfer yağları ve kimyasal akışkanlar ile kullanılabilirler. Bu valfler, geometrik yapıları nedeniyle basınç kayıpları yüksek ve akış katsayıları düşük olan valflerdir ve enerji kayıplarına neden olurlar. Bu kayıpların olabildiğince azaltılması, valf geometrisinin optimum hale getirilmesi ile sağlanabilir. Bu çalışmada, bir globe çekvalfin geometrik optimizasyonu, sonlu hacimler nümerik yöntemini kullanan Ansys Fluent paket programı yardımıyla gerçekleştirilmiştir. Bu analiz, optimize edilecek önemli tasarımsal parametreler olarak globe çekvalfin iç açıklık çapı (orifis çapı) ve dış geçiş çapı seçilerek, iç açıklık çapının üç farklı ve dış geçiş çapının altı farklı değeri için gerçekleştirilmiştir. Her bir incelenen 18 farklı geometri ve optimize olan geometriler için akış katsayıları hesaplanmış ve optimum iç açıklık çapı (orifis çapı) ve dış geçiş çapı elde edilmiştir. Sonuç olarak, incelenen globe çekvalfin akış katsayısında ilk tasarıma göre % 22,75 iyileşme olduğu belirlenmiştir.

Anahtar sözcükler: Optimizasyon, globe çekvalf, sonlu hacimler nümerik yöntemi.

ABSTRACT

Valves are elements that have in one’s sights controlling the flow of fluids and gases, setting flow rate, preventing reverse flow and changing the direction, limiting flow pressure and flow safety in an installation. They can be classify as relief valve, butterfly valve, ball valve, check valve, gate valve and globe valve generally. The energy that is required to provide flow is

increased beacuse of local pressure drops along an installation that have these elements that are valves and also pipes, elbows etc. These drops can be reduced by geometrical optimization of the elements. The globe valves that work by cutting or opening the fluid passage by placing or lifting the clack attached to the end of a shaft on the fluid passage hole (orifice). Globe valves can also be classified as spring check valve or controlled check valve according to the clack-shaft connection type. They can be used with these fluids that are water, hot water, steam, hot oil, compressed air, fuel oil, LPG, heat transfer oils and chemical fluids. These valves have high pressure losses and low flow coefficients due to their geometrical structure and cause energy losses. Optimizing the valve geometry can eliminate these losses as possible. In this study, the geometrical optimization was realized thanks to Ansys Fluent packet program that uses numerical analysis with finite volume method. This analysis was performed for three different values of the inner opening diameter and six different values of the outer passage diameter by choosing the globe check valve's inner opening diameter (orifice diameter) and outer passage diameter as the important design parameters to be optimized. The optimized values of them were occurred by calculating the flow coefficients for each 18 different geometries and optimized geometries. As a result, it was determined that there was a 22.75 % improvement in the flow coefficient of the examined globe check valve compared to the first design.

Keywords: Optimization, globe check valve, finite volume numerical method.

İÇ ANADOLU BÖLGESİNDEKİ TERMOMİNERAL SULARDA BAZI ESER ELEMENTLERİN ZENGİNLEŞTİRİLMESİ VE TAYİNİ

PRECONCENTRATION AND DETERMINATION OF SOME TRACE ELEMENTS IN THERMOMINERAL WATERS IN CENTRAL ANATOLIA REGION

Çiğdem ER ÇALIŞKAN

Kırşehir Ahi Evran Üniversitesi, Ziraat Fakültesi, Tarla bitkileri Bölümü, Kırşehir, Türkiye

ORCID ID: 0000-0001-5821-7489

Harun ÇİFTÇİ

Kırşehir Ahi Evran Üniversitesi, Tıp Fakültesi, Tıbbi Biyokimya AD, Kırşehir, Türkiye

Çankırı Karatekin Üniversitesi Rektörlüğü, Çankırı, Türkiye

ORCID ID: 0000-0002-3210-5566

ÖZET

Hızla artan dünya nüfusuyla birlikte, endüstriyel üretimin de hızla geliştiği günümüzde, insan yaşamını çok yönlü olarak doğrudan veya dolaylı olarak etkileyen etkenlerden biri de çevreye salınan ağır metal iyonlardır. Bu kirleticilerin insan sağlığı ve çevre üzerindeki etkilerinden dolayı belirlenmesi ve kontrol altına alınması gerekmektedir. Bu çalışmada, termomineral su numunelerinden Pb ve Cu İndüktif eşleştirilmiş plazma kütle spektrometrisi (ICP-MS) ile belirlenmesinden önce ayrılması ve zenginleştirilmesi için basit, hızlı ve ucuz bir katı faz ekstraksiyon yöntemi (SPE) geliştirilmiştir. Adsorban olarak ticari aktif karbon (Aqua-Carbo®) kullanılmıştır. Ayırma ve zenginleştirme işlemlerinde kolon tekniği uygulanmıştır. En uygun koşulların belirlenmesi amacıyla; örnek çözeltisinin pH'sı, geri alma çözeltisinin cinsi ve derişimi, örnek çözeltisi ve geri alma çözeltisinin akış hızları, örnek çözeltisi hacmi, analit iyonlarının geri kazanma verimine yabancı iyonların etkisi araştırılmıştır. Pb ve Cu iyonlarının geri kazanımı için en uygun pH değerleri 4.0 ile 6.5 arasında olduğu belirlendi Maksimum geri kazanımlar 5 mL 2 mol L^{-1} HCl çözeltisinin kullanılmasıyla elde edildi. Geliştirilen yöntem, çeşitli termomineral su numunelerine başarıyla uygulanmıştır.

Anahtar Kelimeler: Ayırma, Zenginleştirme, Kurşun, Bakır, Aktif Karbon

TEŞEKKÜR: Bu çalışma Kırşehir Ahi Evran Üniversitesi Bilimsel Araştırma Projesi Koordinasyon Birimi tarafından desteklenmiştir (Proje No: TIP.A3.19.002)

ABSTRACT

Heavy metal ions released into the environment are one of the factors that directly or indirectly affect human life in many ways. Due to the effects of these pollutants on human health and the environment, it is necessary to determination and control them. In the present work a simple, rapid and inexpensive solid phase extraction (SPE) was developed for the simultaneous separation and preconcentration of Pb and Cu from thermomineral water samples prior to their determination by inductively coupled plasma mass spectrometry (ICP-MS). As the adsorbent commercial activated carbon (CAC:(Aqua-Carbo®)) was used. The experimental parameters that affected the extraction efficiency of the method such as pH, flow rate and volume of the sample solution, concentration and kind of eluent, amount of adsorbent, and effect of other ions were investigated and optimized. The optimum pH value for quantitative sorption of Pb and Cu

ions was found between 4.0 and 6.5. Maximum recoveries were obtained using 5 mL of 2 mol L^{-1} HCl solution The developed method was successfully applied to thermomineral water samples.

Keywords: Separation, Preconcentration, Lead, Copper, Activated Carbon.

ACKNOWLEDGMENT: This work was supported by the Kirsehir Ahi Evran University Scientific Research Project Coordination Unit (Project Number: TIP.A3.19.002)

ŞARKILAR ILE CİNSİYET TANIMA

GENDER RECOGNITION WITH SONGS

Muzaffer ASLAN

Bingöl Üniversite, Mühendislik Mimarlık Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, Bingöl, Türkiye

ORCID ID: 0000-0002-2418-9472

ÖZET

Ses, cinsiyet, etnik köken ve yaş gibi kişiye özgü özelliklere ait bilgileri aktaran davranışsal bir biyometriktir. Bu bakımdan insan konuşmaları, birçok ses tanıma uygulamasında kullanılabilecek önemli paralinguistik bilgileri içerir. Bir kişinin cinsiyetini (kadın veya erkek) ses ile tespit etmek insanlar edindikleri deneyimlerden dolayı çok basit bir işlemdir. Fakat bilgisayarlı sistemler için oldukça zorlu bir problemdir. Çalışma, ses sinyalleri ile cinsiyet tespitine yöneliktir. Çalışmanın katkıları, (i)veri seti kullanılarak sesin belirgin özelliklerin belirlenmesi ve (ii) ses ile cinsiyet tespiti için çeşitli makine öğrenme algoritmalarının incelenmesi. Çalışma ile ses veri setinden cinsiyet tanıma için Yerel İkili Örüntü (YİÖ) algoritması ile özellik seçimini kullanan bir yöntem önerilmiştir. Önerilen yöntem iki ana adımdan oluşmaktadır. İlk olarak YİÖ algoritması ile özellik seçimi yapılır. Daha sonra bu özellikler k-en yakın komşu (k-NN) ve karar ağaçları algoritmaları ile bu özellikler sınıflandırılarak cinsiyet tespiti yapılmaktadır. Deneysel çalışmalar, Türk müziğinde popüler olan on kadın ve on erkek sanatçının farklı müzik kategorilerindeki şarkılarından oluşan veri seti kullanılmıştır. 30 saniye süreli her bir şarkıdan YİÖ algoritması ile on özellik çıkarıldı. Birleştirilen özellikler daha sonra k-NN ve karar ağaçları algoritmaları ile sınıflandırılarak cinsiyet tespiti yapıldı. Deneysel çalışmalarda cinsiyet tespitinde karar ağaçlarında %81 ve k-NN sınıflandırıcıda %85 doğruluk oranına ulaşılmıştır.

Anahtar Kelimeler: Ses ile cinsiyet tanıma, YİÖ, k-NN ve karar ağaçları.

ABSTRACT

Voice is a behavioral biometric that conveys information about personal characteristics such as gender, ethnicity, and age. In this respect, human speech contains important paralinguistic information that can be used in many speech recognition applications. Detecting a person's gender (female or male) by voice is a very simple process because of the experience people have. However, it is a very challenging problem for computerized systems. The study is aimed at detecting gender with sound signals. The contributions of the study are (i) the determination of distinctive features of voice using the data set and (ii) the examination of various machine learning algorithms for gender detection by voice. In the study, a method using the Local Binary Pattern (LBP) algorithm and feature selection for gender recognition from the voice dataset has been proposed. The proposed method consists of two main steps. First of all, feature selection is made with the LBP algorithm. Then, these features are classified by the k-nearest neighbor (k-NN), and decision tree algorithms and gender determination is made. Experimental studies, a data set consisting of the songs of ten females and ten male singers who are famous in Turkish music in different music categories were used. Ten features were extracted from each 30-second a song using the LBP algorithm. The combined features were then classified using k-NN and decision tree algorithms, and gender determination was made. In experimental studies, 81%

accuracy rate in decision trees and 85% accuracy rate in k-NN classifier was achieved in gender determination.

Keywords: Gender recognition with voice, LBP, k-NN, decision tree

РОЛЬ ГОРМОНА ЭСТРОГЕНА В СНИЖЕНИИ МИНЕРАЛЬНОЙ ПЛОТНОСТИ КОСТЕЙ

Ш.Р. Мамедова

Азербайджанский Медицинский Университет, Баку

У больных сахарным диабетом (СД) выявляются снижениие эстрогенов, которые приводят к возникновению остеопороза. Результаты исследований, проведенные в последние десятилетия, свидетельствуют о наличии уровня гормонов и риском развития как самого СД, так и его хронических осложнений.

Целью настоящего исследования является изучение возможностей рентгеновской остеоденситометрии (ДЕХА) в диагностике остеопороза у больных СД 2 типа с учетом концентрации эсрогенов в крови.

Материалы и методы. Исследование проводились в учебно терапевтической клинике Азербайджанского Медицинского Университета. Были проанализированы результаты ДЕХА проксимального отдела бедренной кости у 60 больных СД 2-го типа с учетом уровня гормона в крови. Возраст больных был 50-70 лет, из них 32 (53,3%) мужчин и 28(46,7%) женщин.

Результаты и их обсуждения. Всем обследованным выполнена ДЕХА бедренной кости на аппарате HOLOGIK. Исследуемые показатели выражались по Т- и Z-критериям.

отражающий не только костную плотность, но и количество, размеры и пространственную ориентацию трабекул костной ткани;

-индекс прочности костной ткани (ИП, %), высчитывался на основе показателей Т- , Z-критерии.

Полученный материал обрабатывался с помощью Microsoft Excel для Windows с расчетом коэффициентов корреляций- по Пирсену.

По данным ДЕХА у 60 больных СД 2 типа остеопороз предположительно диагностирован **у** 22(36,7%) человек, остеопения - у 34 (56,7%). Показатели 4(6,7%) пациетов результаты ДЕХА были в пределах нормы.

Были проанализированы корреляции результатов ДЕХА и уровня эстрогена у этих больных.

У 18(81,8%) из 22 больных с остеопорозом уровень этого показателя был ниже нормы, в среднем составлял 14,26±4,56 нг/мл.

Только у 11(32,4%) пациентов из 34 больных с остеопенией уровень гормона был ниже нормы и в среднем составил 19,34 ±2,87 нг/мл.

У 2 (50%) пациентов без остеопороза и остеопении было выявление снижение уровня эстрогена

Таким образом, дефицит гормона может рассматриваться как отдельный независимый фактор риска развития метаболических нарушений у больных СД .Снижение гормона эстрогена негативно влияет на всасывание Са у пациентов, что приводит к снижению минеральной плотности костей и возникновению остеопороза.

Keywords: DEXA, Osteoporosis, Diabetic

ENGINEERS' RECRUITMENT SYSTEM

Rania Anwar Aboalela, Ahlam Mazmomi, Amal Alharbi, Marajel Albeladi

Information System Department, Faculty of Computing and Information Technology

ORCID NO: 0000-0003-2284-4610

ABSTRACT

Within the vision of 2030 for the Kingdom of Saudi Arabia, urban development is one of the most important basic pillars that the Kingdom needs in many fields, therefore the specialists and owners of funds sought to search for engineers and companies with competencies which is one of the most difficult steps faced. Therefore, in this work we provide an electronic system to connect between the engineers and the labor market. The system is developed as a virtual platform that required a life cycle consisting of many stages must be passed through to reach the final product. This cycle is referred to software development life cycle (SDLC). SDLC is a software engineering process which is used to design, develop, test, and publish programs. Each stage of the SDLC is designed to give the stakeholders control over their software development with predictable deliverables and visibility into budgets and deadlines. The aim of adopting the SDLC model is to produce high-quality programs at a lower cost in an efficient and productive manner. The project was starting by utilizing a Waterfall model in developing the system. This model is distinguished in many ways that facilitate the access to the final product within the specified time. The Waterfall methodology uses a sequential approach to program development, which is to describe, interpret, and systematically evaluate all aspects of a systematic information system development.

Consequently, the problem is concentrated in reaching experienced engineers to work on construction projects within the Kingdom of Saudi Arabia, from which these engineers can get the work quickly and desired, and thus work to integrate experienced engineers and newly graduated engineers into the labor market through an electronic system provided with many options and technologies that allow this.

Keywords: Real estate development, Engineering supervision, Saudi Arabia, Stakeholders, Architectural engineer, vision 2030.

ACKNOWLEDGMENT: This work was presented as s graduation project for bachelor's degree students. Ahlam Mazmomi, Amal Alharbi and Marajel Albeladi.

INVASIVE WEED OPTIMIZATION ALGORITHM FOR SOLVING MULTI-OBJECTIVE U-SHAPED DISASSEMBLY LINE BALANCING PROBLEM

Pengfei Yao

Department of Mechanical and Industrial Engineering, Northeastern University Boston, MA, 02115, USA.

ORCID NO: 0000-0003-3620-2491

Surendra M. Gupta

Department of Mechanical and Industrial Engineering, Northeastern University Boston, MA, 02115, USA.

ORCID NO: 0000-0002-6194-2857

ABSTRACT

Rapid development of technology and highly demanding individuals promote products' diversification. Increasing number and rapid updates result in products becoming end-of-life (EOL) products early in their life cycles. Landfilling these products has a negative impact on the environment. More ecofriendly ways should be considered to protect the environment. Product recovery is an efficient way to deal with EOL products. Remanufacturing and reuse are examples of economically beneficial and environmentally friendly ways of product recovery. In remanufacturing, the first step is disassembly. Disassembly aims to physically separate EOL products into subassemblies or parts. The process of disassembly is carried out on a paced line linked with different workstations. Balancing the disassembly line is crucial. U-shaped disassembly line has advantages compared to the traditional straight-line disassembly line including increased work efficiency. Multiple objectives are considered in this paper to mimic real world disassembly. These objectives include optimizing the number of workstations, smoothness index, hazardous impact and demand fulfillment. Because of the NP-hard characteristic of the disassembly line balancing problem (DLBP), meta-heuristic algorithm is most suitable for solving large-scale real-life problems. Recently, a lot of attention has been paid towards employing nature inspired meta-heuristic algorithms to solve many optimization problems. Consequently, in this paper, a novel numerical stochastic optimization algorithm called invasive weed optimization (IWO) algorithm is proposed to find near-optimal solutions for the DLBP. IWO is inspired from colonizing weeds which is based on the natural selection (survival of the fittest). The performance of IWO algorithm is compared with several meta-heuristic algorithms. Results show that the proposed IWO algorithm can find near optimal solutions efficiently. In addition, the results demonstrate that the U-shaped layout has higher efficiency compared to the straight-line layout.

Keywords: Remanufacturing, Disassembly line balancing, U-shaped disassembly line, Invasive weed optimization (IWO).

MODIFIED FINITE DIFFERENCE METHOD FOR SOLVING NONLINEAR SCHRÖDINGER EQUATION WITH LOG-NONLINEARITY IN ONE DIMENSION

Suleman Alfalqi

King Khalid University, Faculty of Sciences and Arts, Department of Mathematics, Mahayil, Saudi Arabia.

ORCID NO: 0000-0002-1039-8820

Abstract

Block tridiagonal system usually arise when we are solving a system of nonlinear partial differential equations.In this work we are going to solve the nonlinear Log-Law Schrodinger equation (NLSE) using modified finite difference method. As a result we will get an implicit block nonlinear scheme with a block nonlinear tridiagonal system. Newton's method is used to solve this system. The schemes which we used to solve this equation are Crank-Nicolson, and Douglas. the first one is of second order accuracy in both directions time and space, where the second one is of second order accuracy in time and fourth order accuracy in space. von Nuemann stability analysis is used to study the stability of the proposed schemes. Finally, the exact solution and the conserved quantity are used to assess the efficiency of the proposed methods.

Keywords: Modified finite difference method, Log-law nonlinearity Schrödinger equations, Crank-Nicolson method, Douglas method.

PHARMACEUTICAL FORMULARY LIST OF DRUGS

ЛЕКАРСТВЕННЫЙ ФОРМУЛЯР ПЕРЕЧЕНЬ ЛЕКАРСТВЕННЫХ СРЕДСТВ

Mukhitova D.T., Temirgalieva E.M., Seytkazy N.T., Aset G.K.

Scientific adviser: Doctor of Medical Sciences, Professor, Academician of the National Academy of Sciences of the Republic of Kazakhstan Rakhimov Kairolla Dyusenbaevich

Kazakh National Medical University named after S.D. Asfendiyarov, Almaty, RK

Department of Clinical Pharmacology

ABSTRACT

The was analysed specialized departments of the state communal enterprise on the right of economic management«Children's City Clinical Hospital No.2» was carried out to include them in the list of the hospital's drug formulary.

Keywords: drugs, drug formulary, clinical protocols, Kazakhstan national drug formulary.

АННОТАЦИЯ

Проведен анализ заявок от профильных отделений КГП на ПХВ «Детской городской клинической больницы №2» для включения их в перечень лекарственного формуляра клиники .

Ключевые слова: лекарственные препараты, лекарственный формуляр, клинические протоколы, Казахстанский национальный лекарственный формуляр.

PHYSICOCHEMICAL PROPETIES AND CHEMICAL COMPOSITION OF PHOENIX DACTILYFERA L. SEED OIL

Yasmina Halabi[1], **Chaimae Nasri**[1], **Hicham Harhar**[1], **Abdelkbir Bellaouchou** [1], **Mohamed Tabyaoui**[1]

[1]Laboratory of Materials, Nanotechnology, and Environment, Mohammed V University, Faculty of Science, 4 Av. Ibn Battouta, B.P 1014 Rabat, Morocco

ABSTRACT

Dates (Phoenix dactylifera L.) are a popular fruit in Middle Eastern countries. In fact, it is the staple food of millions of people in these countries. Furthermore, dates play an important economic, social and ecological role for people living in arid and semi-arid regions. Date seeds, also called as pits or seeds, are waste products from date processing and packaging plants. Therefore, seeds contain many valuable substances such as carbohydrates, vegetable oil, dietary fiber, bioactive compounds, and natural antioxidants. The main purpose of this study was to analyze the chemical composition of date seed oil extracted from ten native date palm seed varieties. Also to analyze the physicochemical parameters of acid value (AV), peroxide value (PV), saponification value (SP), iodine value (IV), K232, K270, and cetane index for oxidative status, quality, and safety of date seed oil. The choice of the seed variety was based on popularity and quality. The lipid extraction was carried out by a soxhlet apparatus using a standard solvent with a seed isolated from a matured date, the yield ranged from 3% to 7% depending on the variety. A wide range of saturated, mono, and polyunsaturated fatty acids are present in the kernel. The saturated fatty acids include caprylic (C8:0), capric (C10:0), lauric (C12:0), myristic (C14:0), palmitic (C16:0), margaric (C17:0), stearic (C18:0), and arachidic (C20:0) acids. The unsaturated include palmitoleic (C16:1), margaroleic (C17:1), oleic (C18:1), gadoleic (C20:1), Linoleic (C18:2) and linolenic (C18:3) acids. Likewise, the analysis of the quality index of oil shows that seed oil is fresh and is less susceptible to autoxidation due to its low peroxide value. Indeed, the recorded iodine value of kernel oil was lower than 100, so this oil can be considered as anon-drying oil. According to these, and several results, date seed oil has a potential application, especially in cosmetic formulations such as body creams, shaving soap and shampoos, and pharmaceutical products.

Keywords: Chemical composition; date seed oil; fatty acids; Phoenix dactylifera L.; physicochemical parameters.

REFERENCES

[1] Akbari, M., Razavizadeh, R., Mohebbi, G. H., & Barmak, A. (2012). Oil characteristics and fatty acid profile of seeds from three varieties of date palm (Phoenix dactylifera) cultivars in Bushehr-Iran. African Journal of Biotechnology, 11(57), 12088-12093.

[2] Reddy, M. K., Rani, H. D., Deepika, C. N., Samrawat, S., Akshara, V., & Rajesh, K. (2017). Study on physicochemical properties of oil and powder of date palm seeds (Phoenix dactylifera). Int J Curr Microbiol App Sci, 6(12), 486-492.

[3] Al-Shahib, W., & Marshall, R. J. (2003). Fatty acid content of the seeds from 14 varieties of date palm Phoenix dactylifera L. International journal of food science & technology, 38(6), 709-712.

PREVALENCE OF SUPERNUMERARY DIGITAL FLEXION CREASES IN A NIGERIAN POPULATION

Jaiyeoba-Ojigho Jennifer Efe, John Onyekachi Samuel, Eto Gift Oke

Delta State University, Faculty of Basic Medical Sciences, Department of Human Anatomy, Abraka, Nigeria

ORCID NO: 0000-0002-5921-0876

ABSTRACT

Several studies have being carried out on fingerprints, palmar crease variation, plantar creases, with creases on the digits receiving little attention in the literature. Incidences of a high number of supernumerary digital creases have been reported in partial deletions of chromosome, partial trisomy, sickle cell disease, Larsen and cerebro-oculo-facio-skeletal syndrome.This study therefore investigated the prevalence of supernumerary digital flexion creases among the Itsekiri people residing in Delta State, Nigeria. Creases of all digits were obtained with the aid of a Hewlett Placard G4010 photo scanner. Digits were numbered 1D-5D for both hands. Descriptive statistics illustrated the frequencies of creases while a Chi-square test evaluated the association between supernumerary creases and gender at $p<0.05$. The studied population had more supernumerary creases between their proximal and middle creases for the right digits while a higher occurrence was observed between their proximal and distal creases for the left digits (8.4%, 11.2%). The frequency of Supernumerary creases observed between the proximal /distal, middle/distal and, proximal/distal creases for the right digits of males were 10.4%, 8.8%,16.8% and 6.0%, 1.2%, 0.0% for the females. The left digits of males recorded 13.6%, 8.8%, 17.2% and a total of 8.8%, 4.0% , 0.0% were observed among the females. Supernumerary creases found between the middle/distal and proximal/distal creases were sexually dimorphic for both right and left digits (0.001,0.03,0.001,0.001). Just like other dermatoglyphic variables these creases are population dependant, hence are fundamental to anthropologists

Keywords: Extra crease, Middle crease, Proximal crease, Distal crease; Itsekiri

AN EMPIRICAL APPROACH FOR EXPLORING NON-SOCIAL LANGUAGE USE

Tami MEREDITH[1]

Dalhousie University, Faculty of Computer Science, Halifax, Canada.

Maryanne FISHER

Saint Mary's University, Faculty of Science, Department of Psychology, Halifax, Canada

ABSTRACT

There are well known sex differences in language use; for example, women are considered more inclusive while men use more directives. These differences begin early in development, as girls acquire language faster than boys in general, use longer sentences, and have larger vocabularies earlier. Differences also appear in reports from sociolinguists who have identified how speech conveys social information. They document that the topics of discussion, how they are discussed, and how others respond to the information they contain will reflect power, relationships, status, and so on. However, information sharing based only on text that is divorced from social context is novel, in that many of these social factors are removed – meaning that we can focus on sex differences in terms of how people conceptualise information rather than how it is shared and consequently determine whether developmental differences remain. Here we examine a simple task – how people generate Google queries for information. We asked 50 participants to report their search requests to Google for a list of provided topics. Our results indicate minimal sex differences yet highlight how some individuals have difficulty in forming satisfactory queries to obtain information. We found evidence that women are more likely to use less frequently occurring search terms and that men tend to have a relevant solution document positionally earlier in the solution set. We also found support for previous research that showed there is a sex bias due to topic. We discuss new methods that rely on innovative practices and that can be used to examine sex differences in areas such as sociolinguistics.

Keywords: Sex Differences, Information Retrieval, Language Use, Sociolinguistics.

BACTERIOLOGICAL EVALUATION OF EGGS IN NATURAL CONDITION AND DURING STORAGE (COLD) AND BIOCHEMICAL TESTS FOR *SALMONELLA SPP.*. TO KORÇA POULTRY

Dr. Sulltanë Ajçe

Fan. S. Noli University, Agriculture Faculty, Department of Agronutrition, Korça, Albania

ORCID ID: 0000-0000-0000-0000

ABSTRACT

The Eggs are widely used in the food industry and in consumer diets. The egg is well preserved in natural conditions because it has physico- chemical protectors. If they are cracked and damaged, this natural defense is lowered and the egg becomes a conducive environment for the growth of microorganisms, which endanger the health of consumers. Therefore, it is important that they are safe and microbiologically clean. Egg production (from chickens) in the Korça area is dominated by poultry, but also small producers (village). In this study, the general microflora of eggs on the surface (shell) and inside them was determined. Eggs obtained directly from the production sites were studied: Korça poultry and small farms of villagers stored at room temperature and some of them stored in the refrigerator (cooling). The number of microorganisms on the surface and inside in all samples (selection / incidence method) was compared. The study also consists in determining the pathogenic microflora for Enterobacteriaceae. Biochemical tests were performed to identify the presence of *Salmonella spp.* to eggs. Experimental measurements show: the total microbial load is higher than the surface of eggs inside them. The largest amount of microorganisms was counted on the surface of eggs taken from small farms than from Korça poultry plants. Also, eggs stored in the refrigerator have a lower bacterial load on the surface of the shell than in the refrigerator (Refrigeration). From the analyzed samples it resulted that, there was no presence of *Salmonella spp.*

Keywords: food safety, eggs, poultry, Salmonella spp.

THE GENETIC CHARACTERISTICS OF CANINE DISTEMPER VIRUS ISOLATED FROM INFECTED DOGS AT CAN THO CITY IN THE MEKONG DELTA VIETNAM

Tran Thi Thao[(1)], Tran Ngoc Bich [(2)]Nguyen Khanh Thuan[(3)], Dang Thi Tham[(4)], Van My Tien[(4)]

(1) PhD, D.V.M. in Pathology and Treatment in animals

(2) PhD, D.V.M in Immunology and Epidemiology

(3) PhD, D.V.M in Veterinary Microbiology

(4) Master, D.V.M. in Veterinary Medicine

Department of Veterinary Medicine, College of Agriculture, Can Tho University

ABSTRACT

The study was carried out from April to December 2020 to evaluate the endemicity and determine the genetic characteristics of Canine Distemper virus (CDV). A survey on 1,120 dogs raised in Can Tho city revealed that 150 dogs showed clinical symptoms of Canine Distemper. Canine Distemper was determined to base on the test kit of Rapid Test Immumo supplied by Asan company (Korea). Of 150 dogs examined with the test kit, there were that 68 dogs were positive for *Canine Distemper Virus* (CDV). In which, dogs < 6 month-ages were infected with CDV at the highest rate (68,00%) and there was a significant difference in comparison with other age groups (P<0,05). There were 50% of male and 41,86% female dogs infected CDV. The exotic dogs were infected with CDV higher than domestic dogs, and it significantly differed with other age-groups (P<0,05). Clinical symptoms such as anorectic, moodiness, fever, sneezing, conjunctivitis appeared at 100%. The vaccinated dogs were infected with CDV at a lower rate than the dogs, that were not vaccinated or not enough vaccination, with 6.25%, 80%, and 69.57% respectively. The study on genetic characteristics of 7 representative Distemper virus strains isolated from the infected dogs was conducted via sequencing the H gene. The sequence of nucleotides, amino acids among these strains and the field/vaccine strains published on the GenBank were compared. The results showed that these virus strains could be the same origin and circulated frequently in the study area with a high similarity level (99.82–99.96%). Moreover, the similarity levels on nucleotides of the isolated strains with the other strains on the GenBank were 93.26– 99.56%, and with the vaccine strains on the GenBank were 96.72–97.08%. The Distemper virus strains isolated from the infected dogs in this study belonged to the genotype Asia 1, circulating commonly in Viet Nam and Asian countries. This study contributes the basis information for adjusting and selecting the appropriate vaccines against Distemper disease in Viet Nam.

Keywords: Dogs, Distemper virus, H gene, genotype Asia 1, Can Tho city.

VALIDITY REGISTER IMPLEMENTED BY BLOCKCHAIN TECHNOLOGY FOR GOVERNMENT ORGANISATIONS

Cinthia Paola Pascual Cáceres

University of Alicante, San Vicente del Raspeig, Alicante, Spain

ORCID ID: 0000-0002-9007-6054

Dr. José Vicente Berná Martínez

University of Alicante, San Vicente del Raspeig, Alicante, Spain.

ORCID ID: 0000-0002-9007-6054

Dr. Francisco Maciá Pérez

University of Alicante, San Vicente del Raspeig, Alicante, Spain.

ORCID ID: 0000-0002-2516-4728

Dr. Iren Lorenzo Fonseca

University of Alicante, San Vicente del Raspeig, Alicante, Spain.

ORCID ID: 0000-0003-3597-4836

ABSTRACT

Government information systems are decentralised and hyperconnected to third party data sources and systems. Proper use requires adequate security measures to verify the validity of the information, thus avoiding possible harm to citizens and organisations through the use of erroneous, corrupt or altered data. These systems must be able to prevent problems arising from the incorrect manipulation of registers, avoid vulnerabilities caused by the decentralisation of databases and help to maintain the integrity of information. These features must be provided by fast and efficient verification operations, since it is very important for security mechanisms not to hamper the functioning of these large national systems on which the activities of citizens and cities depend. In this work we propose a decentralised registration system for governmental environments based on Blockchain technology. Using this mechanism is able to provide the same security as transaction registers in distributed databases, but allows for load balancing as a decentralised system. The proposal facilitates fast and efficient validation operations, and adds blockchain's mechanisms to maintain the integrity of information. To guarantee the immutability of data, it is proposed to use blockchain technology, specifically addressing the problems of detecting changes to structures or data in distributed government databases. Detection would be achieved by verifying a digital signature stored in the blockchain associated to data, so if data is modified, its digital signature would be incorrect. This system would guarantee government system data cannot be altered and can replace other centralised certificate systems, contributing to the computing efficiency of network.

Keywords: Blockchain, Data Veracity, Governmental Database, Security.

SOLUTION OF VARYING FREQUENCY AND TIE LINE POWER OF GENERATING STATION

Ashish Dhamanda

Gurukula Kangri (Deemed to be University) Haridwar, UK, India

ABSTRACT

In recent years, major changes have been introduced into the structure of electric power utilities all around the world. The successful operation of interconnected power system requires the matching of total generation with total load demand and associated system losses. As the demand deviates from its normal value with an unpredictable small amount, the operating point of power system changes, and hence, system may experience deviations in nominal system frequency and scheduled tie line power exchanges to other areas, which may yield undesirable effects. In this paper presents PID and Fuzzy techniques has been used to solve the frequency and corresponding tie line power variation problem. PID technique is the traditional technique, whenever fuzzy help to circumvent the need for rigorous mathematical modeling. Simulink model of thermal generating system has been taken to controlled by Fuzzy, PID techniques. In thermal system highly purified water in the boiler is converted into superheated steam which is passed through several turbine stages on the shaft of a turbo generator. Comparative results shows that the Fuzzy techniques gives effective and efficient results with respect to the PID techniques by providing constant supply.

Keywords: Frequency, Thermal Generating System, Fuzzy Technique, Power, Demand Deviation.

SYNTHESIS, CRYSTAL STRUCTURE AND CATALYTIC/ADSORBENT ACTIVITIES OF $[Ni(N_2H_5)_2(C_2O_4)_2].H_2O$

Mohamed Akouibaa[1], Hicham Oudghiri Hassani[1], Najlaa Hamdi[1], Rachid Ouarsal[1], Souâd Rakib[1], Mohamed Khaldi[1], Brahim El Bali and Mohammed Lachkar[1]

[1]Engineering Laboratory of Organometallic and Molecular Materials, Faculty of Sciences,University Sidi Mohamed Ben Abdellah, Fez, Morocco

ABSTRACT

A new hydrazinium nickel oxalate complex $[Ni(N_2H_5)_2(C_2O_4)_2]. H_2O$ has been successfully synthesized under ambient conditions. The complex was characterized by single crystal X-ray diffraction, Fourier Transform Infrared spectroscopy (FTIR) and thermogravimetric analysis (TG-DTA). From the single crystal X-ray structure of the complex shows the presence of discrete $(N_2H_5)_2^{2+}$ cations, $[Ni(ox)_2]^{2-}$ anions, and a water molecule. In the anion, the nickel atom displays octahedral coordination with two bidentate oxalate groups occupying the equatorial plane, while the axial positions are filled by hydrazinium cations. The crystal structure belongs to the monoclinic, space group $P2_1/c$ (no. 14), with unit cell parameters a = 5.5996(3) Å, b = 14.6337(6) Å, c = 7.3201(3) Å, β = 108.121(5)°, V = 570.08(5) Å3, Z = 4. The prepared nickel oxalate exhibited high catalytic performance as a sorbent for methylene blue (MB) dye in aqueous solutions and as a catalyst for the oxidation and degradation of methylene blue with hydrogen peroxide.

Keywords: Crystal structure; FT-IR; TGA-DTA; Catalysis

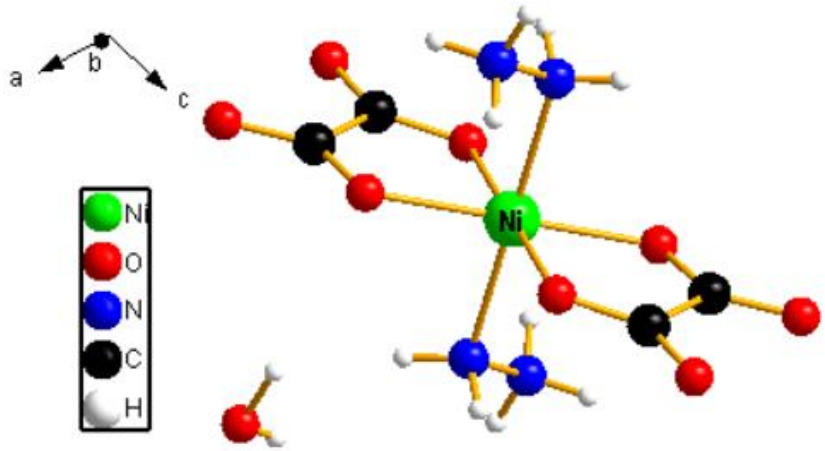


Figure. Perspective view of the symmetric unit of **[Ni**$(N_2H_5)_2(C_2O_4)_2].H_2O$ with the atom numbering.

THE ROLE OF SOCIAL CAPITAL ON THE RESILIENCE OF RURAL SETTLEMENTS AGAINST FLOOD RISK (STUDY AREA OF MIAN JAM RURAL DISTRICT, TORBAT-E JAM CITY, KHORASAN RAZAVI PROVINCE. IRAN)

Ehsan Abdi

Masters student in rural Geography of Ferdowsi university of Mashhad. Mashhad. Iran.

Khadijeh Bouzarjomehri

Associate Professor in Rural Geography, Ferdowsi University of Mashhad. Mashhad. Iran

Maryam Ghasemi

Assistant Professor in Rural Geography, Ferdowsi University of Mashhad. Mashhad. Iran

ABSTRACT

Assessing and evaluating the resilience of villages against natural hazards such as floods is one of the most important requirements and necessities that are of special importance in the sustainability of these communities. Accordingly, in the city of Torbat-e Jam, due to the existence of numerous rivers and topographic conditions of the villages, we witness the occurrence of numerous floods every year, which poses dangers. The purpose of this study is to investigate the role of social capital of the people of this region on the resilience of rural settlements against flood risk. The research method is descriptive-analytical and the statistical population includes the villages that are most at risk of flooding. Through local research and consultation with regional managers and experts, 10 villages were selected with a total of 1948 households. Based on Cochran's formula with an error of less than 0.06, 240 sample volumes were obtained, which was completed by simple random sampling questionnaire from the head of the household. SPSS software and one-sample t-test were used for data analysis. Confirmatory factor analysis was used to fit the measurement models and structural equation modeling was used to fit the research model. Findings showed that in the dimension of social capital, the components of participation with an average (4), social cohesion with an average (4.4) were very high and social awareness with an average (1.3) was significantly significant (Significance level is less than 0.05). But the component of social trust with an average of 2.7 is lower than the average and significant. In terms of resilience, only the average physical component of the environment (3.6) is higher than the average and significant, but the average of economic components (1.9), social (4.4) and institutional (2.7) is above average. They became less and more significant. Findings also showed that the variable of social capital had a significant positive effect on resilience at the level of 99% confidence (critical ratio equal to 7.72 which is more than 2.56), i.e. with increasing the variable of social capital, the resilience of settlements Rural area increases against flood risk (standard coefficient of correlation is equal to 47.0 and is significant). Finally, the results of analysis of variance test showed that the mean of resilience variable is different among the villages of the region ($F=6.25$ & $P<0.01$), so that the results of Benfroni post hoc test showed that Qom Nomirza village (41. 2) It had the lowest rate of resilience among the sample villages.

Key words : Resilience, social capital, rural settlements, flood risks, Miyan Jam village of Torbat Jam city. Khorasan Razavi Province. Iran.

USING SMART AGRICULTURE TECHNIQUES FOR IMPROVING CROP PRODUCTION

DEEPA SONAL

Department of Computer Science, V.K.S. University, Arrah-802301, India

[2]SHAILESH KUMAR SHRIVASTAVA

Scientist-F & Head, DGRC, NIC, STPI Campus, Patna-800013, India

BINAY KUMAR MISHRA

Director, Department of Computer Science, V.K.S. University, Arrah-802301, India

ABSTRACT

As the population is growing day-by-day, the living area of the people is also increasing. The space used for spending their livelihoods has been extending. As a result, the land used for agriculture is shrinking slowly. This situation is emphasizing pressure on agriculture techniques. We have to use such a technique that can increase the productivity. Along with the Smart agriculture techniques, we also have to protect the crop from destruction. Crop destruction causes a huge amount of crops to be destroyed every year. As a result, IoT solutions can assist us in effectively protecting our crops from harm. In this research paper, we have proposed a model using new smart agricultures techniques that are transforming the face of traditional farming by improving and protecting it from intimidations such as locust, animal and fire, while also making it more cost-effective for farmers. Crop protection techniques using IoT can lead us to increase net productivity of Agriculture.

Keywords: Crop protection, IoT Techniques, Smart Agriculture, Locust & Animal attacks, Crop destruction

INVESTIGATION OF OIL POLLUTION IN THE SEA IN LIBYA

Abubaker Hussin Alsharif

Kastamonu University Faculty of Engineering and Architecture, Department of Environmental Engineering, Kastamonu- Turkey

ORCID NO: 0000-0002-0212-5339

Aydın Türkyilmaz

Kastamonu University Faculty of Engineering and Architecture, Department of Environmental Engineering, Kastamonu- Turkey

ORCID ID: 0000-0002-9379-9995

ABSTRACT

Petroleum refers to marine gasoline diesels, including crude oil released from oil-refined petroleum products (gasoline and petroleum products), from accidental or intentional discharges of liquid petroleum hydrocarbons from open platforms. Long-term commercial business owner on petroleum products production environment and social economy. This type of pollution has deadly effects on sea creatures, especially sea-dwelling microorganisms, plankton and fish. Many studies and researches are carried out to prevent such pollution in the world. In this study, physical and chemical characterization was carried out on the coastline extending from the oil industry in the city of Zawia in the east of Libya to the town of Zuwarah in the west. It was also included in the sampling and sampling process in the towns of Surman, Aliilat and Sabratah. By collecting samples from seawater and beach sand, a case study was carried out to clarify the stage of oil pollution by measuring the characterization, heavy metals and TPH concentrations. As a result, it was started that TPH values and heavy metal pollution were below the detection limits. it relays on that petroleum comes from remain parts of plants that buried in the sedimentary layers of the earth.

Under the weight of overlying rock layers, layers of salt will push their way toward the surface in salt domes and ridges. Oil and gas are trapped in folds and along faults above the dome and within upturned porous sandstones along the flanks of the dome. occur when an impermeable rock surrounds an accumulation of hydrocarbon (oil and gas) in an impermeable rock. This kind of trap is difficult to locate from the surface and requires subsurface exploration techniques. In order for the hydrocarbon to be accumulated after migration from the source rocks, a special geological structures called (traps) have to be existed at the end of the migration path for hydrocarbon accumulation. A hydrocarbon (oil and gas) reservoir has a distinctive shape, or configuration, that prevents the escape of hydrocarbons that migrate into it.

Keywords: Oil, Libya, Zawia, Oil Pollution, Heavy Metal, TPH

OSTEOPOROSIS AND EDUCATION

Radka Tomova[1, 2*], Mariana Nikolova[3], Svetla Asenova[1], Miglena Slavova[4, 5]

[*1] Medical University – Pleven, Faculty of Pharmacy, Department of Chemistry and Biochemistry, Pleven, Bulgaria

[2]Shumen University "Konstantin Preslavski", Faculty of Natural Sciences, Department of Chemistry, Shumen, Bulgaria

[3]Conceive Clinic – London, United Kingdom

[4]Institute of Electrochemistry and Energy Sources, Bulgarian Academy of Science, Sofia, Bulgaria

[5]Todor Kableshkov University of Transport, Faculty of Transport Management, Department of Machine Elements and Chemistry, Sofia, Bulgaria.

ABSTRACT

In this paper, it is discussed how lifestyle during the teenage years can affect genetic predisposition towards the development of osteoporosis. The inclusion of this topic in the high school curriculum would reinforce students' health education. It would contribute towards building healthy dietary habits among adolescents and preventing osteoporosis in later stages of their lives. Furthermore, it would present a practical purpose of the knowledge gained in Chemistry and Biology classes.

In this article, an overview is presented of the physiological role of some biogenic elements and radicals, which determine bone structure and are part of the Chemistry and Biology high school curricula. Discussed are the causes of the formation of free radicals in the body, which cause the emergence of oxidative stress - one of the factors, which change the concentration of the bioelements calcium, phosphorus, magnesium, copper, and zinc in the body, and speed up the development of osteoporosis. Implemented is the idea of natural antioxidants - substances that deactivate free radicals and decrease oxidative stress.

Keywords: osteoporosis, bioelements, radicals, oxidative stress, education.

DEFECTIVE ONE-DIMENSION PERIODIC SYSTEM FOR FILTERING AND DEMULTIPLEXING

Yassine Bouchafra[2*], Youssef Ben-Ali[1,3], Ilyass El Kadmiri[1], Zakarea Rahou[3], and D. Bria[1]

[1]Laboratoire des Matériaux, Ondes, Energie et Environnement, Equipe des Ondes, Acoustique, Photonique et Matériaux, Faculté des Sciences, Université Mohamed Premier, Oujda, Maroc.

[2]Laboratoire PLMC, Faculté des Sciences et Technologies, UPEC, 94010 Créteil cedex.

[3]Engineering Sciences Laboratory (LSI), Multidisciplinary Faculty of Taza, Sidi Mohamed Ben Abdellah University, B.P. 1223, Taza, Gare, Morocco.

ABSTRACT

This work contributes in the study of electromagnetic waves propagation and interaction within periodic and one-dimension photonic crystals. It includes periodic multilayer structure and single mode star waveguides based on coaxial cables. Detailed Green function's-based calculations allowed us to determine dispersion equation, transmission and reflection coefficients, and other time and velocity quantities.

Firstly, magnetic waves propagation in a defective multilayer system. The localized modes and their interactions are then presented. It's found that the defect thicknesses and inter-distances have significant role to play. This system can be used for detecting domain.

In the case of the doubly-defective star waveguides (Fig. 1) based on coaxial cables, defect modes existence and their mutual interaction are highlighted. These localized states are found to be sensitive to the defect positions and, therefore, the corresponding behaviors are exhibited. We demonstrated also, that similar structures are relevant to filtering and demultiplexing applications.

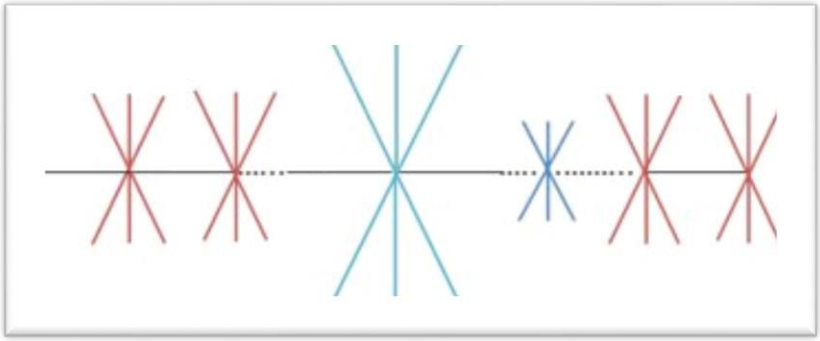


Figure 1: Doubly-defective star waveguides based on coaxial cables.

Keywords: photonics, multilayer systems, star waveguides, localized states, filters, demultiplexers.

ONE-DIMENSIONAL DEFECTIVES PERIODIC COMB-LIKE BASED ON QUANTUM WIRES FOR GUIDING AND FILTERING

Siham Machichi[1], Yassine Bouchafra[2], Youssef Ben-Ali[1,3], Ilyass El Kadmiri[1] and Driss Bria[1]

[1]Laboratoire des Matériaux, Ondes, Energie et Environnement, Equipe des Ondes, Acoustique, Photonique et Matériaux, Faculté des Sciences, Université Mohamed Premier, Oujda, Maroc.

[2]Laboratoire PLMC, Faculté des Sciences et Technologies, UPEC, 94010 Créteil cedex.

[3]Engineering Sciences Laboratory (LSI), Multidisciplinary Faculty of Taza, Sidi Mohamed Ben Abdellah University, B.P. 1223, Taza, Gare, Morocco.

ABSTRACT

In this work, the transfer of the electrons through a perfect one-dimensional comb-like waveguide electronic structure is shown to present a novel physical phenomenon. This system contains a periodicity of cells; each cell is composed of finite segment that grafted in its extremity by one resonator. These segments and resonators are the quantum wires. This perfect structure consists of electronic pass bands separated by large electronic band gaps where the propagation of electrons is forbidden. Due to the presence of these large gaps, the electrons can be controlled and manipulated by a wide range of applications.

On the other hand, the presence of defects inside this structure, leads to the appearance of two or three very narrow localized states inside gaps with a very important transmission rate. We have shown that the produced localized states depend strongly on the defect lengths and theirs position. The band structure and the transmission spectra are calculated by using the transfer method matrix. The obtained results provide a good support for guiding and filtering applications.

Keywords: resonators, Comb-Like, Defects, Filters, Band gaps electronic

CORROSION INHIBITION PROPERTIE OF THREE NEW FERROCENE DERIVATIVES

Mariya Kadiri[1], Riham Sghyar[2], Majid Driouch[1], Mouhcine Sfaira[1], Abdeslem bentama[1], elmestafa elhadrami[1].

[1:] Laboratory of Engineering, Modeling and Systems Analysis, Sidi Mohamed Ben Abdellah University, Faculty of Sciences, Morocco

[2:] Laboratory of Applied Organic Chemistry, Sidi Mohamed Ben Abdellah University, Faculty of Science and Techniques, Morocco

ABSTRACT

The ferrocene derivatives are of importance among the metallocenes for their stability in a biological medium and for their lipophilic, nontoxic, and reversible redox properties. Due to the favorable electronic properties of ferrocene derivatives and their easy functionalization, these compounds have many applications in material science including sensors, catalysts, electro active materials and aerospace materials. Application of corrosion inhibitors is the most economical and practical method to mitigate electrochemical corrosion. From the standpoint of safety, the development of nontoxic and effective inhibitors is very important and desirable. The inhibitive behavior against corrosion of mild steel in 1 M HCl solution was investigated at 298 K, by means of electrochemical impedance spectroscopy, potentiodynamic polarization (PP). The results obtained revealed that the three derivatives act as a mixed type inhibitor. In addition, the impedance spectra obtained in the presence of this compound were characterized by two time constant, the results from the fitting of the experimental data using the following circuit ($R_s+CPE_{dl}/(R_{ct}+CPE_f/R_f)$) also show an improvement in the inhibition efficacy with the increase in the concentration.

Keywords: ferrocene derivatives**,** corrosion inhibitors, electrochemical impedance spectroscopy, potentiodynamic polarization.

TÜRKİYE'DE KÖMÜR MADENCİLİĞİNDE YAŞANAN MADEN KAZALARININ KARŞILAŞTIRMALI ANALİZİ

COMPARATIVE ANALYSIS OF COAL MINING DISASTERS IN TURKEY

İlker İNAN

İstanbul Gelişim Üniversitesi, İstanbul Gelişim Meslek Yüksekokulu, Mekatronik Programı, İstanbul, Türkiye.

ORCID ID: 0000-0001-6151-6690

Ç. İhan AKBULUT

Doğuş Üniversitesi, Meslek Yüksekokulu, Adalet Programı, İstanbul, Türkiye.

ORCID ID: 0000-0002-7197-3876

Umut UZ

İstanbul Gelişim Üniversitesi, İstanbul Gelişim Meslek Yüksekokulu, Mekatronik Programı, İstanbul, Türkiye.

ORCID ID: 0000-0003-4190-7082

Kübra ERDOĞAN

İstanbul Gelişim Üniversitesi, İstanbul Gelişim Meslek Yüksekokulu, Mekatronik Programı, İstanbul, Türkiye.

ORCID ID: 0000-0001-5837-7124

ÖZET

Kömür madeninin kullanımı M.Ö. yüzyıllara dayandırılmaktadır ancak kullanım alanının genişlemesi diğer madenlerle paralel olarak Sanayi devriminden sonra olmuştur. Bu devrimin etkisiyle; kömür, demir, bakır, kalay gibi madenlerin kullanımı artmıştır. Bu madenler arasında kömür madeni; sanayileşmek, makinelere güç sağlamak, elektrik üretmek ve ısınma amaçlı olarak kullanılabildiği için oldukça önemli bir yere sahiptir. Bu alanlarda her geçen yıl artan ihtiyacın karşılanabilmesi için zengin kömür yataklarına sahip olan ülkelerde kömür işletmeleri kurulmuş ve enerji sektörüne hizmet vermiştir. Kömürün, Dünya'da tüketilen enerji kaynakları içerindeki payı kısa sürede artmış ve dünya ekonomisin üzerinde belirleyici bir hale gelmiştir. Bu durum gelişmiş ülkelerin sanayileşme ve ekonomik ilerleme için madencilik sektörüne yönelmeleri ile kömür madeni işletme sayısının artmasına neden olmuştur. Kömür madenlerinde yaşanan kazalar maden sayısının artmasıyla birlikte artış göstermiştir. Bu kazalarla ilgili önlemler alınması için çeşitli çalışmalar yapılsa da hala kazalar meydana gelmektedir. Kaza oluşum sayısının ve etkisinin fazla olmasından dolayı kömür madenciliği riskli bir çalışma alanı olarak görülmektedir. Bu risklerin azaltılması ve sağlıklı iş ortamının sağlanması için; gerekli altyapı oluşturulmalı, denetim odaklı çalışmalar yapılmalı ve bunların sonucuna göre eksiklikler giderilmelidir.

Çalışma kapsamında Türkiye'de sıklıkla yaşanan kömür madeni kazalarının çıkış şekli ve türleri incelenmiş ve bu kazaların oluş nedenleri hakkında literatür taraması yapılmıştır. 2015-2020 yılları arasında oluşan kaza sayıları ve can kayıpları incelenmiş ve gelecek durum analizi yapılmıştır. Durum analizi aşamasında istatistiksel analiz yöntemlerinden Regresyon Analizi Yöntemi kullanılmıştır. 1902 yılından itibaren Dünya ülkelerindeki kömür madeni kazası sayıları ve can kayıpları incelenmiştir. Aynı Analiz Yöntemi kullanılarak 1902-2020 yılları

arasındaki veriler ışığında önümüzdeki 10 yıl için gelecek durum analizi yapılarak kömür madenciliği alanında oluşabilecek kaza sayıları ve can kayıpları ile ilgili veriler elde edilmiştir.

Anahtar Kelimeler: Kömür madenciliği, kömür madeni kazaları, istatistik, regresyon analizi.

ABSTRACT

Use of coal mine is based on centuries, but the expansion of its usage area has been after the Industrial Revolution in parallel with other mines. With the effect of this revolution; The use of minerals such as coal, iron, copper and tin has increased. Among these mines, coal mine; It has a very important place because it can be used for industrialization, powering machines, generating electricity and heating. In order to provide the increasing need in these areas every year, coal enterprises were established in countries with rich coal deposits and served the energy sector. The share of coal in the energy resources consumed in the world has increased in a short time and has become a determining factor on the world economy. This situation has led to an increase in the number of coal mine enterprises, with developed countries turning to the mining sector for industrialization and economic progress. Accidents in coal mines have increased as the number of mines has grown. Despite the fact that numerous studies have been conducted to prevent these accidents, accidents still occur. Coal mining is regarded as a hazardous work environment due to the high frequency of accidents and their consequences. To minimize these risks and ensure a healthy working environment, the required infrastructure should be established, audit-oriented studies should be conducted, and flaws should be remedied based on the findings.

Within the scope of the study, the way and types of coal mine accidents, which are common in Turkey, were investigated, as well as a literature analysis of the reasons of these accidents. The number of accidents and casualties between 2015-2020 were examined and a future situation analysis was made. Regression Analysis Method, one of the statistical analysis methods, was used in the situation analysis phase. The number of coal mine accidents and fatalities in countries around the world since 1902, has been studied. By using the same Analysis Method, the future situation analysis for the next 10 years was made in the light of the data between 1902-2020, and data on the number of accidents and casualties that may occur in the coal mining area were obtained.

Keywords: Coal mining, coal mine accidents, statistics, regression analysis.

NUTRITIONAL COMPOSITION AND HEALTH BENEFITS OF PUMPKIN (*Cucurbita Pepo* L.) SEED

Dr. Muhammad Imran

Department of Food Science, Faculty of Life Sciences, Government College University, Faisalabad, Pakistan

Mr. Muhammad Abdul Rahim

Department of Food Science, Faculty of Life Sciences, Government College University, Faisalabad, Pakistan

Dr. Muhammad Nadeem

Department of Dairy Technology, University of Veterinary and Animal Sciences, Lahore, Pakistan

ABSTRACT

Pumpkin (*Cucurbita pepo* L.) seeds are found in the oval and flat shapes. The seed husk is white while the green seed comes out after removing the husk. The pumpkin seed (PS) contained 40% to 50% oil content in which essential fatty acids (omega-3 and omega-6 fatty acids) are naturally present in higher amount. The linoleic acid concentration ranged from 6% to 22% of the pumpkin seed oil fatty acids composition. The PS are rich source of protein, carbohydrates, minerals, vitamins, and many other nutrients. The PS contains 26% to 31% of protein, 13% to 16% of carbohydrates and 2% to 3% of other dietary fiber, respectively. The PS also contained the bioactive compounds such as, phenolic antioxidants, essential mineral, xanthophyll, and dihydroxybenzoic acid. The PS is used as a functional compound in the pharmaceutical, nutraceutical, cosmetic, and food industries. The PS has been reported as good for eye, bone, hair, skin, boost mental and heart health. The intake of PS improves the digestion process, liver function, body weight loss, male baldness, and healthy during pregnancy. The PS also prevents or reduces intestinal infection, insomnia, urinary tract infection, effect of type 2 diabetes, inflammation, menstrual migraines and depression. The PS is very useful in treating various conditions and it offers promising health benefits.

Keywords: Pumpkin Seed Oil, Nutritional Composition, Bioactive Compounds, Health Potentials

EFFECT OF SUPPLEMENTING PROTEASE ENZYME TO JAPANESE QUAIL DIETS ON GROWTH PERFORMANCE AND CARCASS TRAITS

Nguyen Thao Nguyen[1], Khang Vu Dang[1], Khang Thi Kim Nguyen[1]

[1]Faculty of Agriculture, Cantho University, Vietnam

ABSTRACT

The effect of protease enzyme supplementation in the diet of Japanese quails were determined on the production performance and carcass yield from 1-35 days of age. In a completely randomized design involving three replicate pens of 36 a day-old quails assigned to each of four treatments. The treatment diets were: (1) Control (Con) contained a basal diet without additive; (2) P120 contained the basal diet plus 100mg protease/kg of feed; (3) P125 contained the basal diet plus 125mg protease/kg of feed; and (4) P150 contained the basal diet plus 150mg protease/kg of feed. There was a slightly increasing trend in body weight (BW) and body weight gain with supplementation of 125 and 150 mg protease in the diet during the growing period ($p>0.05$). Moreover, the feed conversion ratio (FCR) of the protease supplementation groups were more efficient ($p<0.05$) throughout the 22-35 days of experimental period. The P125 treatment increased carcass weight, leg meat weight, leg meat yield and gizzard weight significantly ($P<0.05$) compared with the negative control group at 35 days of age. It is possible suggested that supplementation of 125mg protease/kg feed to improve the growth performance and carcass yield of Japanese quails.

Keywords: Protease enzyme, production performance, carcass yields

INVESTIGATION OF ELECTROCHEMICAL PERFORMANCE OF PZT MATERIALS IN Li-ION AND Na-ION BATTERIES

M. Taha Demirkan[1,*], Mehbare Dogrusoz[2,3], Rezan Demir-Cakan[2,3]

[1]Department of Material Science and Engineering, [2] Department of Chemical Engineering, [3] Institute of Nanotechnology, Gebze Technical University, KOCAELİ, TURKEY

*Corresponding Author: Gebze Technical University, Malzeme Bil. Ve Muh. 117, 41400 Kocaeli, Turkey

*ORCID ID: 0000-0002-5041-5680

ABSTRACT

PZT materials have varied applications in many different areas as they are one of the most common type of piezoelectric materials. The electrochemical activity of PZT materials as anodes and cathodes for lithium-ion (Li-ion) and sodium-ion (Na-ion) batteries were studied using electrochemical and physical characterization methods such as CV, XRD and capacity tests. Tests focused on the capacity contribution of these materials as electrodes. The electrochemical activity of PZT materials as anodes for both type of batteries was shown to be is evident while very little-to-no electrochemical reactivity was observed in the case of cathodes. After 250 cycles, specific capacity values were found to be 200 mAh/g for Li-ion battery and 100 mAh/g and Na-ion battery systems. Comparing the specific capacity of battery grade PbO material to PZT materials, PZT is found to be a good anode candidate where it shows higher capacity values then PbO materials. Similar oxidation/reduction peaks between PbO and PZT materials were detected in the experiments meaning that PbO in the structure of PZT materials degrades and involves in the electrochemical reactions as it seems to be the main capacity source.

KEYWORDS: PZT Materials, Anodes, Li-İon Batteries, Na-İon Batteries

AGROFORESTRY TRANSITION AS AN ALTERNATIVE TO ECOLOGICAL MANAGEMENT IN CAATINGA BRASILEIRA, PIAUI, BRAZIL

Davi Leal dos Santos Barbosa[1*], Daniel de Moura Silva[2], Karoline de Sousa Almeida[1], Eduardo Lima de Sousa Júnior[1], Bruna de Freitas Iwata[3]

[*1]Instituto Federal do Piauí, Graduandos em Tecnologia em Gestão Ambiental, Teresina-PI, Brasil

[2]Universidade Estadual do Piauí, Graduando em Engenharia Agronomica, Picos-PI, Brasil

[3]Instituto Federal do Piauí, Dra. Ciência do Solo, Docente dos cursos de Tecnologia em Gestão Ambiental e Mestrado profissional em Análise e Planejamento Espacial, Teresina-PI, Brasil

ABSTRACT

An exclusively Brazilian biome, the Caatinga shows extreme resilience of its fauna and flora to the climatic adversities in the predominates area. Commonly grown in a conventional way, methods that have made it more susceptible to degradation. Added to this, it is also known that vegetation has great interference in the quality of soil ecosystems, as it protects them from weathering processes, ensures the life of macro and microfauna, regulates temperature, preserves moisture and deposits litter that decomposes in nutrients to the soil. Seeking alternatives for ecological management for the caatinga of Piauí and in order to introduce a system of soil conservation and ecosystem recovery, this study aimed to characterize the agroforestry transition area in semiarid. A phytosociological survey was carried out in order to extract information associated with ecological relationships capable of adding properties similar to a natural caatinga ecosystem to the cultivation environment. The study was carried out in an area located at Valença do Piauí, Brazil, (S 6°24'18.42" and W 41°44'17.42") in a forest stretch of Caatinga (50x50 m), approximately 90 years old. conservation, located in the semiarid region of Piauí (S 6°32'19.91" and W 41°47'05.60"), bordering the conventional cultivation area with 95 years of intercropping grain production. The study adopted as methodology the quantitative and qualitative survey on the total number of individuals, number of species, total height (Ht), commercial height, circumference at breast height and data on the plant health of the vegetation. Only shrub tree composition with circumference at breast height (CAP ≥ 10cm) at 1.30m above the ground was collected. The total height (Ht) and crown height were measured using a gauge stick. 105 individuals of approximately 11 distinct genera were identified, with an average height of 7.2 m and basal area of 0.030 m², the individuals presented vegetation with good phytosanitary status, with a low rate of injuries, almost endangered species were identified (Handroanthus impetiginosus (Mart. Ex. DC), the soil cover showed evident litter, wood burning point for charcoal production was located, with signs of recovery and presence of roots, small local farmers highlighted the presence of bees. the presence of vegetation bordering the conventional system showed resilience capable of supporting the implementation of an agroforestry transition system, not being competitive with conventional crops, contributing to local productivity that is around 0.5t/year in legumes, without the addition of chemical inputs being leftover from a burning period.

Keywords: Agroforestry, ecology systems, semiárido brasileiro

COMPOSTING AQUATIC MACROPHYTES (JUNCUS EFFUSUS) LIKE ALTERNATIVE FOR MECHANICAL CONTROL OF MANAGEMENT IN SURFACE WATER

Davi Leal dos Santos Barbosa[1*], Karoline de Sousa Almeida[1], Eduardo Lima de Sousa Júnior[1], Bruna de Freitas Iwata[2]

[*1]Instituto Federal do Piauí, Graduandos em Tecnologia em Gestão Ambiental, Teresina-PI, Brasil.

[2]Instituto Federal do Piauí, Dra. Ciência do Solo, Docente dos cursos de Tecnologia em Gestão Ambiental e Mestrado profissional em Análise e Planejamento Espacial, Teresina-PI, Brasil.

ABSTRACT

The progressive population growth and the current way of life in large cities, the inappropriate occupation places and the increase in activities industrial intensifies the use of water resources in terms of consumption and disposal of effluents into water bodies. The lacustrine environments have their own characteristics, one of them is that they do not have direct communication with other bodies, so they are more influenced as a result of the impacts of anthropic actions. Studies point to the use of aquatic macrophytes in the treatment of effluents, in the removal and/or reduction of nutrients, as well as their use as bioindicators for the assessment of lacustrine environments. Thus this work aimed to carry out the composting of aquatic macrophytes as an alternative for managing their biomass and mechanical handling in surface bodies. Specimens for this study of macrophytes (Juncus effusus) were collected in the first half of 2019, immediately to the rainy season, due to the greater volume of water in the collected aquatic environment and greater proliferation of macrophytes in a lake located in the Lagoas do Norte Environmental Park. The material was collected, the compost was handled for 45 days in perforated plastic buckets, with weekly and fortnightly evaluations of the quality of the material, the temperature and humidity factor, as well as the behavior of biomass (volume), weed organisms and evaluation of survival and maintenance of earthworms. The results in relation to biomass presented a considered volume of compost, low to irrelevant presence of weeds, good performance in the maintenance of earthworms, offering conditions for reproduction, pointing out a potential use of residues from macrophytes. Regarding the physical variables of the soil, it was found that the average temperature ranged between 29-30°C, with good maintenance of moisture and low loss to the environment (keeping 89%). So the biocompost produced from macrophyte biomass offers an excellent alternative for managing this material.

Keywords: Water bodies, plant biomass, sustainable management.

A NEW TREND: SUPERFOODS

Assist. Prof. Dr. Gülten ŞEKEROĞLU

Gaziantep University, Vocational School of Technical Sciences, Food Processing Department, Gaziantep, Türkiye

ORCID ID: 0000-0002-5499-1028

Assist. Prof. Dr. Oya ÖZKANLI

Gaziantep University, Tourism Faculty, Gastronomy and Culinary Arts Department, Gaziantep, Türkiye

ORCID ID: 0000-0002-0960-2425

Res. Asst. Dr. Dilek BÜYÜKBEŞE

Gaziantep University, Science and Art Faculty, Chemistry Department, Gaziantep, Türkiye.

ORCID ID: 0000-0002-2344-8663

Prof. Dr. Ahmet KAYA

Gaziantep University, Engineering Faculty, Food Engineering Department, Gaziantep, Türkiye.

ORCID ID: 0000-0001-6960-3780

ABSTRACT

There are no clear guidelines or legal definition for establishing what constitutes a superfood. Most of the scientists think that superfood is more of a marketing term for foods that have health benefits. It cannot be expected from a single food or a superfood to provide all the components needed in the diet. Many new and tropical fruits and vegetables or ancient grains are sold as superfoods after being brought to markets, even without scientific confirmation of remarkable nutrient content. Food labeling is extremely important in order to inform consumers correctly and not to adversely affect their choices. Most of the consumers and producers agree that there is a need for legal regulations on this issue. Originally the term superfood is used for functional foods. Superfoods are mostly plant origin and contain a variety of nutrients including antioxidants, phytochemicals and essential fatty acids. They are also rich sources of vitamins, natural fiber and minerals. Dark green leafy vegetables such as spinach, Kale and broccoli, berries, nuts and seeds, pomegranate, kefir and yogurt, green tea, matcha, moringa and spirulina are some examples of superfoods. These days, an increasing number of people are adopting a better lifestyle and eating a diet rich in nutrients that promote good aging. Bioactive compounds from food have a significant role in disease prevention and science is increasingly concentrating its powerful resources on figuring out how food ingredients might improve our health. When discussing the health implications of superfoods, sustainable food goals should not be overlooked either

Keywords: superfoods, functional foods, nutraceutical, superfruits

HEALTH BENEFITS AND USAGE OF CAROB FRUIT IN FOOD INDUSTRY AND GASTRONOMY

Assist. Prof. Dr. Oya ÖZKANLI

Gaziantep University, Tourism Faculty, Gastronomy and Culinary Arts Department, Gaziantep, Türkiye.

ORCID ID: 0000-0002-0960-2425

Res. Asst. Dr. Dilek BÜYÜKBEŞE

Gaziantep University, Science and Art Faculty, Chemistry Department, Gaziantep, Türkiye.

ORCID ID: 0000-0002-2344-8663

Assist. Prof. Dr. Gülten ŞEKEROĞLU

Gaziantep University, Vocational School of Technical Sciences, Food Processing Department, Gaziantep, Türkiye

ORCID ID: 0000-0002-5499-1028

ABSTRACT

Not only Brillant-Savar but food scientists and technologists have the notion of "We are what we eat" during the researching the effects of food ingredients on the health and quality of life. The content of the nutrition pyramid has been updated by the Food and Nutrition Institute in 2016. According to this updating, consumption of carbohydrates, meat and meat products must be decreased but instead of these groups, functional alternative food components must be used in nutrition programs. There is also an increase in the consumption of non-dairy products derived from plants for their peculiar characteristic compared with milk of animal origin. The demand for vegetable-based diets increases day after day relating to data about the decrease in numbers of diseases dependent upon usage of this type of foods. Carob fruit is one of the new alternative food which could be used to meet some nutritional values and some functional properties such as anticancer effects, antidiabetic effects, thickening agent, usage in baked products, etc. In this study, the usage of carob fruit and its components was compiled by examining the works done in food science and gastronomy. Carob trees grow mostly in Mediterranean regions. All parts could be used separately for different purposes. The seeds are removed to make locust bean gum that includes polysaccharides. For example, in order to thicken the beverages carob polysaccharides are used. Excluding the seeds, the remaining husk includes dietary fibers, proteins, carbohydrates, and minerals. This part is evaluated in several usages. For example, ground husk is changed to powder form and used as a flour in many receipts instead of white flour, as a cocoa instead of cocoa in many food applications and gastronomi receipts. Because of the fiber's dark color, it can be used to replace caramel color without bitterness or off flavors. Another usage is in baked products for suppyling better yield and desired rheological properties. Using carob component in order to supply consistency of yogurts made from vegetable-milks is the another example. There was a certain usage of carob fruit's parts in food industry for supplying certain properties to the foods, but also incorporating the health impact into the work by suppying foods from different sources other than basic food groups is a striking phenomenon. Therefore, developing food practices with healthy and up to date ingredients should be more popular in next years.

Keywords: carob, locust bean gum, health benefits, food industry, gastronomy

MEME KÜÇÜLTME CERRAHİ KOMPLİKASYONLARI

BREAST REDUCTION SURGERY COMPLICATIONS

Dr. Öğr. Üyesi Mustafa ÇAPAR

Avrasya Üniversiyesi, Sağlık Hizmetleri Meslek Yüksekokulu, Trabzon, Türkiye

ORCID ID: 0000-0002-9336-8749

ÖZET

Meme küçültme cerrahisindeki temel amaç; meme büyüklüğünün neden olduğu semptomları azaltmak ve estetik olarak kabul edilebilir bir meme görünümüne sahip olunmasını sağlamaktır. Meme küçültme cerrahisi için başvuran hastaların temel şikayetleri; meme dokusunun fazlalığına-ağırlığına bağlı olarak oluşan; sırt- boyun ağrısı, sutyen askılarının oluşturduğu çöküntüler ve meme altındaki derinin irritasyonuna bağlı semptomlar gibi yakınmalardır. Hastalar uzun yıllar boyunca gerek psikolojik gerek fiziksel olarak bu durumdan çok yorulmuş olabilirler. Meme küçültme ameliyatlarında, ameliyat sonrasında oluşabilecek komplikasyonları önlemede ve tahmin etmede en önemli kriter; hastanın tıbbı öyküsünün oldukça ayrıntılı alınmasıdır. Hastada hipertrafik skar veya kelloid riski olması, ameliyat sonrası kötü yara iyileşme riskini arttırır. Aynı şekilde hastada şeker hastalığı olması, ameliyat sonrası dönemde enfeksiyon riskinin artmasına yol açabilir. Obesitenin ameliyat sonrası komplikasyonlar da ki etkisi tam olarak bilinmemektedir. Fakat vücut kitle indeksi 30 un üzerinde olan hastalarda; gecikmiş yara iyileşmesi, seroma, enfeksiyon, deri nekrozları, hematoma, yağ nekrozu, apseler ve hipertrofik skar gibi komplikasyonlar daha sık olarak görülebilmektedir. Bu faktörlere ek olarak hastanın sigara içiyor olması komplikasyon oranını belirgin olarak arttırmaktadır. Meme küçültme ameliyatı öncesi sigaranın yol açtığı komplikasyon oranını azaltmak için, ne kadar bir süre geçmesi gerektiği tam olarak bilinmese de, ortalama olarak ameliyat öncesinde bir ay, sonrasında da bir aylık bir süre için sigara içilmemesi yaygın olarak önerilmektedir. Meme küçültme ameliyatları her ne kadar enfeksiyon, gecikmiş yara iyileşmesi, hipertrofik skar, seroma, yağ nekrozu gibi lokal, tromboemboli gibi sistemik komplikasyonları olan bir ameliyat ise de hastada hem kas-iskelet hem de meme büyüklüğüne bağlı psikolojik semptomları azaltması nedeniyle oldukça yararlı ve sık uygulanan plastik cerrahi ameliyatlarından biridir. Ameliyat sonrası hastanın hayat konforunda arttığından memnuniyet oranları yüksektir.

Anahtar Kelimeler: Meme Küçültme, Cerrahi, Komplikasyon

ABSTRACT

The main purpose of breast reduction surgery is to reduce the symptoms caused by breast size and to have an aesthetically acceptable breast appearance. The main complaints of patients considering breast reduction surgery chronic back, neck pain, deterioration caused by bra straps, and skin irritation under the breasts. Patients are mostly very tired this situation both psychologically and physically for many years.In breast reduction surgeries, the most important criteria in preventing and predicting complications that may occur after surgery is to take a very detailed medical history of the patient. The risk of hypertraffic scar or kelloid in the patient increases the risk of poor wound healing after surgery. Similarly, having diabetes in the patient may lead to a high risk of infection in the postoperative period. The effect of obesity on postoperative complications is not fully known. However, complications such as delayed wound healing, seroma, infection, skin necrosis, hematoma, fat necrosis, abscesses and

hypertrophic scar can be seen more frequently in patients with a body mass index above 30. In addition to these factors, smoking significantly increases the complication rate.Although it is not known exactly how long it takes to reduce the complication rate caused by smoking before breast reduction surgery, it is widely recommended not to smoke for a period of one month before and after the surgery. Although breast reduction surgery is an operation with local complications such as infection, delayed wound healing, hypertrophic scar, seroma, fat necrosis, and systemic complications such as thromboembolism, it is very useful and one of the most common surgical procedure because it reduces both musculoskeletal and psychological symptoms related to breast size. As the patient's life comfort increases after the surgery, the satisfaction rates are high.

Keywords: Breast Reduction, Surgery, Complication

LIPOSUCTION

Dr. Öğr. Üyesi Mustafa ÇAPAR

Avrasya Üniversiyesi, , Sağlık Hizmetleri Meslek Yüksekokulu, Trabzon, Türkiye

ORCID ID: 0000-0002-9336-8749

ÖZET

Liposuction vücut kontur düzeltilmesinde güvenli, basit, efektif olmasından dolayı oldukça sık uygulanan bir yöntemdir. Liposuction vücuttaki birikmiş olan derin ve yüzeysel yağ dokusunun yeniden şekillenmesini sağlar. Sanıldığının aksine zayıflama yönteminden ziyade, vücut konturlarındaki fazla yağları alarak, şekillendirme yöntemidir. Liposuction tek başına uygulandığı gibi meme küçültme, karın germe, kol germe ve bacak germe operasyonları ile birlikte uygulanabilir. Liposuction bir zayıflama yöntemi olmadığından, ameliyat için hasta seçimi yaparken vucüt kitle indeksi oranının 30 ve altında olması daha uygundur. Bu ameliyat çoğunlukla egzersiz ve uygulanmış diyetler sonrasında yok edilemeyen birikmiş yağlardan hastaların kurtulmasını sağlamaktadır. Uygun hasta seçimi ve minimal invaziv teknik uygulandığında komplikasyon oranı oldukça az olmasına karşın, kontur deformiteleri, kalıcı deri renk değişiklikleri, enfeksiyon, emboli, hematoma, seroma gibi komplikasyonları da olabilmektedir. Liposuciton ameliyatı öncesinde; operasyon bölgesinin işaretlenmesi çok önemlidir. Yüz, çene alltı, karın, sırt, kollar, bacaklar, kalça, dizler operasyon bölgesi olarak seçilebilir. Operayon genel anestezi ya da lokal anestezi altında olabilir. Operasyon bölgesine liposuction öncesinde kanamayı azaltmak amacıyla; Klein tümesent solüsyonu verilebilir ve bu bölgede kanüllerin girebileceği ufak insizyonlar açılarak buradan gerekli işlemler yapılabilir. Liposuction genel olarak; özel yapım enjektörlerle ya da güçlü aspiratörlerle uygulanır. Boyun, yüz gibi küçük alanların operasyonlarında enjektörler kullanılabilirken; karın, bacak, sırt gibi geniş alanların alınmasında güçlü aspiratörler kullanılması gerekmektedir. Ameliyat sonrasında, hastaların cerrahları tarafından yapılan tüm uyarı ve önerileri dikkate almaları, ameliyat sonrası iyileşme ve beklentilerin karşılanması hususunda çok önemlidir. Liposuction doğru hasta seçimi ve non invaziv tekniklerle uygulandığında oldukça yüz güldüren, kişinin özgüveni arttıran bir yöntemdir. Son 40 yıldan beri uygulanan liposuction yöntemlerinin sürekli gelişim içinde olması, işlemi en çok tercih edilen estetik cerrahi operasyonu haline gelmiştir.

Anahtar Kelimeler: Liposuction, Yağ dokusu, Estetik Cerrahi

ABSTRACT

Liposuction is a very common surgical procedure for body contour correction as it is safe, simple and effective. Liposuction enables the reshaping of deep and superficial adipose tissue accumulated in the body. Contrary to popular belief, it is a shaping method by removing excessive fat from the body contours, rather than a weight-loss method. Liposuction can be applied alone or in combination with breast reduction, abdomen, and arm and leg stretching operations. Since liposuction is not a weight-loss method, it is more appropriate to have a body mass index of 30 or less for the patient. This surgery mostly allows patients to get rid of accumulated fat that cannot be destroyed after exercise and diets. Although the complication rate is quite low when appropriate patient selection and minimal invasive technique are applied, there are possible complications such as contour deformities, permanent skin color changes, infection, embolism, hematoma, and seroma can also occur.It is very important to mark the operation area before liposuction surgery. The face, under the chin, abdomen, back, arms, legs, hips, knees can be selected as the operation area. General or local anesthesia can be applied for

the operation. Before liposuction, Klein tumescent solution can be given to the operation area to reduce bleeding, and small incisions can be made in this area, where necessary procedures can be performed. Liposuction is generally applied with custom-made injectors or powerful aspirators. While injectors can be used in operations of small areas such as neck and face, powerful aspirators should be used for removal of large areas such as abdomen, legs and back. It is very important for the patients to take into account all the warnings and suggestions of the surgeons after the surgery and to meet the expectations and recovery after the surgery. Liposuction increases the self-confidence of the person when it is applied to the right patient with non-invasive techniques. The continuous development of liposuction methods for the last 40 years has made it the most preferred aesthetic surgery operation.

Keywords: Liposuction, Adipose tissue, Plastic surgery

USE OF VIOLENCE AND SEX CONTENT IN THE PROMOTION OF CRIME WEB SERIES IN INDIA: MIX METHOD TO UNDERSTAND THE MARKETING STRATEGY AND ITS EFFECTS

Ms. CP Rashmi

Assistant Professor (HOD), Department of Journalism and Mass Communication, IES University, Bhopal

Research Scholar, School of Media, Film and Entertainment, Sharda University, Greater Noida

Mr. Lalitank Jian

Assistant Professor, Department of Journalism and Mass Communication, IES University, Bhopal

ABSTRACT

Crime and violence as a genre has always been popular in Hindi Film and Entertainment Industry. Internet era and especially pandemic has popularized with it all the social media entertainment platforms. Channels like YouTube along with other OTT Platforms are offering services where short films, films and webseries are easily accessible at the comfort and safety of home. When it comes to OTT platforms crime webseries it popularity and craze is increasing day by day. Trailers of these webseries play a very important role when it comes to the promotion and decision by the viewers to watch a series. The following paper is a content analysis of the trailers of the top 10 webseries of India. The content of these trailers are studies to understand the strategy that is adopted in designing and presenting these trailers in order to capture and increase the reach. The finding about the content is presented according to the various categories of narratives and styles. A focus group discussion and a survey of (n=321) is also conducted to understand the effect these crime series are having on the views. Finding shows the use of crime and violence in the trailer correlated to the webseries watching decision of viewers. The focus group discussion added the qualitative aspect to the study which provided the viewers perspective about the trailers of these crime series.

Keywords: Crime Web Series, OTT Platforms, Trailers, Focus Group, Marketing Strategy, content analysis

3D MESH MATCHING USING SURFACE DESCRIPTOR AND INTEGER LINEAR PROGRAMMING

Roaa Soloh[1]

[1] LIA Laboratory, Doctoral School of Sciences \& Technology, Lebanese University, AZM Center - Mitein Street, Tripoli - Lebanon

[1] Normandie Univ., UNIHAVRE, LMAH, FR CNRS 3335, ISCN, 76600 Le Havre, France

[1] https://orcid.org/0000-0003-0043-9892

Abdallah ELCHAKIK [2]

[2] Department of Computer Science at Beirut Arab University,Tripoli, Lebanon

[2] https://orcid.org/0000-0002-6859-033X

Hassan ALABBOUD [3]

[3]Lebanese University, Faculty of Economics and Business administration

Head of Common Core Department (including Department of Applied Mathematics),Tripoli, Lebanon

[3] https://orcid.org/0000-0002-8566-488X

Ahmad SHAHIN [4]

[4] Lebanese University, LIA Laboratory, Doctoral School of Sciences & Technology, Tripoli, Lebanon

[4] https://orcid.org/0000-0003-4704-3035

Adnan YASSINE [5]

[5] Normandie Univ., UNIHAVRE, LMAH, FR CNRS 3335, ISCN, 76600 Le Havre, France

[5] Normandie Univ., UNIHAVRE, ISEL, 76600 Le Havre, France

[5] https://orcid.org/0000-0001-6875-072X

ABSTRACT

The widespread of 3D shapes nowadays, gained it huge importance in several fields like computer vision, engineering, image processing, and many others. Its main challenge is the representation of these shapes and projecting them into canonical features referred to as descriptors. The necessity of them appears in different tasks like classification, retrieval, and matching, where they considered as the main step in what follows. Moreover, the matching problem is the core of all other tasks. This is why in this paper we propose a graph matching problem to find a one-to-one correspondence between models, it's obviously known as the NP-hard problem. So, a novel compact feature vector to represent our 3D models is extracted, combining several geometric representative curvatures, it's simple in complexity computational, yet powerful discriminating in the sense of affine transformations. The 3D surface is modeled as an undirected weighted graph, with the Gaussian kernel as a weight function. Integer Linear Programming is used in order to segment our meshes into regions, where we maximized the modularity between vertices, these regions are represented by a single point each, named as key-points, interest points. This ends up for a graph matching problem between the models, treated as a combinatorial optimization problem. We tend to minimize the cost function between the graphs obtaining a one-to-one correspondence. Our experimental

results on a wide variety of meshes demonstrate the feasibility of our proposed approach, the robustness of our method regarding affine transformations like rotation, scaling, translation..), as well as for different poses models, some quantitative results, and classification with retrieval objects are shown.

Keywords: 3D matching, feature descriptors, integer linear programming, graph-theory, clustering

BİR TERMOSTATİK GENLEŞME VALFİNİN FARKLI KLAPE AÇIKLIKLARINDAKİ DEBİSİNİN NÜMERİK YÖNTEM İLE BELİRLENMESİ

DETERMINING THE FLOW RATE OF A THERMOSTATIC EXPANSION VALVE BY NUMERICAL METHOD

Caner SEVER

Ege Üniversitesi, Mühendislik Fakültesi, Makine Mühendisliği, İzmir, Türkiye.

ORCID NO: 0000-0002-2501-3970

Erbil İYİM

Valf Sanayi A.Ş., Organize Sanayi Bölgesi, Kurtuluş Cad. No: 1, Manisa, Türkiye.

ORCID NO: 0000-0001-5969-1369

Aydoğan ÖZDAMAR

Ege Üniversitesi, Mühendislik Fakültesi, Makine Mühendisliği, İzmir, Türkiye.

ORCID NO: 0000-0002-6580-4101

ÖZET

Termostatik genleşme valfleri (TGV), bir çok ticari soğutma sistemlerinde soğutucu akışkan debisinin kontrolü için kullanılmaktadır. TGV'nin içerisinden geçen akış miktarı, klape açıklık oranına göre değişmektedir. Klape açıklık oranı ise, evaporatör çıkışına monte edilen duyarganın hissettiği sıcaklığa göre değişmektedir. Duyarganın hissettiği sıcaklık, kapiler borunun içinde bulunan duyarga akışkanı ile diyaframa iletilir. Diyafram üzerine 3 farklı basınç etki eder. Bu basınçlar, evaporatör basıncı, duyarga basıncı ve yay basıncıdır. Yay basıncı, TGV'nin çalışma süresince sabit olarak kalır ve istenildiği zaman ayarlanabilir. Duyarganın hissettiği sıcaklık yükselirken, duyarga basıncı da artarak, vana iğnesinin vana yuvasından uzaklaşacak ve TGV'nin içinden daha fazla soğutucu akışkan geçişini sağlayacaktır. Duyarga sıcaklığı düştüğünde ise, duyarga basıncı da düşecek ve TGV'nin içinden geçen akışkan miktarı azalacaktır. TGV'nin soğutma sistemlerinde kullanılmasının amacı, soğutucu akışkanın kontrollü şekilde evaporatöre geçişini sağlamaktır. Kompresör girişinde akışkanın sıvı halde olması istenmediğinden, evaporatör çıkışında akışkan tamamen buhar halinde olmalıdır. Bu çalışmada, 10 farklı klape açıklığı için TGV'nin içerisinden geçen akışkanın debisi belirlenmiştir. Tasarlanan modellerin analizleri, sonlu hacimler nümerik yöntemini kullanan ANSYS FLUENT programı yardımıyla gerçekleştirilmiştir. Klape açıklığı, 0,1 mm ile 1 mm arasında değişecek şekilde her bir modelde klape açıklığı 0,1 mm arttırılarak modeller oluşturulmuştur. Analizlerde akışkan olarak, su kullanılmıştır ve sıkıştırılamaz akış olarak kabul edilmiştir. Analizlerde, giriş basıncı her farklı açıklık için 1 bar olarak kabul edilmiştir. Analizlerde, klape açıklığı arttıkça giriş ve çıkış akışkan hızının arttığı belirlenmiştir. Giriş ve çıkış hızındaki artış ise, klape açıklığı arttıkça azalmıştır. Klape bölgesinde, yerel olarak hızlanmalar meydana gelmiştir. Analizlerde giriş basıncı 1 bar sabit iken, klape açıklığı arttıkça çıkış basıncının arttığı gözlemlenmiştir. Sonuç olarak, kütlesel debisinin klape açıklığına bağlı olarak artış gösterdiği ve belirli klape açıklığından sonra ise sabit kaldığı belirlenmiştir.

Anahtar sözcükler: Termostatik Genleşme Valfi, Hesaplamalı Akışkanlar Dinamiği, Nümerik Yöntem

ABSTRACT

Thermostatic expansion valves (TXV) are used to control the flow rate of the refrigerant in commercial refrigeration systems. The amount of flow passing through the TXV varies according to the valve opening rate. Valve opening rate varies according to the temperature felt by the bulb mounted at the evaporator outlet. The temperature felt by the bulb is transmitted to the diaphragm with the bulb fuild inside the capillary tube. Three different pressures act on the diaphragm, these pressures are evaporator pressure, sensor pressure and spring pressure. The spring pressure remains constant throughout the operation of the TGV and can be adjusted at any time. As the bulb temperature increases, the bulb pressure will increase and the needle will move away from the valve seat and it will allow to pass through more refrigerant inside the TXV. When the bulb temperature decreases, the bulb pressure will decrease and the fluid passing through inside the TXV will decrease. The main purpose of using the TXV in refrigeration systems is to provide a controlled passage of the refrigerant to the evaporator. It is undesirable for the fluid to be liquid at compressor inlet so the fluid must be completely vaporized at the evaporator outlet. In this study, the flow rate of the fluid passing through the TXV was determined for 10 different valve opening rate. The analysis of the designed models were carried out with the help of the ANSYS FLUENT program, which uses numerical analysis with finite volume method. Models were created by increasing the valve opening rate 0,1 mm in each model and the valve opening rate varying between 0,1 mm and 1 mm. Water was used as refrigerant fluid in the analysis and it is accepted as incompressible flow. In the analysis, the inlet pressure was accepted as 1 bar for each different valve opening rate. As a result of the analysis, as the valve opening rate increased, the inlet and outlet velocities increased. The increase inlet and outlet velocity decreased as the valve opening rate increased. In the analysis, it was observed that when the inlet pressure was fixed at 1 bar, the outlet pressure increased as the valve opening rate increased. The change in mass flow rate, which is the main purpose of this study, has increased as expected depending on the valve opening rate and remained constant after a certain valve opening rate.

Keywords: Thermostatic Expansion Valve, CFD, Numerical Method

DEKSMEDETOMİDİN-FENTANİL KOMBİNASYONUNUN SIÇAN BEYNİNE ETKİLERİNİN İMMÜNOHİSTOKİMYASAL OLARAK İNCELENMESİ

IMMUNOHISTOCHEMICAL EVALUATION OF THE EFFECTS OF DEXMEDETOMIDINE-FENTANYL COMBINATION ON THE RAT BRAIN

Ali Yücel KARA

İzmir Kâtip Çelebi Üniversitesi, Tıp Fakültesi, Fizyoloji Ana Bilim Dalı, İzmir, Türkiye.

ORCID ID: 0000-0003-3119-8542

Deniz YILDIZ PEHLİVAN

İzmir Kâtip Çelebi Üniversitesi, Tıp Fakültesi, Fizyoloji Ana Bilim Dalı, İzmir, Türkiye.

ORCID ID: 0000-0001-8127-2208

Gülçin DURDAĞI

İzmir Kâtip Çelebi Üniversitesi, Tıp Fakültesi, Fizyoloji Ana Bilim Dalı, İzmir, Türkiye.

ORCID ID: 0000-0002-1163-0767

Selen AKYOL BAHÇECİ

İzmir Kâtip Çelebi Üniversitesi, Tıp Fakültesi, Histoloji ve Embriyoloji Ana Bilim Dalı, İzmir, Türkiye.

ORCID ID: 0000-0001-8820-104X

Erdi KESELİK

İzmir Kâtip Çelebi Üniversitesi, Tıp Fakültesi, Histoloji ve Embriyoloji Ana Bilim Dalı, İzmir, Türkiye.

ORCID ID: 0000-0002-1793-7719

Eser ÖZ OYAR

İzmir Kâtip Çelebi Üniversitesi, Tıp Fakültesi, Fizyoloji Ana Bilim Dalı, İzmir, Türkiye.

ORCID ID: 0000-0003-1805-4149

ÖZET

Amaç: Bu çalışmada, selektif α-2 adrenoseptör agonist madde olan deksmedetomidinin, bir opioid olan fentanil ile çeşitli kombinasyonlarının sıçanların hipotalamus, hipokampüs ve periakuaduktal gri bölgesinde (PAG) yer alan μ-opioid reseptör (MOR) ve α-2 adrenoseptör (α-2 AR) düzeyleri ile p38 MAP kinaz enzim aktiviteleri üzerindeki etkilerinin değerlendirilmesi amaçlandı.

Materyal ve Metod: Otuz altı Wistar albino cinsi erkek sıçan altı eşit gruba ayrıldı: kontrol (salin), Dex 5 (deksmedetomidin 5 μg / kg), Dex 10 (deksmedetomidin 10 μg / kg), Fen 5 (fentanil 5 μg / kg), Dex 5 + Fen 5 (deksmedetomidin 5 μg / kg + fentanil 5 μg / kg) ve Dex 10 + Fen 5 (deksmedetomidin 10 μg / kg + fentanil 5 μg / kg). İlaçlar intraperitoneal yolla uygulandı. İlaç veya ilaç kombinasyonlarının enjeksiyonundan sonra dokularda meydana gelen histopatolojik değişiklikler hematoksilen ve eozin (H&E) boya prosedürü uygulanarak ışık mikroskobunda incelendi. Sıçanların hipotalamus, hipokampüs ve periakuaduktal gri bölgesinde primer antikorlar (anti-MOR, anti-α2 AR, anti-phospho-p38 MAPK) işaretlenerek immünohistokimyasal boyama yapıldı. İmmün ekspresyonlar skorlanarak değerlendirildi. Hiç boyanma yok ise skor 0; birkaç hücre boyalı ise skor 1+ ; boyanma %10'a kadar ise skor 2+ ;

%10-50 arasında ise skor 3+ ; %50'den fazla ise skor 4+ kabul edildi. İstatistiksel analiz SPSS 22 paket programıyla yapıldı. İstatistiksel olarak Ki Kare testi veya Fisher exact test kullanıldı. $p < 0.05$ istatistiksel olarak anlamlı kabul edildi.

Bulgular: Çalışma bulgularımıza göre; Dex 5, Dex 10, Fen 5 ve Dex 5 + Fen 5 gruplarındaki sıçanların hipotalamus, hipokampüs ve PAG bölgesinde bulunan MOR, α-2 AR ve p38 MAP kinaz immünreaktivitelerinde kontrol grubuna göre istatistiksel açıdan anlamlı bir değişiklik gözlenmemiştir. Dex 10 + Fen 5 grubundaki MOR immünreaktivitesi, sıçanların hipotalamusunda diğer tüm gruplara göre, hipokampüsünde kontrol ve Dex 5 grubuna göre, PAG bölgesinde sadece kontrol grubuna göre anlamlı düzeyde artmıştır. Dex 10 + Fen 5 grubundaki α-2 AR immünreaktivitesinin, sıçanların hipotalamusunda kontrol ve Dex 5 gruplarına göre, hipokampüsünde Dex 5 ve Fen 5 gruplarına göre, PAG bölgesinde kontrol, Dex 5 ve Fen 5 gruplarına göre önemli derecede arttığı gözlenmiştir. Kontrol grubuna göre, diğer grupların hipokampüs ve PAG bölgelerindeki p38 MAPK immünreaktivesinde anlamlı bir değişiklik saptanmamıştır. Dex 10 + Fen 5 grubu sıçanların hipotalamusunda p38 MAPK immünreaktivesi Dex 5 ve Fen 5 gruplarına göre anlamlı düzeyde yüksek bulunmuştur.

Tartışma ve Sonuç: Elde ettiğimiz bu sonuçlar, deksmedetomidin-fentanil (Dex 10 + Fen 5) kombinasyonunun farklı beyin bölgelerinde hem MOR hem α-2 AR immünreaktivitesini artırdığını göstermektedir. Her iki reseptörün de aktivasyonu antinosisepsiyon doğuracağından, bu kombinasyonun düşük dozlarda güçlü antinosiseptif etkiler oluşturabileceğinin ileri çalışmalarla desteklenebileceği düşünülmektedir.

Anahtar kelimeler: Deksmedetomidin, fentanil, immünohistokimya, sıçan

Bu çalışma İzmir Kâtip Çelebi Üniversitesi Bilimsel Araştırma Projeleri Koordinatörlüğü tarafından desteklenmiştir (Proje Numarası: 2019-ÖNAP-TIPF-0001).

ABSTRACT

Objective: In this study, various combinations of dexmedetomidine (a selective α-2 adrenoceptor agonist) and fentanyl (an opioid) were used. We aimed to evaluate the effects of drugs on μ-opioid receptor (MOR) and α-2 adrenoceptor (α-2 AR) levels and p38 MAP kinase enzyme activities in the hypothalamus, hippocampus, and periaqueductal gray region (PAG) of rats.

Material and Methods: Thirty-six male Wistar albino rats were divided into six equal groups: control (saline), Dex 5 (Dexmedetomidine 5 μg / kg), Dex 10 (Dexmedetomidine 10 μg / kg), Fen 5 (fentanyl 5 μg / kg), Dex 5 + Fen 5 (Dexmedetomidine 5 μg / kg + Fentanyl 5 μg / kg) and Dex 10 + Fen 5 (Dexmedetomidine 10 μg / kg + Fentanyl 5 μg / kg). The drugs were administered intraperitoneally. The histopathological changes occurring in the tissues after the injection of drug or drug combinations were examined by applying the hematoxylin–eosin staining method and using light microscopy. Immunohistochemical staining was performed by labeling primary antibodies (anti-MOR, anti-α-2 AR, anti-phospho-p38 MAPK) in the hypothalamus, hippocampus, and periaqueductal gray region of the rats. Immune expressions were evaluated by scoring. Scoring was done as follows: if no staining, the score is 0; if a few cells are stained, the score is 1+; if cells staining is up to 10%, the score is 2+; if cells is between 10-50%, the score is 3+; if cells more than 50%, the score is 4+. Statistical analysis was performed using the SPSS 22 package program. Chi-square test or Fisher's exact test was used. $p < 0.05$ was taken as statistically significant.

Results: According to our study findings, no statistically significant change was observed in MOR, α-2 AR and p38 MAP kinase immunoreactivities in the hypothalamus, hippocampus

and PAG region of rats in Dex 5, Dex 10, Fen 5 and Dex 5 + Fen 5 groups compared to the control group. MOR immunoreactivity of Dex 10 + Fen 5 group increased significantly compared to all other groups in the hypothalamus; compared to the control and Dex 5 groups in the hippocampus; compared to the control group in the PAG region. It was observed that α-2 AR immunoreactivity in the Dex 10 + Fen 5 group increased significantly in the hypothalamus compared to the control and Dex 5 groups; in the hippocampus compared to the Dex 5 and Fen 5 groups, and in the PAG region compared to the control, Dex 5 and Fen 5 groups. No significant change was determined in the p38 MAPK immunoreactivity in the hippocampus and PAG regions of the other groups as compared to the control group. p38 MAPK immunoreactivity in the hypothalamus of Dex 10 + Fen 5 group was found to be significantly higher than the Dex 5 and Fen 5 groups.

Discussion and Conclusion: These results show that dexmedetomidine-fentanyl combination (Dex 10 + Fen 5) increases both MOR and α-2 AR immunoreactivity in different brain regions. Considering that the activation of both receptors will cause antinociception, it is thought that the use of this combination even at low doses can produce strong antinociceptive effects, which can be supported by further studies.

Key words: Dexmedetomidine, fentanyl, immunohistochemistry, rat

This study was supported by Scientific Research Projects Coordinatorship of Izmir Katip Celebi University (Project Number: 2019-ÖNAP-TIPF-0001).

Mg_2Sn FAZ ORANINDAKİ DEĞİŞİMİN SA21-xSn MAGNEZYUM ALAŞIMLARININ YÜZEY MORFOLOJİSİNE VE KOROZYON DAVRANIŞINA ETKİSİ

THE EFFECT OF THE CHANGE OF Mg_2Sn PHASE RATIO ON THE SURFACE MORPHOLOGY AND CORROSION BEHAVIOUR OF SA21-xSn MAGNESIUM ALLOYS

Ali ERÇETİN

Bingöl Üniversitesi, Mühendislik ve Mimarlık Fakültesi, Makine Mühendisliği Bölümü, Bingöl, Türkiye.

ORCID ID: 0000-0002-7631-1361

ÖZET

Mg alaşımlarının yoğunluk ve elastisite modülü gibi özelliklerinin insan kemiğiyle benzer olması ve vücut içi uygulamalarda biyouyumlu özellik sergilemesi, bu alaşımları biyomedikal uygulamalarda önemli bir malzeme haline getirmiştir. Biyobozunur Mg alaşımlarının geliştirilmesinde mikroyapı araştırmaları ayrı bir öneme sahiptir. Bu çalışmada, ilave edilen alaşım elementi ile birlikte mikroyapıdaki intermetalik faz oluşumları ve bu fazların korozyon davranışına etkisi incelenmiştir. Malzeme içeriği %2 Si, %1 Al ve ağırlıkça farklı oranlarda Sn (%5 ve %8) alaşım elementleriyle birlikte Mg matrisinden oluşmaktadır (SA21-xSn magnezyum alaşımları). Yüksek yoğunluklu Mg alaşımları üretmek amacıyla, üretimde toz metalurjisi (TM) yöntemlerinden sıcak presleme tekniği kullanılmıştır. Mg tozlarının havayla teması ile oksidasyonu ve karıştırma işlemi esnasında oluşan sürtünmeden dolayı tutuşma riski bulunduğundan, tozlara parafin kaplama tekniği uygulanmıştır. Belirtilen oranlarda karıştırılan tozlar, grafit kalıplar yardımıyla 50 MPa basınç altında 615 C ‘de argon koruyucu gaz atmosferinde sinterlenmiştir. 10x10x3 mm boyutlarında üretilen numunelere zımparalama ve parlatma işlemleri sırasıyla uygulanmıştır. Üretim sonrası metalografik inceleme yapılacak numuneler, hac. %5 nitrik asit ve hac. %95 etil alkol karışımında dağlanmıştır. Korozyon testine tabi tutulacak numuneler toplam yüzey alanının 20 katı kadarlık Hank çözeltisinde korozyona maruz bırakılmıştır. Korozyon testlerinde ağırlık kaybı ve açığa çıkan hidrojen gazı ölçümleri esas alınmıştır. Korozyon öncesi ve sonrasına ait numunelerin mikroyapıları taramalı elektron mikroskobu (SEM) ile incelenmiştir. Çalışmada elde edilen bulgulara göre, artan Sn ilavesine bağlı olarak mikroyapıda Mg_2Sn faz oluşum oranları da artmıştır. Mg_2Sn intermetalik fazlarının büyük oranda tane sınırlarında yer aldığı belirlenmiştir. Korozyon esnasında tane sınırları ve tane içlerinin farklı kutuplar (anot ve katot) gibi davranmaları galvanik korozyonlarının oluşmasına neden olmuştur. Bu yüzden, yüksek oranda Mg_2Sn fazı içeren SA21-8Sn magnezyum alaşımında ağırlıklık kaybı ve açığa çıkan hidrojen miktarı çok daha yüksektir. Düşük oranda Mg_2Sn fazı içeren SA21-5Sn alaşımının korozyon sonrası yüzey morfolojisi oldukça iyi durumdadır.

Anahtar Kelimeler: Mg alaşımı, toz metalurjisi, mikroyapı, korozyon, ağırlık kaybı.

ABSTRACT

The fact that the properties of Mg alloys such as density and elasticity modulus are similar to human bone and exhibit biocompatible properties in in-vivo applications have made these alloys an important material in biomedical applications. Microstructure research has a special importance in the development of biodegradable Mg alloys. In this study, the formation of intermetallic phases in the microstructure and the effects of these phases on the corrosion behavior were investigated with the added alloying element. The material content consists of

2% Si, 1% Al and Mg matrix with different weight ratios of Sn (5% and 8%) alloying elements (SA21-xSn magnesium alloys). In order to produce high density Mg alloys, hot pressing technique, one of the powder metallurgy (TM) methods, was used in production. Since there is a risk of oxidation of Mg powders by contact with air and ignition due to friction during the mixing process, paraffin coating technique was applied to the powders. The powders mixed in the specified proportions were sintered in argon gas atmosphere at 615 °C under 50 MPa pressure with the using of graphite molds. Sanding and polishing processes were applied to the samples produced in 10x10x3 mm dimensions, respectively. The samples for metallographic examination after production were etched in a mixture of 5 vol.% nitric acid and 95 vol.% ethyl alcohol. The samples to be subjected to corrosion test were exposed to corrosion in Hank solution 20 times the total surface area. Weight loss and released hydrogen gas measurements are based on corrosion tests. Microstructures of the samples before and after corrosion were examined by scanning electron microscope (SEM). According to the results obtained in the study, the Mg_2Sn phase formation rates in the microstructure also increased due to the increasing Sn addition. It has been determined that the Mg2Sn intermetallic phases are mostly located at the grain boundaries. During corrosion, grain boundaries and grain interiors act as different poles (anode and cathode), causing galvanic corrosion. Therefore, the weight loss and the amount of hydrogen released are much higher in the SA21-8Sn magnesium alloy containing high Mg2Sn phase. After corrosion tests, SA21-5Sn alloy containing low Mg_2Sn phase has better surface morphology.

Keywords: Mg alloy, powder metallurgy, microstructure, corrosion, weight loss.

BİR BİYOKÜTLE DEĞERİ OLARAK FINDIK KABUĞU

VALUE OF BIOMASS AS A HAZELNUT SHELL

Betül ŞAHİN

Trabzon Üniversitesi, Beşikdüzü MYO, Makine ve Metal Teknolojileri Bölümü, Trabzon, Türkiye.

ORCID ID: 0000-0003-0882-594X

ÖZET

Dünya da olduğu gibi Türkiye de de nüfus hızla artmaktadır. Bunun doğal bir sonucu olarak enerjiye olan ihtiyaç da her geçen gün artmaktadır. Fosil yakıtlar (kömür, petrol, doğal gaz, vb.) dünyanın birincil enerji kaynağıdır. Fakat, bir kaç yüzyıl içerisinde tükenecekleri öngörülmektedir. Fosil yakıtların yanmasıyla ortaya çıkan kirleticiler havayı kirletmekte, her tür canlı varlığın yaşamını tehdit etmektedir. Bunun yanında fiyatı da sürekli artmaktadır. Bu durum, fosil yakıta sahip ülkeleri güçlü kılarken fosil yakıtı olmayan ülkelerin ekonomilerini de zora sokmaktadır.

Dünya, fosil yakıtların havayı kirletmesi, sera gazı oluşumuna sebep olması, yarattığı maddi açmazlar sebebiyle doğaya dost, ekonomik ve sürdürülebilir enerji kaynaklarını aramaya yönelmiştir. Bu nedenle yenilenebilir enerji kaynakları arayışları hız kesmeden devam etmektedir. Türkiye'de güneş enerjisi, rüzgar enerjisi, jeotermal enerji, hidrolik enerji ve biyokütle enerjisi gibi yenilenebilir enerji kaynakları mevcuttur.

Biyokütle enerjisi her tür organik maddeden elde edilen enerji kaynağı olarak tanımlanabilir. Güneş var olduğu sürece var olacağından sürdürülebilir bir enerji kaynağıdır. Biyokütle enerjisi, hayvansal atıklar, şehir atıkları, orman atıkları, vb.' den elde edilebilir. Hem Türkiye'nin bir tarım ülkesi olması hem de çevreye duyarlı, dost tavrı ile biyokütle enerjisi, Türkiye'nin sahip olduğu en önemli yenilenebilir enerji kaynaklarından biridir.

Türkiye fındık üretiminde yıllık ortalama 700 bin ton ile dünyada birinci sırada yer almaktadır. Dolayısıyla büyük miktarda fındık kabuğuna sahiptir. Böylece, fındık kabuğu, Türkiye'nin en büyük biyokütle enerjisi kaynaklarından biridir. Bu çalışma, Türkiye için önemli bir biyokütle değeri olan fındık kabuğu üzerine yapılan bir literatür araştırmasıdır. Çalışmalarda, fındık kabuğunun proksimet ve elemental analizleri yapılmış, ısıl değeri belirlenmiştir. Ayrıca, fındık kabuğu değerleri, farklı biyokütle ve kömür değerleriyle de kıyaslanmıştır. Bununla birlikte fındık kabuğunun, farklı biyokütle ve kömürlerle karıştırılarak yakıldığı görülmüştür. Yanmaya eklenen fındık kabuğunun yanmayı etkilediği tespit edilmiştir.

Anahtar kelimeler: Yenilebilir enerji kaynakları, biyokütle, fındık kabuğu.

ABSTRACT

As in the world, the population in Turkey is increasing rapidly. As a natural consequence of this, the need for energy is increasing day by day. Fossil fuels (coal, oil, natural gas, etc.) are the world's primary energy source. However, it is predicted that they will be extinct in a few centuries. Pollutants produced by the combustion of fossil fuels pollute the air and threaten the life of all living creatures. In addition, the price is constantly increasing. While this situation makes countries with fossil fuels strong, it puts the economies of countries that do not have fossil fuels in difficulty.

The world has tended to seek eco-friendly, economical and sustainable energy sources due to the fact that fossil fuels pollute the air, cause greenhouse gas formation, and create financial

problems. Turkey has renewable energy sources such as solar energy, wind energy, geothermal energy, hydraulic energy and biomass energy.

Biomass energy can be defined as an energy source obtained from all kinds of organic matter. It is a sustainable energy source as it will exist as long as the sun exists. Biomass energy can be obtained from animal waste, urban waste, forest waste, etc. Biomass energy is one of the most important renewable energy resources that Turkey has, both with its being an agricultural country and its environmentally friendly and friendly attitude.

Turkey ranks first in the world in hazelnut production with an annual average of 700 thousand tons. Therefore, it has a large amount of hazelnut shell. Thus, hazelnut shell is one of Turkey's largest sources of biomass energy. This study is a literature research on hazelnut shell, which is an important biomass value for Turkey. In the studies, proximet and elemental analyzes of the hazelnut shell were made and the heating value was determined. In addition, hazelnut shell values were compared with different biomass and coal values. However, it was observed that the hazelnut shell was burned by mixing with different biomass and coals. It has been determined that the hazelnut shell added to the combustion affects the combustion.

Keywords: Renewable energy sources, biomass, hazelnut shell.

İSKEMİK İNME VAKALARINDA D VİTAMİNİ VE HOMOSİSTEİN DÜZEYLERİNİN AKUT DEĞİŞİMLERİNİN İNCELENMESİ

Prof. Dr. Hülya Çiçek

Gaziantep Üniversitesi Tıp Fakültesi, Tıbbi biyokimya AD, Gaziantep/Türkiye

ORCID NO: 0000-0002-1065-1582

Kimyager Adnan İNCEER

Gaziantep Üniversitesi Sağlık Bilimleri Enstitüsü, Tıbbi biyokimya AD, Gaziantep/Türkiye

Doç. Dr. Sırma GEYİK

Gaziantep Üniversitesi Tıp Fakültesi, Nöroloji AD, Gaziantep/Türkiye

Dr. Öğr. Üyesi Elif İŞBİLEN

Gaziantep Üniversitesi Tıp Fakültesi, Tıbbi biyokimya AD, Gaziantep/Türkiye

Uz. Dr. Hüseyin Gürbüz

Gaziantep Ersin Arslan Devlet Hastanesi Acil Tıp, Gaziantep/Türkiye

ORCID NO: 0000-0002-4684-9363

ÖZET

Serebrovasküler hastalıklar içerisinde yer alan inme ise beyin kan akımındaki bozulmaya bağlı olarak oluşan, ölümle sonuçlanabilen, serebral fonksiyon bozukluğuyla oluşan klinik bir tablodur. Toplumda önemli mortalite ve morbidite nedenlerinden olan inmenin D vitaminiyle ilişkisi bu araştırmaların önemli kısımlarından birisini teşkil etmiştir. İnmeyle ilgili olduğu düşünülen diğer bir risk faktörü de homosisteindir. Hiperhomosisteinemi iskemik inme için önemli bir risk faktörü olarak belirlenmiştir. Bu klinik çalışmada akut iskemik inme vakası geçiren hastalarda D vitamini ve homosistein değerlerinin incelenmesi amaçlanmıştır.

Çalışmaya katılan 36 iskemik inme vakasının hastaneye başvuru sırasında ve bu hastaların 27' sinin hastaneye başvuru saatinden 24 saat sonra takipleri yapılmış ve ya ve cinsiyet uyumlu 32 sağlıklı gönüllünün verileri ile karşılaştırılmıştır. Hastalar ve sağlıklı gönüllülerden alınan kan örneklerinden tam kan sayımı yapılmış, serumlarında ise D vitamini ve homosistein düzeylerine bakılmıştır.

Elde edilen verilerin analizi neticesinde hastaneye başvuru esnasında numune alınan iskemik inme hastalarının glukoz düzeylerinin başvurudan 24 saat sonra numune alınan hastalarındakinden ve sağlıklı kontrollerden anlamlı şekilde yüksek olduğu; hastaneye başvuru esnasında numune alınan iskemik inme hastalarının platellet düzeylerinin başvurudan 24 saat sonra alınan numune değerlerinden anlamlı şekilde daha yüksek, sağlıklı kontrol grubundan anlamlı şekilde düşük olduğu; iskemik inme hastalarının her iki grubunda da sistolik ve diyastolik basınç değerlerinin başvurudan 24 saat sonra numune alınan hastalardan ve sağlıklı kontrol grubundan daha yüksek olduğu; iskemik inme hastalarının her iki grubunda da 25-OH-Vit D düzeylerinin sağlıklı kontrol grubundan düşük olduğu; iskemik inme hastalarının her iki grubunda da homosistein düzeylerinin de sağlıklı kontrol grubundan yüksek olduğu görülmüştür.

Yapmış olduğumuz çalışmadan elde edilen sonuçlar dikkate alındığında D vitamini ve homosistein düzeylerinin inmenin belirlenmesinde kullanılabilecek önemli belirteçler olduğu söylenebilir.

Anahtar Kelimeler: İskemik İnme, D Vitamini, Homosistein,

PHYTOCHEMICAL SCREENING AND TOTAL PHENOLIC AND FLAVONOIDS CONTENTS OF DIFFERENT SOLVENT EXTRACTS FROM AERIAL PART OF *Pulicaria mauritanica*

Maryame Sabiri[1], Mohammed Barbouchi[1], Kaoutar Elamrani[1], and Ali Amechrouq[1]

[1]Molecular Chemistry and Natural Substances Laboratory, Moulay Ismail University, Faculty of Sciences, B.P. 11201, Zitoune, Meknes, Morocco

ABSTRACT

Pulicaria mauritanica is an endemic plant species growing in the southeast of Morocco. The objective of this work is to carry out preliminary phytochemical screening and to determine the total phenolic, flavonoid contents of plant extracts. Phytochemical screening reveals the presence of flavonoids, sterols, gallic tannins, and sterols and the absence of alkaloids and saponins. Quantitative determination of total phenolics, total flavonoids was assessed by Folin-Ciocalteu and aluminium chloride colourimetric method respectively. The results obtained show that the total polyphenol content (TPC) is great in ethyl acetate extract with a value of 172.9 mg of GAE/g of extract, followed by hexanic and ethanolic extracts with values of 109.5 and 70.8 mg of GAE/g of extract, respectively. The total flavonoids content TFC is great in ethyl acetate extract with a value of 64.8 mg of GAE/g of extract, as well as a low value of the ethanolic and hexanic extracts with vales of 33.6 and 33 mg of GAE/g of extract, respectively.

Keywords: *Pulicaria mauritanica*, phytochemical screening, Phenolic content

OPTIMIZING AND MODELING THE ANAEROBIC DIGESTION OF LANDFILL LEACHATE BY USING PLACKETT BURMAN DESIGN

Salaheddine FARSAD[1*], Zakaria ANFAR[1], Saaida LHANAFI[1], Abdellah AIT ELFAKIR[1], Asmae AMJLEF[1], Noureddine ELALEM[1]

[1] Laboratory of Materials and Environment, Ibn Zohr University, Agadir 80000, Morocco.

ABSTRACT

Growing demand for energy, rising oil prices, depletion of fossil fuel resources and growing concern for environmental issues are currently facing researchers looking for new technological processes to achieve clean and sustainable energy. from alternative energy sources. These energy and environmental problems could be addressed simultaneously by the production of methane from waste. Methane can be generated from a wide range of solid or liquid wastes.

In this study, anaerobic digestion was applied to leachate generated by the Agadir landfill (Morocco) to recover the methane energy. The main objective of the study is to investigate the influence of the following parameters (pH, type of leachate, type of inoculum and the percentage of inoculum) on anaerobic digestion. the influence of these factors on anaerobic digestion were investigated using the Plackett Burman design. To distinguish the parameters influencing the anaerobic digestion process and to improve the methanogenic yield.

Keywords: Leachate, landfill, methane, anaerobic digestion, energy, Plackett Burman design,

TRANSFORMATION FROM PIM MODEL TO PSM MODEL IN MDA: CASE UML TO SALES FUNNEL

[1] Ouzayr RABHI1, [2] Ibtissam ARRASSEN [1]

MATSI Laboratory, EST

Mohammed First University, Oujda, Morocco

2 Laboratory for Computer Science Research Faculty of Sciences

Mohammed First University, Oujda, Morocco

ABSTRACT

As a results of the COVI-19 epidemic, all businesses are faced with the need to offer their products and services on the internet, and in order to promote their activities they have to use online advertising, which increases the competition on the different advertising networks and consequently the cost of advertising increases, and to solve this problem the businesses need to create a sales funnel that allows to convert better than a simple website and also to increase the average basket per customer. With this diversity and the continuous improvement of web technology and the digital transformation of businesses, we feel that it is necessary to develop a model that allows to produce the source code from the UML design model.

This article examines the application of the MDA approach in the digital transformation of companies. The idea is to produce from a simple UML model the structure of the company's sales funnel, without necessarily using the website.

We designed two meta-models: The first one to manage the UML source models, and the second one to generate the application models of the sales funnel. The transformation rules and the mapping algorithm will be developed to automatically generate an xml file containing all the necessary pages for a sales funnel which are: the optin page, the content page and the checkout pages from the class diagram which can be used to generate the required code for the web application.

Keywords: Digital Marketing; MDA, Model Driven Architecture; Model Driven Engineering; Meta-models; rules transformation; Sales Funnel