



# 5. International Mediterranean Scientific Research Congress

January 13-14, 2024  
Mersin, Türkiye



## PROCEEDINGS BOOK

*Editors:*

Prof. Dr. Mukadder MOLLAOĞLU

Assoc. Prof. Dr. Hasan ÇİFTÇİ

ISBN: 978-1-955094-92-4



[www.izdas.org/akdeniz](http://www.izdas.org/akdeniz)  
[izdaskongresi@gmail.com](mailto:izdaskongresi@gmail.com)

# 5. INTERNATIONAL MEDITERRANEAN CONGRESS

January 13-14, 2024

Mersin -Türkiye



## 5. INTERNATIONAL MEDITERRANEAN CONGRESS

January 13-14, 2024

Mersin -Türkiye

### PROCEEDINGS BOOK

Edited by

Prof. Dr. Mukadder MOLLAOĞLU

Assoc. Prof. Dr. Hasan ÇİFTÇİ

Copyright © Liberty

30.01.2024

by Liberty Academic Publishers

New York, USA

ALL RIGHTS RESERVED NO PART OF THIS BOOK MAY BE REPRODUCED IN ANY FORM, BY PHOTOCOPYING OR BY ANY ELECTRONIC OR MECHANICAL MEANS, INCLUDING INFORMATION STORAGE OR RETRIEVAL SYSTEMS, WITHOUT PERMISSION IN WRITING FROM BOTH THE COPYRIGHT OWNER AND THE PUBLISHER OF THIS BOOK.

© Liberty Academic Publishers 2023

The digital PDF version of this title is available Open Access and distributed under the terms of the Creative Commons Attribution-Non Commercial 4.0 license (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits adaptation, alteration, reproduction and distribution for noncommercial use, without further permission provided the original work is attributed. The derivative works do not need to be licensed on the same terms.

ISBN: 978-1-955094-92-4

# 5. INTERNATIONAL MEDITERRANEAN CONGRESS

January 13-14, 2024

Mersin -Türkiye

## CONGRESS ID

5. INTERNATIONAL MEDITERRANEAN CONGRESS

## DATE-PLACE

January 13-14, 2024

Mersin -Türkiye

## EDITOR

Prof. Dr. Mukadder MOLLAOĞLU

Assoc. Prof. Dr. Hasan ÇİFTÇİ

## EVALUATION PROCESS

All applications have undergone a double-blind peer review process

TOTAL NUMBER OF PAPERS: 455

THE NUMBER OF PAPERS FROM TÜRKİYE: 218

OTHER COUNTRIES: 237

## PARTICIPANT COUNTRIES (31):

Türkiye, Azerbaijan, UK, Romania, India, Serbia, Pakistan, Morocco, Nigeria, Algeria, Tunisia, Iran, Sri Lanka, Ukraine, Ethiopia, TRNC, Iraq, Congo, Bosnia and Herzegovina, Slovenia, Albania, Malaysia, Indonesia, Jordan, Georgia, North Macedonia, Bulgaria, Russia, Vietnam, Belarus, Hungary

# 5. INTERNATIONAL MEDITERRANEAN CONGRESS

January 13-14, 2024

Mersin -Türkiye

<b>Djohaina Makhlof , Soumia Mouffouk, Chaima Mouffouk, Hamada Haba</b>	1472
<i>PHYTOCONSTITUENTS OF THE MEDICINAL PLANT MOLTZIA CILIATA</i>	
<b>Kenza Hazine, Chaima Mouffouk, Soumia Mouffouk, Hamada Haba</b>	1473
<i>CHEMICALS FROM THE SPECIES HEDYSARUM PALLIDUM</i>	
<b>Abdelbasset Tamersit, Soumia Mouffouk, Chaima Mouffouk, Hamada Haba</b>	1474
<i>HALOGETON SATIVUS BIOMOLECULES</i>	
<b>Kovtun David</b>	1475
<i>PROMISING METHODS FOR INTENSIFICATION OF ION EXCHANGE PROCESS IN WATER TREATMENT</i>	
<b>Soumia Mouffouk, Chaima Mouffouk, Sara Mouffouk, Hamada Haba</b>	1476
<i>PHYTOCONSTITUENTS AND BIOLOGICAL ACTIVITIES OF THE SPECIES ATRACTYLIS CANCELLATA L.</i>	
<b>Teona Gogidze</b>	1477
<i>HOW TO APPLY AI IN EDUCATION</i>	
<b>Mahenaz</b>	1478
<i>THE ROLE OF THE ZAMINDARS OF AWADH IN THE MUGHAL ADMINISTRATION</i>	
<b>Shafqat Bano</b>	1479
<i>EMBITTERMENT IN PAKISTANI UNIVERSITY STUDENTS: A CONFIRMATORY FACTOR ANALYSIS</i>	
<b>Caroline Guillet</b>	1480
<i>SLOW ONSET AND FAST ONSET CLIMATE HAZARDS: UNDERSTANDING MIGRATION PATTERNS</i>	
<b>Nizar Zidni, Devani Laksmi Indyastuti, Ade Irma Anggraeni</b>	1481
<i>FOSTERING EMPLOYEE CREATIVITY THROUGH ETHICAL LEADERSHIP</i>	
<b>Hula M. Salih</b>	1482
<i>ABOUT CONTRA SUPRA IDEAL PRE-CONTINUOUS FUNCTION</i>	
<b>Mohd Sualh</b>	1488
<i>ISLAM, DEMOCRACY, AND SECULAR GOVERNANCE: A COMPARATIVE ANALYSIS OF ISLAMIC NATIONS</i>	
<b>WAJIHA MALIK</b>	1489
<i>THE IMPACT OF SELF CONCEALMENT, PSYCHOLOGICAL INFLEXIBILITY AND MINDFULNESS IN DEVELOPING PSYCHOLOGICAL DISTRESS AMONG ADOLESCENTS</i>	
<b>Hiba Shahid, Prof. Dr. Syed Ali Raza Naqvi</b>	1514
<i>ANTIOXIDANT, ENZYME INHIBITION AND TOXICOLOGY STUDIES OF METHANOL EXTRACTS OF SELECTED MEDICINAL PLANTS</i>	
<b>Gentrit SMAKAJ</b>	1515
<i>SAN STEFANO TREATY AND THE BALKAN PEOPLES</i>	
<b>Nadagouda Kalyani, Chayaraju Balasai</b>	1516
<i>SALT WATER EFFECTS OF CONCRETE STRENGTH</i>	
<b>Amirmohammad Jafari, Mohammadreza Ziavand, Kowsar Taghavi, Sama Sepordeh</b>	1517
<i>A REVIEW OF METHODS FOR REDUCING THE AMOUNT OF VETERINARY DRUG RESIDUES IN ANIMAL PRODUCTS</i>	

**5. INTERNATIONAL MEDITERRANEAN CONGRESS**  
**January 13-14, 2024**  
**Mersin -Türkiye**

**PROMISING METHODS FOR INTENSIFICATION OF ION EXCHANGE PROCESS IN  
WATER TREATMENT**

*Kovtun David*

*National University of Civil Protection of Ukraine*

**ABSTRACT**

For water purification in water treatment, the ion exchange method is used, which consists in the selective exchange of ions between ion exchange materials and pollutant ions in water. The advantages include efficiency, cost-effectiveness, and the ability to set the required characteristics of ion exchange resins. The biggest problems are the constant costs for the recovery of all chemical reagents and the need to dispose of used reagents. The existing methods for improving the physical and chemical conditions of ion exchange aimed at intensifying the process are considered.

The most common ones include: the use of ultrasound for water purification (1), chemical activation methods (2), electrodeionization method (3), magnetic activation (4).

1) The principle of operation is based on the phenomenon of cavitation - the formation and destruction of gas bubbles in a liquid. The high pressure generated by cavitation leads to the formation of hydroxyl radicals and rupture of microbial cell membranes. With the help of reagent purification, the cells die. The expediency of using this complex is to reduce the load of organic matter on ion exchange resins. Also, when sonication is applied directly during the passage of water through ion exchange resins, it allows to purify the resins from coarse impurities that are deposited on them.

2) Treatment of ion-exchange materials of natural origin, such as bentonites, with alkalis and acids to remove metal ions present in the rock. Similar operations are performed on bentonite to improve the specific volume capacity.

3) Electrodeionization is the demineralization of water streams in an electrically controlled membrane process. Electrodeionization is a combined method that combines electrodialysis and ion exchange, which avoids diffusion limitations and, as a result, achieves a higher degree of solution purification. Ions are removed from water by ion exchange resins and transferred to an oppositely charged electrode under the influence of an electric field. When the ion exchange resins are fully saturated, the polarity of the electrodes changes and the resins regenerate. properties of the aqueous solution, which improves the speed and efficiency of the process. This can lead to changes in the structure of water, its distribution and mobility of molecules. Density, viscosity, surface tension, electrical conductivity, solubility, hydrogen pH and other properties of water-dispersed systems change. These changes can help improve the distribution of ions in water, facilitate their movement through ion exchange materials, and provide more opportunities for their retention and removal from water.



T.C.  
ADİYAMAN ÜNİVERSİTESİ  
Teknik Bilimler Meslek Yüksekokulu Müdürlüğü



Sayı :E-10585088-200--130822  
Konu :Kongre Hk. (Dr.Öğr.Üyesi Mehtap  
DEMİR)

DAĞITIM YERLERİNE

İlgi : 12.01.2024 tarih ve 130797 sayılı yazınız.

İlgi tarih ve sayılı yazınıza istinaden, Bölümünüz Dr. Öğr. Üyesi Mehtap DEMİR'in 13-14 Ocak 2024 tarihleri arasında, Mersin'de düzenlenecek olan "5. Uluslararası Akdeniz Bilimsel Araştırmalar Kongresi" Düzenleme Kurulu'nda görev alması Müdürlüğümüzce uygun görülmüştür.

Bilgilerinizi ve gereğini rica ederim.

Doç. Dr. Kadir GÜÇLÜER  
Müdür

Dağıtım:  
Gereği:  
Elektrik ve Enerji Bölümüne

Bilgi:  
Sayın Dr.Öğr.Üyesi Mehtap DEMİR

Bu belge, güvenli elektronik imza ile imzalanmıştır.

Belge Doğrulama Kodu :BSPBRT289C

Belge Takip Adresi : <https://turkiye.gov.tr/ebd?eK=5350&eD=BSPBRT289C&eS=130822>

Adres:Altınşehir Mh. 3005 Sokak No:13 02040 ADIYAMAN

Telefon:04162232128 Faks:04162232129

E-Posta:myo@adiyaman.edu.tr Web Adresi:www.adiyaman.edu.tr

Bilgi için: Zehra İNAN  
Unvanı: Yazı İşleri Memuru

