



## Editors

Valeri Mladenov

Ivan Kralov

Tasho Tashev

Francisc Popescu

José Ignacio Hernández López

Giri Kattel

Ana Maria Tavares Martins



## Recent Advances in Continuum Mechanics, Hydrology and Ecology



- └ Proceedings of the 1<sup>st</sup> International Conference on Monitoring and Management of Air Pollution (MMAAP '13)
- └ Proceedings of the 8<sup>th</sup> International Conference on Continuum Mechanics (CM '13)
- └ Proceedings of the 8<sup>th</sup> International Conference on Water Resources, Hydraulics & Hydrology (WHH '13)
- └ Proceedings of the 1<sup>st</sup> International Conference on Hydrology and Ecology (HYEC '13)

Rhodes Island, Greece, July 16-19, 2013

### Scientific Sponsors





# **RECENT ADVANCES in CONTINUUM MECHANICS, HYDROLOGY and ECOLOGY**

**Proceedings of the 1st International Conference on Monitoring and  
Management of Air Pollution (MMAAP '13)**

**Proceedings of the 8th International Conference on Continuum  
Mechanics (CM '13)**

**Proceedings of the 8th International Conference on Water Resources,  
Hydraulics & Hydrology (WHH '13)**

**Proceedings of the 1st International Conference on Hydrology and  
Ecology (HYEC '13)**

**Rhodes Island, Greece  
July 16-19, 2013**

**Scientific Sponsors:**



**Technical University of  
Sofia, Bulgaria**



**Polytechnic University  
of Bari, Italy**



**University Politehnica of  
Bucharest, Romania**

# **RECENT ADVANCES in CONTINUUM MECHANICS, HYDROLOGY and ECOLOGY**

**Proceedings of the 1st International Conference on Monitoring and Management of Air Pollution (MMAP '13)**

**Proceedings of the 8th International Conference on Continuum Mechanics (CM '13)**

**Proceedings of the 8th International Conference on Water Resources, Hydraulics & Hydrology (WHH '13)**

**Proceedings of the 1st International Conference on Hydrology and Ecology (HYEC '13)**

**Rhodes Island, Greece  
July 16-19, 2013**

Published by WSEAS Press  
[www.wseas.org](http://www.wseas.org)

**Copyright © 2013, by WSEAS Press**

All the copyright of the present book belongs to the World Scientific and Engineering Academy and Society Press. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the Editor of World Scientific and Engineering Academy and Society Press.

All papers of the present volume were peer reviewed by no less than two independent reviewers. Acceptance was granted when both reviewers' recommendations were positive.  
See also: <http://www.worldses.org/review/index.html>

ISSN: 2227-4359  
ISBN: 978-960-474-313-1

# **RECENT ADVANCES in CONTINUUM MECHANICS, HYDROLOGY and ECOLOGY**

**Proceedings of the 1st International Conference on Monitoring and  
Management of Air Pollution (MMAAP '13)**

**Proceedings of the 8th International Conference on Continuum  
Mechanics (CM '13)**

**Proceedings of the 8th International Conference on Water Resources,  
Hydraulics & Hydrology (WHH '13)**

**Proceedings of the 1st International Conference on Hydrology and  
Ecology (HYEC '13)**

**Rhodes Island, Greece  
July 16-19, 2013**



**Editors:**

Prof. Valeri Mladenov, Technical University of Sofia, Bulgaria.  
Prof. Ivan Kralov, Technical University of Sofia, Bulgaria.  
Prof. Tasho Tashev, Technical University of Sofia, Bulgaria.  
Prof. Francisc Popescu, "Politehnica" University of Timisoara, Romania.  
Prof. José Ignacio Hernández López, Mackenzie Presbyterian University, Brazil.  
Prof. Giri Kattel, University of Ballarat, Australia.  
Prof. Ana Maria Tavares Martins, University of Beira Interior, Portugal.

**Reviewers:**

Mohamed Mohamed Bizanti	Ligia Silva
Dimitris Myronidis	Khaled Galal Ahmed
Mahboobeh Mahmoodi	Ioana Diaconescu
Alena Bumbova	Zaini Ahmad
Tejinder Saggu	Najib Altawell
Ayca Tokuc	Hamed Ziaeiipoor
Harry Coomar Shumsher Rughooputh	Ramin Khodafarin
Thomas Panagopoulos	Catarina Luisa Camarinhas
Tiberiu Socaciu	Ahadollah Azami
Usama Awan	Petr Hajek
Zohreh Salavatizadeh	José Nunes
Yang Zhang	Nabil Mohareb
Grabara Janusz	Arvind Dhingra
Maria De Fátima Nunes De Carvalho	Claudia A. F. Aiub
Ali Salehipour	Alina Adriana Minea
Roman Mihai Daniel	Al Emran Ismail
Daniela Cristina Momete	Sadia Iqbal
Mohamed Zahran	Valeriy Perminov
Giri Kattel	Mehdi Seyyed Almasi
Atta Oveisi	Sara Sadrzadehrafiei
Rodica Badescu	Antonio A. L. S. Duarte
Cristina Matos	Mihai Tiberiu Lates
Petr Mastny	Mihaela Dudita
Krisztina Uzuneanu	Rusu Teodor
Arion Felix	Cornelia Aida Bulucea
Mueen Uddin Awan	Irene Zananiri
Kannan Subramanian	Jose Alberto Duarte Moller
Hui Wang	Vasile Zotic
Jamil Khan	Catalin Croitoru
Gabriela-Alina Dumitrel	Nubli Abdul Wahab
Dragos Ilie	Georgel Chirita
Guoxiang Liu	Claudia A.F. Aiub
Suzana Yusup	Jose Manuel Mesa Fernández
Maria Bostenaru Dan	Hugo Rodrigues
Konstantinos Vogiatzis	Francesco Rotondo
Calbureanu Popescu Madalina Xenia	Adrian Turek Rahoveanu
Saeid Eslamian	Diana-Elena Alexandru
Naveen G. Ramunigari	Oprita Razvan
Denizar Cruz Martins	Mário Cesar do Espirito Santo Ramos
José A. Orosa	Monica Dumitrascu
Andrei Madalina-Teodora	Cristina Barbu
Heimo Walter	Noor Fadiya Mohd Noor
Ali Dashti Shafiei	Karim Shirazi
Hamid Bashiri Atrabi	Feridoun Nahidi Azar
Pablo Fdez-Arroyabe	Oguz Arslan
Mioara Chirita	Corina Carranca
Gherghinescu Sorin	Rajveer Mittal
Davorin Kralj	Dumitru-Alexandru Bodislav

Francisco Diniz  
Berrichi Faouzi  
Claudio Guarnaccia  
Reza Fathipour

## Table of Contents

<b>Plenary Lecture 1: An Analysis of Flow Mechanics through Packed-Fluidized Beds of a Variety of Solid Particles: A Methodology for the Determination of Flow Modes in Pneumatic Conveying</b> <i>Melda Özdiñ Çarpınliođlu</i>	10
<b>Plenary Lecture 2: Rainfall-Runoff Modeling Based on Self Organizing Map and Wavelet Pre-Processing Techniques</b> <i>Vahid Nourani</i>	11
<b>Plenary Lecture 3: Studies and Researches Regarding the Use of a Water Mill for Irrigations</b> <i>Badea Lepadatescu</i>	12
<b>Plenary Lecture 4: Flows of Dissolved Organic Substances and Factors Controlling It</b> <i>Maris Klavins</i>	13
<b>Plenary Lecture 5: Drylands, Land Degradation, Desertification – 3 Hot Topics, Many Hot Questions</b> <i>Rares Halbac-Cotoara-Zamfir</i>	14
<b>Quad-Tree Based Geometric-Adapted Cartesian Grid Generation</b> <i>Emre Kara, Ahmet Ihsan Kutlar, Mehmet Haluk Aksel</i>	15
<b>The Creep of Cement Paste with Various Content of the Fly Ash in the Age 1 Year</b> <i>Pavel Padevět, Petr Bittnar</i>	20
<b>Improved Digital Speckle Photography for Liquid Diffusion Studies</b> <i>D. Ambrosini, C. De Leo, D. Paoletti, G. Galli</i>	25
<b>The Material Properties of Cement Paste with Fly Ash Exposed to High Temperatures</b> <i>Pavel Padevět, Romana Lovichová</i>	31
<b>Initial Imperfections of Steel and Steel-Concrete Circular Columns</b> <i>Marcela Karmazínová, Jindrich Melcher</i>	36
<b>Complex Braking Mechanisms of the 2-axle Bogie in Passenger Railway Carriages</b> <i>Ovidiu Antonescu, Mihai Sirbulescu, Paun Antonescu</i>	42
<b>Fluidized Bed Drying Performance in Terms of Drying Rates</b> <i>Emrah Özahi, Hacimurat Demir</i>	51
<b>Frictional Field Analysis in Sinusoidal Pulsatile Pipe Flow at Onset of Transition</b> <i>Emrah Özahi, Melda Özdiñ Çarpınliođlu</i>	56



<b>An Experimental Test Set-up and the Range of Study for Determination of Flow Modes in Pneumatic Conveying Systems</b> <i>Alperen Tozlu, Melda Özdoğan Çarpınlioğlu</i>	61
<b>Ignition Delay of the Travelling Additional Propellant Charge</b> <i>Michal Hajn</i>	66
<b>An Analysis of Flow Mechanics through Packed-Fluidized Beds of a Variety of Solid Particles: A Methodology for the Determination of Flow Modes in Pneumatic Conveying</b> <i>Melda Özdoğan Çarpınlioğlu</i>	71
<b>Numerical Study of Friction Induced Vibrations of a Rail</b> <i>Ignat Ignatov</i>	76
<b>Experimental Verification of Fatigue Resistance of Assembly Joints of Truss Main Girder of Temporary Footbridge</b> <i>Marcela Karmazinová, Pavel Simon</i>	80
<b>The Support Vector Machines Application in Soil Moisture Prediction Study</b> <i>Milan Cisty, Jana Skalova, Maria Pasztorova, Juraj Bezak</i>	86
<b>The Application of Data Mining Methods for Short Time Flows Prediction in Flood Warning Systems</b> <i>Milan Cisty, Juraj Bezak</i>	92
<b>Effect of DEM Type and Resolution in Extraction of Hydro-Geomorphologic Parameters</b> <i>Vahid Nourani, Safa Mokhtarian Asl, Maryam Khosravi Sorkhkolae, Elnaz Sharghi</i>	98
<b>Appraisal to Utilization of Wavelet Denoising Approach in ANN-based Hydrological Models</b> <i>Vahid Nourani, Farzad Hassan Nejad, Aida Yahyavi Rahimi, Aida Hosseini Baghanam</i>	104
<b>Hexavalent Chromium Removal from Aqueous Solutions by Use of Extruded Activated Carbon. Sorption Kinetic Studies</b> <i>Marius Gheju, Maria Mateescu</i>	110
<b>Hexavalent Chromium Removal from Aqueous Solutions by Use of Extruded Activated Carbon. Sorption Thermodynamic Studies</b> <i>Marius Gheju, Maria Mateescu</i>	115
<b>Studies and Researches Regarding the Use of a Water Mill for Irrigations</b> <i>Badea Lepadatescu, Luminita Popa</i>	120
<b>Optimization of Chromium Adsorption using Central Composite Design</b> <i>Juan Carlos Beltrán-Prieto, Rafael Veloz-Rodríguez</i>	128
<b>Using Artificial Neural Networks (ANNs) and Adaptive Neuro-Fuzzy Inference System (ANFIS) for Modeling and Sensitivity Analysis of Effective Rainfall</b> <i>Seyed Saber Sharifi, Reza Delirhasannia, Vahid Nourani, Ali Ashraf Sadraddini, Amir Ghorbani</i>	133

<b>Flows of Dissolved Organic Substances and Factors Controlling it</b>	140
<i>Maris Klavins</i>	
<b>Surface Activity of Humic Substances</b>	146
<i>Maris Klavins, Oskars Purmalis</i>	
<b>Simulation of Industrial Discharges Relaxation Impact on Water Bodies</b>	152
<i>Sevara Kurakbayeva, Aijan Kalbayeva, Berzhan Shakirov, Arnold Brener</i>	
<b>Environmental Air Monitoring in Areas with Natural Occurring Asbestos</b>	157
<i>Sergio Malinconico, Sergio Bellagamba, Paolo De Simone, Fabio Cassandra</i>	
<b>Experimental Study on the Ketoprofen Analgesic Efficiency Optimization by Inclusion in a Bicomponent Hydrogel Matrices</b>	162
<i>Ustina S. Filipov, Raluca Petronela Dumitriu, Cornelia Vasile</i>	
<b>Experimental Study Regarding the Optimization of Ketoprofen Analgesic Efficiency by Coupling with Systems Entrapped in Hydrogel Matrices</b>	167
<i>Ustina S. Filipov, Oana Maria Păduraru, Cornelia Vasile</i>	
<b>A Deaerator Model</b>	172
<i>Ioana Opris</i>	
<b>Authors Index</b>	177

## Plenary Lecture 1

### **An Analysis of Flow Mechanics through Packed-Fluidized Beds of a Variety of Solid Particles: A Methodology for the Determination of Flow Modes in Pneumatic Conveying**



**Professor Melda Özdiñ Çarpınliođlu**  
Department of Mechanical Engineering  
Faculty of Engineering  
University of Gaziantep  
TURKEY  
E-mail: melda@gantep.edu.tr

**Abstract:** Clear insight to the modes of flow of solid particles in a pneumatic conveying system is a critical fact. In design and operation of a particular system optimum conditions in terms of system and transportation characteristics are directly related to so-called modes of flow. It is generally known that dense( fluidized dense phase or plug ) and dilute phase flows are well- defined. In the available literature determination of flow modes is either through the utilization of particle parameter –based or air-particle based techniques. The utilized techniques have their own superiorities. However the need for further experimental data is apparent in both techniques. In this presentation the related state of art is outlined with the major conflicting statements. An analysis based upon the previous experimental measurements ( through fixed packed beds simulating fixed plugs and inside fully suspended flow of solid particles for dilute phase flows ) of the author is presented. An experimental measurement system which is currently in operation in the content of a research project MF12-15 on the determination of flow modes in pneumatic particle transport is discussed through the proposed methodology.

**Brief Biography of the Speaker:** Melda Özdiñ Çarpınliođlu was born in Gaziantep, Turkey. She received B.Sc., M.Sc. and Ph.D. degrees in Mechanical Engineering from Middle East Technical University METU –Turkey in 1983, 1986 and 1992. She worked as a Research Assistant in 1983-1986 at METU, as an Instructor in 1987-1992 at University of Gaziantep-Turkey . She worked as an Assistant Professor and an Associate Professor in 1992-1997 and 1997-2003 at University of Gaziantep. She has been working as a Professor at University of Gaziantep since 2003. She was the Chairman of the Mechanical Engineering Department and Dean of the Faculty of Engineering in the periods of 1998-2007 and 2006-2009 at University of Gaziantep.

Her main research interests are Boundary Layer Flow, Boundary Layer Transition, Two-Phase Flow Fields, Unsteady-Pulsatile Flow Dynamics, HVAC Systems, Flow Dynamics in Packed Beds, Flow through Collapsible Tubes, Flow Measurement - Calibration ,Flowmeters, and Thermodynamic Analysis. She has several research articles and completed a variety of experimental research projects. She has been directing M.Sc. and Ph.D. studies in her research fields. Her research project on Pulsatile Flow was awarded as the second successful research in 2001 by The Scientific and Technological Research Council of Turkey –TUBITAK (H.TUGAÇ FUND) . She is the author of 24 Journal Papers with 178 citations (ISI Web of Science) currently. She has been the acting head of Thermodynamics Branch of Science in Department of Mechanical Engineering since 2004.

## Plenary Lecture 2

### Rainfall-Runoff Modeling Based on Self Organizing Map and Wavelet Pre-Processing Techniques



#### Associate Professor Vahid Nourani

Faculty of Civil Eng.

University of Tabriz

Iran

formerly, Assoc. Prof. St. Anthony Falls Lab  
and NCED, Dept. Civil Eng.

University of Minnesota, USA

E-mail: [vnourani@umn.edu](mailto:vnourani@umn.edu)

**Abstract:** The precise rainfall-runoff model provides vital information for water resources planning and watershed management. Since the spatial and temporal selection of input data is a key element for accurate modeling, data screening and preprocessing become the main concern in any data driven modeling. To this end, this paper combined multi techniques to introduce an optimal Feed Forward Neural Network (FFNN) rainfall-runoff model. In this way, self-organizing map (SOM) clustering technique was applied to identify spatially homogeneous clusters of precipitation obtained from satellite data. Besides, the wavelet transform (WT) was utilized in order to extract dominant temporal features from runoff non-stationary time series. The comparison of proposed hybrid model (SOM-WT-FFNN) with single SOM-FFNN model and conventional auto regressive integrated moving average with exogenous input (ARIMAX) model, proved the efficiency of the developed methodology. Satellite data as a source of daily precipitation and runoff data from Gilgel Abay watershed in Ethiopia were applied for calibration and validation purposes. The results of the study provide promising evidence for combining spatial and temporal data pre-processing methods in forecasting runoff values specifically peak records using the FFNN method.

**Brief Biography of the Speaker:** Vahid Nourani was born in Tabriz, Iran in 1975 and received his B.Sc. and M.S. degrees in Civil Engineering from University of Tabriz, Iran in 1998 and 2000, respectively. He then continued his graduate study in Civil and Environmental Engineering in the field of Hydrology at Shiraz University, Iran and Tohoku University, Japan and was graduated in 2005. Nourani was with the Faculty of Civil Engineering, University of Tabriz as an Assistant Professor from 2005-2009; as Associate Professor from 2009-2012 and with Dept. of Civil Eng., University of Minnesota, USA at 2011 as visiting associate professor. In this period, 45 Ph.D. and M.Sc. students were graduated under his technical supervision. His research interests include rainfall-runoff modeling, Artificial Intelligence applications to water resources engineering, Hydroinformatics and computational hydraulics. His researches outcomes have been published as 51 Journal articles, 1 book, 2 book chapters and more than 55 papers presented in international and national conferences. He is currently researching on hydrological models generated via satellite data as well as pre-processing methods such as Self Organizing Maps and wavelets for developing optimum models.

### Plenary Lecture 3

#### Studies and Researches Regarding the Use of a Water Mill for Irrigations



**Associate Professor Badea Lepadatescu**  
Department of Manufacturing Engineering  
Faculty of Technological Engineering and Industrial Management  
Transilvania University of Brasov  
Romania  
E-mail: lepadatescu@unitbv.ro

**Abstract:** In the paper are shown the recent researches regarding the use of a water mill in irrigations. Because it is happened to don't rain long period of time, many crops are compromised. For this reason we made researches to use a type of water mill that is easy to build and that help to obtain good result in agriculture even in the years with small quantity of rain. It is necessary to use this water mill only one condition, to have a river in the area from where it takes the water.

**Brief Biography of the Speaker:** Badea Lepadatescu is currently an Associate Professor at the Faculty of Technological Engineering and Industrial Management of Transylvania University of Brasov, Romania. He obtained his doctoral degree in 1998 in the area of machining through superfinishing process. After he graduated he worked five years as design engineer at Roman truck factory in the field of manufacturing processes where he designed many devices and special machine tools especially for superfinishing process. Started on 1982 he worked as research engineer at Transilvania University of Brasov, and after 1997 he is teaching at Department of Manufacturing Engineering. His main academic interests include Tolerance and Dimensional Control, Manufacturing Engineering Processes, Automation Processes, and Renewable Energy Sources. The research accomplishments are reflected through publications in a five books and authored or co-authored over 120 papers published at international conferences. He has extensive experience in both experimental and theoretical research work having more than 50 contracts with factories to design and produce machine tools for machining processes. Also in the field of Renewable Energy Sources together with a team he made two wind turbines, one with horizontal axis for taking water, and one with vertical axis to produce electric energy. He has been speaker to international conferences, has moderated forums, organized symposia, workshops and sessions at major international conferences.

## Plenary Lecture 4

### Flows of Dissolved Organic Substances and Factors Controlling It



**Professor Maris Klavins**  
Department of Environmental Science  
University of Latvia  
Riga, Latvia  
E-mail: maris.klavins@lu.lv

**Abstract:** The impact on sea and coastal areas is influenced by chemical composition of waters and loads of dissolved substances to the sea. Of importance in this respect are flows of natural organic substances – humic substances (major part of dissolved organic carbon DOC). Transfer from adjacent areas, but also industrial effluents and non-point pollution sources can be sources of increased fluxes of DOC. The number of studies of dissolved organic carbon (DOC) during the last few years is very much growing and the interest is more and more moving from sum parameters (colour, COD, TOC, DOC, BOD) towards parameters describing composition of dissolved organic matter (DOM). As far as dissolved organic matter is composed from a large number of individual molecules, their isolation and characterisation seems to be too complex task. Instead of that, the sum of parameters describing properties of majority of organic substances can be used.

The aim of this study is to describe long term changes of DOC concentrations in surface waters, factors controlling DOC runoff, spatial variability of water chemical composition, possible impacts of pollution sources, and to analyze the character of compositional changes.

Impact of other major water ingredients on DOC budgets has been studied. The dynamics of DOC flows depending on landuse pattern and soil properties are described, including emissions by industrial and agricultural production. The water chemistry of a large number of lakes and rivers has been determined and the possible impact of water chemical composition on water quality has been evaluated.

As a tool spectral analysis of DOC has been used, for example applying fluorescence index. The changes of DOC concentrations follow a pattern common for Rivers in Northern Europe and much depends on the river discharge regime. Higher concentrations of organic carbon are observed in autumn and other maximum. In the pool of TOC, a major role is played by dissolved organic substances and only during spring and autumn seasons particulate organic carbon reaches up to 5 % of the TOC.

**Brief Biography of the Speaker:** Maris Klavins graduated from the University of Latvia in 1979, doctoral dissertation defended in Moscow University (Russia) in 1985, but habilitation thesis in University of Latvia in 1993. Maris Klavins (professor, dr.habil.chem.) is head of Environmental science department of Faculty of Geography and Earth sciences, University of Latvia. M.Klavins is member of editorial boards of 6 scientific journals, member of 3 societies related to environmental chemistry issues and full member of Academy of Sciences of Latvia. M.Klavins has been leader of several projects related to the environmental issues mostly doing with environmental pollution and management, and quality of water, but including also political and social sciences and sustainable development science.

## Plenary Lecture 5

### Drylands, Land Degradation, Desertification – 3 Hot Topics, Many Hot Questions



**Assistant Professor Rares Halbac-Cotoara-Zamfir**  
Hydrotechnical Engineering Department  
„Politehnica” University of Timisoara  
Romania  
E-mail: raresh\_81@yahoo.com

**Abstract:** We are living in a world strongly influenced by drylands. Millions of people are depending on these lands but they also exercise a high pressure on them. Drylands are complex systems, without having a single agreed definition, but in the same time they are vulnerable in challenging human living necessities. Presenting a high variability over time, many drylands are failing in facing the human pressure and after a continuous process of degradation are turning to desert.

The any factors of drylands degradation as well as the consequences of this process remain controversial and many times poorly understood creating difficulties for sciences to establish or at least to reach a consensus about a standard set of indicators used in monitoring desertification. A question rise from here: It is always desertification an outcome of land degradation? But this is not the only hot question. How we can quantify and qualify the factors leading to land degradation if they act across the scales and more than that, how we can quantify the large diversity of different combination between these factors?

It is known so far that we must work with at least two dimensions: humanity and biophysical. The process of incorporating actual knowledge in a conceptual framework developed on these two dimensions may offer some answers. The third dimension is time. During the last century we observed changes in human's number, culture, policies, mentality, all of them having a significant impact on land degradation. This lecture will try to offer some answers at the previous questions and will present a new view on drylands degradation.

**Brief Biography of the Speaker:** Dr. R. Halbac-Cotoara-Zamfir holds a BSc in Civil Engineering from the „Politehnica” University of Timisoara (RO), a MSc in Environment Protection and a PhD in Civil Engineering (2010) from „Politehnica” University of Timisoara. He works as Assistant Professor at Hydrotechnical Engineering Department, Civil Engineering Faculty.

His research interests are: land reclamation and improvement, integrated water management, water scarcity, soil sciences, environment protection, urban and rural development, regional development, sustainable development, human resources.

He is involved in several research projects, as Project Manager and Working Group leader, funded by European Union through INTERREG IVC, Leonardo, COST programs. He is member of Editorial Board and reviewer for International Journals covered by EBSCO, Index Copernicus, Ulrich's Periodicals Directory, Google Scholar etc. Dr. R. Halbac-Cotoara-Zamfir published in 8 years of activity more than 40 papers from which 14 are rated in ISI Journal and conference proceedings indexed by ISI Web of Science.

## Authors Index

Aksel, M. H.	15	Kurakbayeva, S.	152
Ambrosini, D.	25	Kutlar, A. I.	15
Antonescu, O.	42	Lepadatescu, B.	120
Antonescu, P.	42	Lovichová, R.	31
Asl, S. M.	98	Malinconico, S.	157
Baghanam, A. H.	104	Mateescu, M.	110, 115
Bellagamba, S.	157	Melcher, J.	36
Beltrán-Prieto, J. C.	128	Nejad, F. H.	104
Bezak, J.	86, 92	Nourani, V.	98, 104, 133
Bittnar, P.	20	Opris, I.	172
Brener, A.	152	Özahi, E.	51, 56
Çarpınlioğlu, M. Ö.	56, 61, 71	Padevët, P.	20, 31
Cassandra, F.	157	Păduraru, O. M.	167
Cisty, M.	86, 92	Paoletti, D.	25
De Leo, C.	25	Pasztorova, M.	86
De Simone, P.	157	Popa, L.	120
Delirhasannia, R.	133	Purmalis, O.	146
Demir, H.	51	Rahimi, A. Y.	104
Dumitriu, R. P.	162	Sadraddini, A. A.	133
Filipov, U. S.	162, 167	Shakirov, B.	152
Galli, G.	25	Sharghi, E.	98
Gheju, M.	110, 115	Sharifi, S. S.	133
Ghorbani, A.	133	Simon, P.	80
Hajn, M.	66	Sirbulescu, M.	42
Ignatov, I.	76	Skalova, J.	86
Kalbayeva, A.	152	Sorkhkolaei, M. K.	98
Kara, E.	15	Tozlu, A.	61
Karmazínová, M.	36, 80	Vasile, C.	162, 167
Klavins, M.	140, 146	Veloz-Rodríguez, R.	128