doi: 10.5004/dwt.2022.29190

# Special issue on the First International Congress on Energy and Industrial Process Engineering (ICEIPE'22) Mercure Hotel, Algiers, Algeria, 23–25 May 2022 (hybrid mode)

# Foreword

This Special Issue of Desalination and Water Treatment contains manuscripts presented at The First International Congress on Energy and Industrial Process Engineering (ICEIPE'22), organized by the Laboratory of Matter's Valorisation and Recycling of Materials for Sustainable Development (VRMDD, University of Science and Technology Houari Boumedienne (USTHB), Algeria), that was held at the Mercure Hotel in Algiers (Algeria) on 23–25 May 2022 (hybrid mode).

The topics of the congress included:

- Energy Conversion and New Energies
- Extraction Processes
- Pharmaceuticals and Cosmetics
- Agribusiness
- Material Recovery and Recycling
- Chemical Processes and the Environment
- Fluid Transport.

The congress provided a platform for researchers, engineers, and academicians to present and discuss their research results in the field of Industrial Process Engineering. A total of 700 abstracts were received, and after a peer reviewing process, 97 oral presentations and 170 posters were presented. More than 85 papers were submitted for publication, and only 33 manuscripts were accepted for publication in this Special Issue after a second rigorous review process.

There were several excellent plenary talks, given by

- Alberto Figoli (ITM-CNR Director, Italy)
- Cameselle Claudio (Professor at University of Vigo Spain)
- Fabiana Arduini (Associate Professor at University of Rome, Italy)
- Hayet Djelal (Teacher-researcher at Unilasalle, France)
- Imen Khouni (Doctor of Biological Engineering, Tunisia)
- Konstantinos Plakas (Associate Researcher at Centre for Research and Technology Hellas (CERTH) Greece)
- João Crespo (Full Professor, Center for Fine Chemistry and Biotechnology, Lisboa, Portugal)
- Rabah Sellami (Director of Renewable Energy and Energy Efficiency Programs, CEREFE, Algeria)
- Nabila Ayachi (Associate Professor, Galenic Pharmacy, Blida, Algeria)
- Clément Trellu (Associate Professor, Gustave Eiffel University, France).
- Raja Ben Amar (Associate Professor at University of Sfax, Tunisia).
- Djamel Chaïb (General Manager at BIOSOURCE Groupe, Algeria).

Sincere thanks go to the ICEIPE'21 International Scientific Committee for their strong support as well as to the Congress Organizing Committee for their tireless efforts and dedication.

On behalf of the Organizing Committee, we would also like to recognize and acknowledge the financial support of the Directorate General for Scientific Research and Technological Development (DGRSDT) in Algeria.

Finally, the Guest Editors would like to offer a special thanks to Prof. Miriam Balaban for allowing us to publish the conference papers in this special issue.

1944-3994 / 1944-3986 © 2022 Balaban Desalination Publications. All rights reserved.

## **Guest editors**

Nassila Sabba Laboratory of Matter's Valorisation and Recycling of Materials for Sustainable Development (VRMDD) University of Sciences and Technology Houari Boumediene, Algeria

Hacina Abchiche Laboratory of Matter's Valorisation and Recycling of Materials for Sustainable Development (VRMDD) University of Sciences and Technology Houari Boumediene, Algeria

Sadjia Bertouche Laboratory of Matter's Valorisation and Recycling of Materials for Sustainable Development (VRMDD) University of Sciences and Technology Houari Boumediene, Algeria

Nadia Chekir Laboratory of Matter's Valorisation and Recycling of Materials for Sustainable Development (VRMDD) University of Sciences and Technology Houari Boumediene, Algeria

## **Conference Chair**

Dr. Naima Sahraoui Valorization and Recycling of Materials for Sustainable Development Laboratory Faculty of Mechanical Engineering and Process Engineering, University of Sciences and Technology Houarie Boumedien (USTHB) Algeria Mattheus Goosen Office of Research and Innovation, and Graduate School, Alfaisal University Riyadh, Saudi Arabia

Hacene Mahmoudi Faculty of Technology Hassiba Benbouali University of Chlef, Algeria

Mounir Mellal Laboratory of Matter's Valorisation and Recycling of Materials for Sustainable Development (VRMDD) University of Sciences and Technology Houari Boumediene, Algeria

Naima Sahraoui Laboratory of Matter's Valorisation and Recycling of Materials for Sustainable Development (VRMDD) University of Sciences and Technology Houari Boumediene, Algeria

Mourad Taleb Ahmed Laboratory of Matter's Valorisation and Recycling of Materials for Sustainable Development (VRMDD) University of Sciences and Technology Houari Boumediene, Algeria

## **Honorary Conference Committee**

Prof. Djamal Eddine Akretche (Rector, USTHB) Dr. Belaid Bouzouane (Dean, GM/GP, USTHB) Dr. Nassila Sabba (Director VRMDD, USTHB)

#### **Organizing committee**

Dr. Hacina Abchiche (VRMDD, GM/GP, USTHB) Mr. Mourad Belkebla (VRMDD, GM/GP, USTHB) Dr. Sadjia Bertouche (VRMDD, GM/GP, USTHB) Dr. Nadia Chekir (VRMDD, GM/GP, USTHB) Dr. Nadia Guettaï (VRMDD, GM/GP, USTHB) Dr. Souhila Kadem (VRMDD, GM/GP, USTHB) Prof. Mounir Mellal (VRMDD, GM/GP, USTHB) Dr. Nassila Sabba (VRMDD, GM/GP, USTHB) Dr. Mahdia Saidi (LDB, BIO, USTHB) Prof. Mourad Taleb Ahmed (VRMDD, GM/GP, USTHB) Dr. Abdelfetah Zenati (LBE, GC, USTHB)

#### **International Scientific Committee**

oud (University of Medea,	Prof. Y.K. Benkahl	a (USTHB, Algeria)
Algeria)	Prof. E. Benyoucef	(ENP, Algeria)
(University of Blida, Algeria)	Prof. S. Bouafia	(USTHB, Algeria)
(Italy)	Prof. M. Chabani	(USTHB, Algeria)
(USTHB, Algeria) In memory	Prof. H. Cherifi	(University of Medea, Algeria)
(Tunisia)	Prof. C. Claudio	(Spain)
	Algeria) (University of Blida, Algeria ) (Italy) (USTHB, Algeria) In memory	Algeria)Prof. E. Benyoucef(University of Blida, Algeria)Prof. S. Bouafia(Italy)Prof. M. Chabani(USTHB, Algeria) In memoryProf. H. Cherifi

Prof. J. Crespo	(Portugal)	Dr. N. Boudaoued	(USTHB, Algeria)
Prof. N. Dahmani	(University of Tizi Ouzou,	Dr. N. Chekir	(USTHB, Algeria)
	Algeria)	Dr. F. Danane	(CDER, Algeria)
Prof. S. Hannini	(University of Medea, Algeria)	Dr. N. Derouiche	(CRTSE, Algeria)
Prof. M. Hazzit	(ENSA, Algeria)	Dr. H. Djelal	(France)
Prof. N. Labsi	(USTHB, Algeria)	Dr. A. Figoli	(ITM-CNR Italy)
Prof. A. Louhab	(University of Boumerdes,	Dr. N. Guettaï	(USTHB, Algeria)
	Algeria)	Dr. S. Igoud	(UDES, Algeria)
Prof. H. Lounici	(University of Bouira, Algeria)	Dr. S. Kadem	(USTHB, Algeria)
Prof. H. Mahmoud	li (University of Chlef, Algeria)	Dr. R. Khaladi	(University of Medea, Algeria)
Prof. M. Mellal	(USTHB, Algeria)	Dr. I. Khouni	(Tunisia)
Prof. M. Ould Han	nou (ENSP, Algeria)	Dr. F. Kies	(ENP, Algeria)
Prof. M. Taleb Ahn	ned (USTHB, Algeria)	Dr. E. Mekatel	(USTHB, Algeria)
Prof. L. Touhami (	University of El Oued, Algeria)	Dr. L. Merabti	(UDES, Algeria)
Dr. H. Abchiche	(USTHB, Algeria)	Dr. Y. Nait Bachir	(University of Blida, Algeria)
Dr. S. Akretche Ke	lfat (USTHB, Algeria)	Dr. K. Plakas	(CERTH, Greece)
Dr. N. Ayachi	(University of Blida, Algeria)	Dr. N. Sabba	(USTHB, Algeria)
Dr. O. Benhabiles	(UDES, Algeria)	Dr. N. Sahraoui	(USTHB, Algeria)
Dr. N. Bentaieb	(USTHB, Algeria)	Dr. D. Tassalit	(UDES, Algeria)
Dr. S. Bertouche	(USTHB, Algeria)	Dr. Z. Tigrine	(UDES, Algeria)