

CSEE

CONGRESS

8th WORLD CONGRESS ON CIVIL, STRUCTURAL, AND ENVIRONMENTAL ENGINEERING



March 29 - 31, 2023 | Lisbon, Portugal

Dr. Hany El Naggar
Dalhousie University, Canada

CONGRESS CHAIR

Dr. Joaquim Barros
University of Minho, Portugal

CONGRESS CO-CHAIR

WEDNESDAY, MARCH 29

VIRTUAL

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8th WORLD CONGRESS ON CIVIL, STRUCTURAL, AND ENVIRONMENTAL ENGINEERING

March 29 - 31, 2023 | Lisbon, Portugal

The Organizing and Scientific Committees would like to welcome you to the 8th World Congress on Civil, Structural, and Environmental Engineering (CSEE'23).

CSEE'19 consists of three conferences:

- 8th International Conference on Geotechnical Research and Engineering (ICGRE'23)
- 8th International Conference on Structural Engineering and Concrete Technology (ICSECT'23)
- 8th International Conference on Environmental Pollution, Treatment and Protection (ICEPTP'23)

The Congress aims to become one of the leading international annual events in the fields of civil, structural, and environmental engineering. This Congress will provide excellent opportunities for scientists, researchers, and industrial specialists to present their research achievements and to develop new collaborations and partnerships with experts in the field.

In the eighth meeting of this Congress, two Plenary speakers and seven keynote speakers will share their expertise in a wide spectrum of fields and applications. In addition, approximately 105 papers will be presented by professors, students, and researchers from across the world.

The Congress is organized in Lisbon, Portugal. Lisbon, is capital of Portugal and it is the westernmost capital city in continental Europe and serves as the country's chief port, largest city, and commercial, political, and tourist centre in Portugal. We hope you will have time to enjoy the ambience and hospitality of this city.

We thank you for your participation and contribution to the 8th World Congress on Civil, Structural, and Environmental Engineering (CSEE'23).

We wish you a very successful and enjoyable experience.

Dr. Hany El Naggar
Dalhousie University, Canada
Congress Chair

Dr. Joaquim Barros
University of Minho, Portugal
Congress Co-Chair

8th International Conference on Geotechnical Research and Engineering (ICGRE'23)

The Organizing Committee of the 8th International Conference on Geotechnical Research and Engineering (ICGRE'23) would like to thank the following members for accepting to contribute to the conference.

Scientific Committee Members:

Dr. Anil Cherian, Straininstall, UAE

Dr. Susanga Costa, Deakin University, Australia

Dr. Johan Clausen, Aarhus University, Denmark

Dr. Ahmed Fahmy, 30 Forensic Engineering, Canada

Dr. Johann Facciorusso, University of Florence, Italy

Dr. Russell A. Green, Virginia Tech, USA

Dr. Marte Gutierrez, Colorado School of Mines, UK

Dr. Rajeshwar Goodary, Université des Mascareignes, Mauritius

Dr. Victor Kaliakin, University of Delaware, USA

Dr. Majidreza Nazem, RMIT University, Australia

Dr. Antonio Miglio, Consulting Engineer, Italy

Dr. Nunzianta Squeglia, University of Pisa, Italy

Dr. Ondra Sracek, Palacky University in Olomouc, Czech Republic

Dr. Roger Tilley, University of California Santa Cruz, USA

Dr. Farshid Vahedifard, Mississippi State University, USA

Dr. Hsin-Fu Yeh, National Cheng Kung University, Taiwan

8th International Conference on Structural Engineering and Concrete Technology (ICSECT'23)

The Organizing Committee of the 8th International Conference on Structural Engineering and Concrete Technology (ICSECT'23) would like to thank the following members for accepting to contribute to the conference.

Scientific Committee Members:

Dr. Federico Accornero, Politecnico di Torino, Italy

Dr. Fahid Aslam, Prince Sattam bin Abdulaziz University, KSA

Dr. Firas AL MAHMOUD, University of Lorraine, France

Dr. Michele Barbato, University of California, USA

Dr. Chia-Ming Chang, National Taiwan University, Taiwan

Dr. Nawawi Chouw, University of Auckland, New Zealand

Dr. Bassam A. Izzuddin, Imperial College London, UK

Dr. Tribikram Kundu, University of Arizona, USA

Dr. Venkatesh Kodur, Michigan State University, USA

Dr. Beatriz Martin-Perez, University of Ottawa, Canada

Dr. Vangelis Marinakis, National Technical University of Athens, Greece

Dr. Saber Moradi, Toronto Metropolitan University, Canada

Dr. J.N Reddy, Texas A&M University, USA

Dr. M. Shamim Miah, Graz University of Technology (TU Graz), Austria

Dr. Kejin Wang, Iowa State University, USA

8th International Conference on Environmental Pollution, Treatment and Protection (ICEPTP'23)

The Organizing Committee of the 8th International Conference on Environmental Pollution, Treatment and Protection (ICEPTP'23) would like to thank the following members for accepting to contribute to the conference.

Scientific Committee Members:

Dr. Shahid Azam, University of Regina, Canada

Dr. Elena Alvareda, University of the Republic of Uruguay, Uruguay

Dr. Valentina Busini, Politecnico di Milano, Italy

Dr. Fatma Esen, Uludag University, Turkey

Dr. Emma Hellowell, University of Surrey, UK

Dr. Jennifer Gubitosa, Università degli Studi di Bari Aldo Moro, Italy

Dr. Gordon Huang, University of Regina, Canada

Dr. Mervat El-Hoz, CEO, Environmental Engineering Consultin, Australia

Dr. Stuart Khan, University of New South Wales, Australia

Dr. Meysam Majidi Nezhad, Sapienza University of Rome, Italy

Dr. Vito Rizzi, Università degli Studi di Bari Aldo Moro, Italy

Dr. Grzegorz Sierpiński, Silesian University of Technology, Poland

Dr. Wai Yuen Szeto, University of Hong Kong, Hong Kong

Dr. Keisuke Watanabe, Tokai University, Japan

Dr. Shunde Yin, University of Waterloo, Canada

Dr. Chuyang Y. Tang, University of Hong Kong, Hong Kong



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Walter P Murphy Professor(emeritus)
Northwestern University, USA

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10:00 AM - 12:00 PM

Registration

ICSECT PLENARY LECTURE - VIRTUAL - ROOM 1

01:00 PM - 01:55 PM

Keynote Lecture

SESSION CHAIR:

Dr. Joaquim Barros, Institute for Sustainability and Innovation in Structural Engineering, University of Minho, Portugal



Climate Change and Innovations in Concrete Technology

Dr. Surendra P. Shah,

University of Texas at Arlington; Northwestern University, USA

Dr. Shah has been actively involved in concrete technology research for several decades. Dr. Shah's research addresses a variety of topics in concrete materials science and engineering, including high-strength concrete, shrinkage measurement, nondestructive test methods to monitor properties ranging from setting time to the modulus of elasticity, and rheology of fresh concrete, self-consolidating concrete, and nanotechnology applications. He has made pioneering and groundbreaking contributions to the understanding of fiber-reinforced concrete, damage, and fracture, as well as developing innovative experimental techniques. He served as a Professor of Civil Engineering, at Northwestern University and founded NSF-funded Center for Advanced Cement Based Materials (ACBM) including the academic partners universities of Illinois, Michigan, Purdue, and NIST. This center has encouraged multidisciplinary research and established a new paradigm in materials science research for cement and concrete. In addition to teaching at Northwestern, he has taught at the University of Illinois at Chicago and served as a visiting professor at Massachusetts Institute of Technology (MIT), University of Sydney, Denmark Technical University, Delft University of Technology, National University of Singapore, Darmstadt Technical University and LCPC Paris. He has been an honorary professor at the Hong Kong Polytechnic University and

MORNING PARALLEL SESSION I - ROOM 1

01:55 PM - 02:35 PM

Soil and Rock Mechanics and Characterization I

SESSION CHAIR: Dr. Magdi El-Emam, American University
of Sharjah, UAE

ICGRE 109 **A Preliminary Insight into the Effects of Tailing Wastes
Addition on Metakaolin-based Geopolymers**

01:55 - 02:05

Presenter: Gianluca Bella, Pini Group Ltd, Switzerland

Authors: Fernando Lameiras, Carolina Freire, Gianluca Bella

ICGRE 114 **Hydro-Mechanical Behaviour and Critical State
Conditions of Unsaturated Silty Tailings**

02:05 - 02:15

Presenter: Gianluca Bella, Pini Group Ltd, Switzerland

Authors: Gianluca Bella and Guido Musso

ICGRE 115 **Mechanical Response of Tailings under Monotonic
Triaxial Tests in Unsaturated and Nearly Saturated
Conditions**

02:15 - 02:25

Presenter: Gianluca Bella, Pini Group Ltd, Switzerland

Authors: Gianluca Bella

ICSECT 141 **Experimental Study to Implement the Saw-Cut
Technique in Post-tensioned Concrete Beams under
Laboratory Conditions**

02:25 - 02:35

Presenter: Juan A. MATEU SANCHEZ, Universitat Politècnica de
València, Spain

Authors: J.A. Mateu-Sánchez, P. Serna, E. Giménez-Carbó, M.C. Cas-
tro-Bugallo, J. Navarro-Gregori and J.R. Martí-Vargas

ICGRE 125 **Estimating Particle Size Distribution of Mine Dump
Materials using CenterMask Neural Network**

02:35 - 02:45

Presenter: Shubham Shrivastava, Indian Institute of Technology
Kharagpur, India

Authors: Shubham Shrivastava, Debasis Deb

02:45 PM - 02:55 PM **SESSION BREAK - ROOM 1**

MORNING PARALLEL SESSION I - ROOM 2

Geoenvironmental Related Topics

01:55 PM - 03:30 PM **SESSION CHAIR:** Dr. Vito Rizzi, Università degli Studi di Bari “Aldo Moro”, Italy & Dr. Jennifer Gubitosa, Università degli Studi “Aldo Moro”, Italy

ICGRE 144
01:55 - 02:05 **Numerical Modelling and Intervention Measures for Snow Avalanche Protection of the Blattbach Railway Tunnel**

Presenter: Matteo Giani, Scuola Universitaria Professionale Svizzera Italiana, Pini Group Ltd, Switzerland

Authors: Mirko Fasolino, Matteo Giani, Christian Ambrosi, Alessandro De Pedrini, Manuel Lüscher, Gianluca Bella

ICGRE 141
02:05 - 02:15 **Effect of Soil Type on Efficiency of Recycled Jute Fibre as Natural Reinforcing Material**

Presenter: Aditya Parihar, Thapar Institute of Engineering & Technology, India

Authors: Aditya Parihar, Kailash Attri, Babita Saini

ICGRE 153
02:15 - 02:25 **Forecast Rainfall Density by Utilizing Machine Learning Models**

Presenter: Sung-Chi Hsu, Chaoyang University of Technology, Taiwan

Authors: Sung-Chi Hsu, Alok Kumar Sharma

ICGRE 134
02:25 - 02:35 **Analysis of the Load Displacement Behaviour of Bored Pile using Different Soil Constitutive Models for Chittagong Soil**

Presenter: Sultan Al Shafian, Islamic University of Technology, Bangladesh

Authors: Sultan Al Shafian, Jin Zhenqi, Md. Shaheduzzaman, Fuad Bin Nazrul, Daud Nabi Hridoy, Musaddik Hossain

ICGRE 139 **Deformation Behaviour Analysis Using Finite Element Method during Deep Excavation in Dhaka City**
02:35 - 02:45

Presenter: Sultan Al Shafian, Islamic University of Technology, Bangladesh

Authors: Sultan Al Shafian, Md Nafis Imtiyaz, Mostafiz Emtiaz

ICGRE 156 **Stress-Displacement Distribution during Subway Station Construction Using CAPS Method**
02:45 - 02:55

Presenter: Ehsan Taherabadi, Imam Khomeini International University, Iran

Authors: Ehsan Taherabadi, Amir Aminnia

ICGRE 121 **The Effect of Granulate Waste Tires on the Geotechnical Properties of Clays**
02:55 - 03:05

Presenter: Fauzi Jarushi, University of Tripoli, Libya

Authors: Fauzi H. Jarushi, Abdullah Talibullah

ICGRE 131 **Hydrogeochemical Analysis as a Tool to Verify Seepage Flow Paths in an Earth Dam**
03:05 - 03:15

Presenter: Maria Sierra, Lead Geotechnical Engineer at Integral S.A, Colombia

Authors: Zorany S. Zapata, Maria C. Sierra, Adriana M. Blanco

ICSECT 149 **An Experimental Investigation of Environmentally Friendly Concrete Reinforced With Graphene Nanoplatelets**
03:15 - 03:30

Presenter: Leidys Johana Jaramillo, Swinburne University, Austral

Authors: Leidys Johana Jaramillo, Robin Kalfat

03:30 PM - 03:45 PM **SESSION BREAK - ROOM 2**

AFTERNOON PARALLEL SESSIONS II - ROOM 1

Design and Modelling

02:55 PM - 04:25 PM

SESSION CHAIR: Dr. Joaquim Barros, University of Minho, Portugal & Dr. Paulo Cachim, University of Aveiro, Portugal

ICGRE 164
02:55 - 03:05

Shear Strength and Bearing Capacity of Fibre-Reinforced Sand

Presenter: Magdi El-Emam, American University of Sharjah, UAE

Authors: Magdi El-Emam, Ashraf Amin

ICGRE 111
03:05 - 03:15

Correlation of SPT-N & CPT Parameters of Dhaka Soil

Presenter: Anika Tahsin Nabila, Islamic University of Technology, Bangladesh

Authors: Anika Tahsin Nabila, Nazifa Sayeed, Rifah Karim, Dr. Hossain Md. Shahin, Md. Shamsul Islam

ICGRE 106
03:15 - 03:25

Interpretation of Static Load Tests on the Burj Khalifa's Foundation Piles

Presenter: Anil Cherian, Straininstall Middle East L.L.C. (SME), UAE-

Author: Anil Cherian

ICSECT 125
03:25 - 03:35

Optimization of a Waffle Slab for a Reinforced Concrete Structure. Economic and Environmental Comparison

Presenter: Jorge Los Santos, University of La Rioja, Spain

Authors: Jorge Los Santos, Esteban Fraile, Javier Ferreiro

ICSECT 135
03:35 - 03:45

Innovative Training Methodology, In Occupational Risk Prevention, For Welding Tasks in Metal Structures

Presenter: Jorge Los Santos, University of La Rioja, Spain

Authors: Jorge Los Santos, University of La Rioja, Spain

ICGRE 136
03:45 - 03:55

Implementing Variations on Geotechnical Measurements into FEM Soil Material Parameters

Presenter: Somers Raf, International Marine and Dredging Consultants (IMDC), Belgium

Authors: Somers Raf, Noël Christophe, Tavallali Abbass, Verastegui-Flores Ramiro Daniel

ICGRE 126
03:55 - 04:05

Estimation of the Depth of Flexible Pavement Layers Using Artificial Neural Network

Presenter: Osama ElSahly, American University of Sharjah, UAE

Authors: Osama ElSahly, Mohamed AlQahtani, Akmal Abdelfatta

ICGRE 122
04:05 - 04:15

Numerical Investigation on Tailing Dams Stability: a Preliminary, Parametric Analysis of some Key Factors

Presenter: Matteo Giani, Pini Group Ltd, Switzerland

Authors: Gianluca Bella, Carolina Freire, Fernando Lameiras, Matteo Giani

ICGRE 123
04:15 - 04:25

BIM and Tunnelling – a Norwegian application: the Sotra Link Project

Presenter: Matteo Giani, Pini Group Ltd, Switzerland

Authors: Guido Barbieri, Matteo Giani, Enrico De Panicis, Andrea Biagi, Dario Della Femina, Gianluca Bella

AFTERNOON PARALLEL SESSION II - ROOM 2

Environmental Protection I

03:45 PM - 04:50 PM

SESSION CHAIR: Dr. Aditya Parihar, Thapar Institute of Engineering and Technology Patiala, India

ICEPTP 172 **Gold Nanoparticles from Grape Pomace Wastes:
Cosmetic and Biomedical Applications**

03:45 - 03:55

Presenter: Vito Rizzi, Università degli Studi di Bari "Aldo Moro", Italy
Authors: Vito Rizzi, Jennifer Gubitosa, Anna Laurenzana, Francesca Scavone, Elena Frediani, Gabriella Fibbi, Paola Fini, Pinalysa Cosma

ICEPTP 105 **Entrapment of Nickel in Ferrochrome Ash by Native
Lysinibacillus sp Bacteria**

03:55 - 04:05

Presenter: Mahindra Kothuri, National Institute of Technology Karnataka, India
Authors: Mahindra Kothuri, Devatha CP

ICEPTP 171 **Alginate-Based Composite Films as Innovative and
Multifunctional Packaging Material for Extending Food
Shelf-Life**

04:05 - 04:15

Presenter: Jennifer Gubitosa, Università degli Studi "Aldo Moro", Italy
Authors: Jennifer Gubitosa, Vito Rizzi, Filippo Maggi, Giovanni Caprioli, Ahmed M Mustafa, Nicoletta De Vietro, Antonella Aresta, Paola Fini, Pinalysa Cosma

ICEPTP 186 **Preliminary Screening for Heavy Metals in Sediments
of Urban Streams from Uruguay**

04:15 - 04:20

Presenter: Elena Alvareda, Departamento del Agua CENUR Litoral Norte Universidad de la República, Uruguay
Authors: Elena Alvareda, Jimena Alvarez, Sofia Da Rocha, Adriana Piperno, Matias Salvo, Pablo Gamazo, Valery Bühl, Bárbara Suarez, Rafael Navas and Franco Teixeira de Mello

ICEPTP 204 **Reducing Environmental Impact of Drilling Operations
through the Implementation of Organic Waste
Additives for Environmental Protection**

04:20 - 04:30

Presenter: Biltayib Misbah Biltayib, Australian University, Kuwait
Authors: Biltayib Misbah, Rana N. Malhas, Rida Elgaddafi

ICEPTP 191 **Phytoremediation of Cadmium and Nickel
Contaminated Clay Soil in Lebanon Using Poplar Trees**

04:30 - 04:40

Presenter: Alice Abou Chacra, American University of Beirut,
Lebanon

Authors: Alice Abou Chacra, Samir Mustapha, Darine Salam,
Walid El Kayal

ICEPTP 105 **Quantification of Hydrocarbon Contamination in Soil
Using Hyperspectral Data and Deep Learning**

04:40 - 04:50

Presenter: Rafic Ayass, American University of Beirut, Lebanon

Authors: Rafic Ayass, Samir Mustapha, Darine Salam

AFTERNOON PARALLEL SESSION III - ROOM 1

Modelling and Simulation

04:25 PM - 05:25 PM

SESSION CHAIR: Dr. Anil Cherian, Strainstall Middle East, UAE

ICSECT 146 **Investigation of the Separation Distance for Preventing Seismic Effects on Reinforced Concrete Buildings**
04:25 - 04:35

Presenter: Arcan Yanik, Istanbul Technical University, Turkey

Authors: Tolunay Ibrahimagaoglu, Arcan Yanik

ICSECT 117 **Effect of Reinforcement Corrosion on Axial and Flexural Performance of R.C. Columns**
04:35 - 04:45

Presenter: Maha Dabas, University of Ottawa, Canada

Authors: Maha Dabas, Beatriz Martin-Pérez, Husham Almansour

ICGRE 154 **Determination of Zones at Risk of Flooding During A Breakage of an “El Abiod Ghardaia” Dam**
04:55 - 05:05

Presenter: Sarah Kreri, Centre des Techniques Spatiales, Algeria

Authors: Sarah Kreri, Sarah Kreri, KEBIR Lahsen Wahib, Abd El Fetah Azzouz

ICGRE 130 **Performance Analysis of the Ituango Dam, Based On Geotechnical Instrumentation and Models**
05:05 - 05:15

Presenter: Zorany S. Zapata, Integral S.A., Colombia

Authors: Zorany S. Zapata, María C. Sierra, Joshua Naranjo

ICSECT 129 **Sensitivity of Raft Foundation’s Structural Behaviour to Changes in Geometry and Materials**
05:15 - 05:25

Presenter: Magdi Elemam, American University of Sharjah, UAE

Authors: Sami W. Tabsh, Magdi Elemam

AFTERNOON PARALLEL SESSION III - ROOM 2

Air, Water and Wastewater Pollution and Treatment

04:50 PM - 06:25 PM

SESSION CHAIR: Dr. Vito Rizzi, Università degli Studi di Bari “Aldo Moro”, Italy & Dr. Jennifer Gubitosa, Università degli Studi “Aldo Moro”, Italy

**ICEPTP 134 Selective Removal and Degradation of Ciprofloxacin
04:50 - 05:00 Bearing Wastewater by HKUST-1**

Presenter: Divya Dixit, Indian Institute of Technology Roorkee, India
Authors: Divya Dixit, Sudipta Sarkar

**ICEPTP 196 Performance Evaluation of Microbial Desalination Cells
05:00 - 05:10 with Different Anode Surface Area on Phenol Removal
and Energy Harvesting**

Presenter: Abdelsalam Elawwad, Cairo University, Egypt
Authors: Abdelsalam Elawwad, Safwat Safwat

**ICEPTP 159 Air Quality and Bioclimatic Conditions in the Touristic
05:10 - 05:20 City Centre of Rhodes from June to November 2022**

Presenter: Ioannis Logothetis, Centre for Research and Technology Hellas, Chemical Process and Energy Resources, Greece
Authors: Ioannis Logothetis, Christina Antonopoulou, Georgios Zisopoulos, Adamantios Mitsotakis, Panagiotis Grammelis

**ICEPTP 133 Development of a Cost-Effective Vertical Remote
05:20 - 05:30 Sensing System for Detecting Emissions from Diesel
Medium Good Vehicles**

Presenter: Yaohui LIU, Technological and Higher Education Institute of Hong Kong, Hong Kong
Authors: Yaohui LIU, Yu-Han HUANG, Ming-Wai MAK, Bei WANG, Yat-Shing YAM, Wai-Chuen MOK, Chun-Ho LIU, John Jun-Liang ZHOU, Edward Fuk-Cheung CHAN

**ICEPTP 194 Riverine Macro-litter: Plastic Pollution in Different
05:30 - 05:40 Tributaries of the Ishëm River (Albania)**

Presenter: Laura Gjyli, Aleksander Moisiu University of Durres, Albania
Authors: Laura Gjyli, Jerina Kolutari, Fundime Miri

ICEPTP 144
05:40 - 05:50

Nutrient Removal Efficiency of a Fibrous Polypropylene Biofilm Reactor in Pilot Scale

Presenter: Yee-Tian Leong, Tung Hai University, Taiwan

Authors: Yee-Tian Leong, Meng-Hau Sung, David Kuo

ICEPTP 200
05:50 - 05:55

The Toxic Effect of Drug Residues on the Germination of Cultivated Plants

Presenter: Szilárd Székely, Sapientia Hungarian University of Transylvania, Romania

Authors: Szilárd Székely, Eszter Rápó, Katalin Mihályfalvi, Szende Tonk

ICEPTP 184
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Comparing the Efficiency between Living and Non-Living Macroalgal Biomass for Removing Classical and Emerging Contaminants from Complex Mixtures

Presenter: Jéssica Anastácio Jacinto, University of Aveiro, LAQV-REQUIMTE, Portugal

Authors: Jéssica Jacinto, Bruno Henriques, Thainara Viana, Nicole Ferreira, João Pinto, Daniela Tavares, Eduarda Pereira

ICEPTP 176
06:05 - 06:15

Investigating the Presence of Trace Organic Contaminants in Hospital Wastewater and Their Treatment by Laccase

Presenter: Komla Alokpa, Université de Sherbrooke, Canada

Authors: Komla Alokpa, Sabrina Saibi, Lounès Haroune, Hubert Cabana

ICEPTP 149
06:15 - 06:25

Optically Classified Aerosol Properties of a Remote Radiometric Station in Turkey

Presenter: S. Yeşer Aslanoğlu, Hacettepe University, Turkey

Authors: S. Yeşer Aslanoğlu, Gülşah Akgül, Gülen Güllü

8:00 AM - 9:00 AM

Registration

ROOM 1

9:00 AM - 9:15 AM

Official Opening of the Congress

Dr. Hany El Naggar, Dalhousie University, Canada

ICGRE KEYNOTE MORNING SESSION I - ROOM 1

9:15 AM - 10:00 AM

Keynote Lecture

SESSION CHAIR:

Dr. Hany El Naggar, Dalhousie University, Canada



Gas Generation and Migration in Deep Geological Radioactive Waste Repositories

Dr. Mamadou Fall,

University of Ottawa, Canada

Dr. Fall and his research team conduct leading-edge research in the geotechnical fields in close collaboration with the industry, major federal and provincial governmental institutions, and international partners. Over the years, his research programs have obtained substantial funding from a number of agencies and private companies, and findings of his research group have been used and implemented by the industry, key federal and national agencies, and numerous institutions or organizations worldwide. These research findings and impacts have been recognized by several awards and distinctions as well as have been broadcasted by national and international televisions. Dr. Fall is included in the World's Top 2% Scientists list, published by Stanford University in 2021. Professor Fall has led the organization of numerous national and international workshops, seminars and conferences. He is regularly invited as a keynote speaker or lecturer at national and international conferences/events, and to participate in various expert committees. He regularly serves as a consultant and reviewer for scientific/expert committees, scientific journals and funding agencies, both nationally and internationally. He has authored or co-authored over 280 publications and trained over 85 highly qualified people (PhD, Post-docs, Masters).

ICGRE KEYNOTE MORNING SESSION II - ROOM 1

Keynote Lecture

10:00 AM - 10:45 AM

SESSION CHAIR:

Dr. Hany El Naggar, Dalhousie University, Canada



Innovative Usage of Recycled Waste Materials in Roads

Dr. Arul Arulrajah,

Swinburne University of Technology, Australia

Professor Arul Arulrajah leads the Geotechnical Engineering group at Swinburne University of Technology. He has been involved as a Chief Investigator in 39 research projects totalling AUD\$15 Million, which includes 6 Australian Research Council (ARC) Linkage Projects grants, 1 ARC Industrial Training Centre, 3 ARC Linkage Infrastructure Equipment grants, 15 competitive state government grants, 6 industry grants and 2 international grants. Professor Arulrajah is involved in geotechnical engineering research topics which include: sustainable geotechnics, recycled waste materials, ground improvement, pavement geotechnics, railway geotechnics, land reclamation and dredging. Professor Arulrajah is the author of 1 book, 5 book chapters, 330+ journal publications and 100+ conference publications to date. He has an H-index of 66 in Google Scholar and 59 in Scopus. He has supervised 18 PhD students to completion as a principal supervisor and 9 as an associate supervisor.

MORNING PARALLEL SESSION I - ROOM 1

Environmental Protection II

11:05 AM - 12:20 PM

SESSION CHAIR: Dr. Goodary Rajeshwar, Universite des Mascareignes,
Mauritius**ICEPTP 185 Electrokinetic Remediation for Heterogeneous Soils**

11:05 - 11:20

Presenter: Ikrema Hassan, University of New Brunswick, Canada**Authors:** Ikrema Hassan, Eltayeb Mohamedelhassan

ICEPTP 153

11:20 - 11:35

Quantitative Assessment with Watershed Model on Drinking Water Protection Areas, The Taiwanese Case**Presenter:** Shyh-Fang Kang, National Taipei University of Technology,
Taiwan**Authors:** Chi-Feng Chen, Shyh-Fang Kang, Jen-Yang Lin

ICEPTP 137

11:35 - 11:50

Precision Application of Manure and Promising Pollutant Mitigation Options**Presenter:** Haben Asgedom Tedla, Agriculture and Agri-Food Canada,
Canada**Authors:** Asgedom H., Schoenau J., Hlus Q., Soolanayakanahally R.,
Akhter F., Derdall E., Svendsen E.

ICEPTP 125

11:50 - 12:05

Environmental Risk of Turbidity Caused by Construction Activities near the Gulf in UAE**Presenter:** Omayma Motaleb, Al Ain University, UAE**Authors:** Omayma Motaleb, Esraa Hijah

ICEPTP 126

12:05 - 12:20

Rapid Classification of Microplastics by Using the Application of a Convolutional Neural Network**Presenter:** Pensiri Akkajit, Prince of Songkla University, Thailand**Authors:** Pensiri Akkajit, Arsanchai Sukkuea

MORNING PARALLEL SESSION I - ROOM 2

Concrete Products and Specifications

11:05 AM - 12:20 PM

SESSION CHAIR: Dr. Sujata Mehta, Dr BNCollege of Architecture,
India

ICSECT 114 **Risk Analysis of Yard Stock Layout Management for In-Situ Production of Steel-Connected Precast Concrete Members**

11:05 - 11:20

Presenter: Jeeyoung Lim, Kyung Hee University, Republic of Korea

Authors: Jeeyoung Lim, Woomin Ji, Sunkuk Kim

ICSECT 115 **Near-Zero Rebar Cutting Waste Management by Adjusting Lap Splice Position**

11:20 - 11:35

Presenter: Jeeyoung Lim, Kyung Hee University, Republic of Korea

Authors: Jeeyoung Lim, Jinhyuk Oh, Sunkuk Kim

ICSECT 147 **Reaction Kinetic Studies of the Electrical Conductivity in Dissolution Experiments for the Identification of Alkali-Reactive Aggregate**

11:35 - 11:50

Presenter: Hartmut Gyde, Institute of Materials, Physics and Chemistry of Buildings Hamburg University of Technology, Germany

Authors: Hartmut Gyde, Schmidt-Döhl Frank, Püstow Anna

ICSECT 139 **Numerical Analysis of the Influence of Spalling in Slender RC Columns**

11:50 - 12:05

Presenter: Carmen Ibanez, Universitat Politècnica de València, Spain

Authors: Carmen Ibáñez, David L. Peña, Vicente Albero, Andrés Lapuebla-Ferri, Héctor Saura

ICSECT 300 **A Simplified Constitutive Model to Predict Behaviour of Concrete with Tire Derived Aggregate**

12:05 - 12:20

Presenter: Hany El Naggar, Dalhousie University, Canada

Authors: Amin Almasri, Ahmad Abu Abdo, Hany El Naggar

12:20 PM - 12:30 PM GROUP PHOTO

12:30 PM - 01:30 PM LUNCH

ICEPTP KEYNOTE AFTERNOON PARALLEL LECTURE - VIRTUAL - ROOM 1

Keynote Lecture

01:30 PM - 02:15 PM

SESSION CHAIR:

Dr. Joaquim Barros, University of Minho, Portugal



Reducing Environmental Pollution from Pesticides through Increasing Environmental Resistance and Reducing Use

Dr. Leon Higley,

University of Nebraska-Lincoln, USA

Dr. Leon Higley is a Professor of Applied Ecology in the School of Natural Resources. His work is focused on insect ecology; however, he and his students have concentrated in four areas: (1) the ecophysiology of plant-insect interactions, with emphasis on photosynthesis and yield loss mechanisms, and applications through pest management decision making, (2) insect conservation biology, (3) decompositional ecology and forensic entomology, and (4) ecophysiology of insect extremophiles. Dr Higley received a BA in chemistry (Cornell University), MS in entomology (Iowa State University), and PhD with a double major in entomology and crop production/physiology (Iowa State University). He has served as subject or associate editor of 5 scientific journals, has co-edited or written 5 books, has written 22 book chapters, and is co-author of 125 peer-reviewed papers.

ICSECT KEYNOTE AFTERNOON PARALLEL LECTURE - VIRTUAL - ROOM 2

Keynote Lecture

01:30 PM - 02:15 PM

SESSION CHAIR:

Dr. Joaquim Barros, University of Minho, Portugal



Durable Pultruded Composites: A Myth or Reality?

Dr. Ayman Soliman Mosallam,

University of California, USA

Professor Ayman S. Mosallam is a Professor of Structural and Earthquake Engineering, also a Professor, Materials & Manufacturing Engineering Technology and the Director of the UCI Structural Engineering Testing Hall at the Civil & Environmental Engineering Department at University of California, Irvine (UCI). He is also a Fellow and a Control Member of the American Society of Civil Engineers and the Chairman of the International Committee of ASCE LA Chapter. He is a registered Structural Professional Engineer in the District of Colombia and has forty years of experience in structural engineering with a particular interest in polymer composites, green materials, structural health monitoring and repair and rehabilitation of historical buildings and bridges. He has established a graduate joint program between George Washington University and NASA as well as US Army Tank Division in Mount Vernon, Virginia. He is the developer of the first US Army smart assault bridge that is made of sandwich carbon/epoxy sandwich composites with an integrated optical fibers remote sensing nerve system. He has several patents on innovative building system and smart composite repair and joining systems. He is a member of ASCE Construction Institute Materials Directorate (Executive Committee) and a Control Member on the ASCE Structural Composites and Plastics Committee (SCAP). Professor Mosallam serves on the Technical Advisory Board of the International Accreditation Service (IAS). He has published over 500 technical papers, chapters, and reports on structural performance of structural systems and authored, edited and co-edited seven books in this area.

AFTERNOON PARALLEL SESSION I - ROOM 1

02:15 AM - 03:30 PM

Water and Wastewater Pollution and Treatment I**SESSION CHAIR:** Dr. Ikrema Hassan, University of New Brunswick, Canada

ICEPTP 108
02:15 - 02:30 **A Study on the Proper Scheduling Of the Sand Filtration Process through Artificial Intelligence Learning**

Presenter: Seungjae Yeon, Korea Institute of Civil Engineering and Building Technology, Republic of Korea

Authors: Seungjae Yeon, Jusuk An, Changseog Oh, Hyun je Oh

ICEPTP 107
02:30 - 02:45 **Evaluation of Monovalent and Divalent Ions Removal Characteristics Using Membrane Capacitive Deionization (MCDI) Circulation Process**

Presenter: Changseog Oh, Institute of Civil Engineering and Building Technology, Republic of Korea

Authors: Changseog Oh, Jusuk An, Seungjae Yeon, Hyun je Oh

ICEPTP 152
02:45 - 03:00 **Photocatalytic Fuel Cell Incorporated With Persulphate Activation for Electricity Production by Diluted Palm Oil Mill Effluent Treatment**

Presenter: Lam Sze Mun, Universiti Tunku Abdul Rahman, Malaysia

Authors: Sze-Mun Lam, Jin-Chung Sin, Honghu Zeng

ICEPTP 132
03:00 - 03:15 **Improvement of the Low Resolution of the Dataset and Prediction of the Water Quality Using the SWAT-LSTM Hybrid Model**

Presenter: Dae Seong Jeong, Gwangju Institute of Science and Technology, South Korea

Authors: Dae Seong Jeong, Jeongwoo Moon, Joon Ha Kim

ICEPTP 150
03:15 - 03:30 **Life Cycle Assessment of a New Device for Hydrocarbon Recovery from Groundwater: E-Hyrec®**

Presenter: Alessandra De Folly D'Auris, Eni S.p.A, Italy

Authors: Alessandra De Folly D'Auris, Francesca Rubertelli, Stefano Loda, Camilla Lanari

AFTERNOON PARALLEL SESSION I - ROOM 2

Design and Modelling II

02:15 PM - 03:45 PM **SESSION CHAIR:** Dr. Goodary Rajeshwar, Universite des Mascareignes, Mauritius & Dr. Carmen Ibáñez, Universitat Politècnica de València, Spain

ICSECT 136 **On the Numerical Modelling of Steel Beams Strengthened by Purely Fastened FRP Sheets**
02:15 - 02:30

Presenter: Omnia R. AbouEl-Hamd, UAE University, UAE

Authors: Omnia R. AbouEl-Hamd, Amr M.I. Sweedan, Bilal El-Ariss, Khaled M. El-Sawy

ICGRE 148 **Testing and Analysis of Tapered Pile Response under Vertical Loading in Loose and Dense Cohesionless Material**
02:30 - 02:45

Presenter: Chinju Vijayan, IIT Delhi, India

Authors: Chinju Vijayan, Ramanathan Ayothiraman

ICGRE 137 **Optimising Design of Temporary Working Platforms Made From Hydraulically Bound Materials**
02:45 - 03:00

Presenter: Paul Beetham, Nottingham Trent University, UK

Authors: Sandra Misiarz, Paul Beetham

ICGRE 104 **From Scaled-Down to Full-Scale Rockfill Dams with Dry-Stone Pitching: A Numerical Study**
03:00 - 03:15

Presenter: Ali Haidar, ITASCA Consultants, SAS / Ecole centrale de Lyon, France

Authors: Ali Haidar, Eric Vincens, Fabian Dedecker, Roland Plassart

ICSECT 131 **Electrical and Thermal Properties of Wollastonite-based Inorganic Phosphate Cement Modified with Fibres and Recycled Rubber Aggregates**
03:15 - 03:30

Presenter: Chinedu Azubuike AJOKU, Université de Toulouse, France

Authors: Chinedu A. Ajoku, Anaclét Turatsinze, Ariane Abou-Chakra

ICGRE 300 **Assessment of the Theoretical Methodology Used in the Canadian Foundation Engineering Manual for Piles Design in Sand**
03:30 - 03:45

Presenter: Hany El Naggar, Dalhousie University, Canada

Authors: I. M. Ezz, H. El Naggar

03:30 PM - 03:45 PM	COFFEE BREAK - ROOM 1
03:45 PM - 04:00 PM	COFFEE BREAK - ROOM 2
AFTERNOON PARALLEL SESSION II - ROOM 1	
Water and Wastewater Pollution and Treatment II	
03:45 PM - 05:00 PM	SESSION CHAIR: Dr. Paul Beetham, Nottingham Trent University, UK & Dr. Elena Alvareda, Departamento del Agua CENUR Litoral Norte Universidad de la República, Uruguay
ICEPTP 151 03:45 - 04:00	Hydrothermal Construction of Magnetic Z-Scheme N-Biobr/Nife2o4 Nanocomposite with Enhanced Sunlight-Driven Industrial Textile Effluent Degradation <i>Presenter:</i> Jin-Chung Sin, Universiti Tunku Abdul Rahman, Malaysia <i>Authors:</i> Jin-Chung Sin, Sze-Mun Lam, Honghu Zeng
ICEPTP 109 04:00 - 04:15	Photocatalytic Adsorbent for the Removal of Micro-Pollution from Industrial WWTPs <i>Presenter:</i> Soyong Baek, Korea Institute of Civil Engineering and Building Technology (KICT), South Korea <i>Authors:</i> Soyong Baek, Yasaman Ghaffari, Eunji Kim, Kwangsoo Kim, Jiyeol Bae
ICEPTP 111 04:15 - 04:30	Development of Iron Doped Activated Carbon for Pharmaceuticals Removal and Adsorbents Regeneration by UV in Water <i>Presenter:</i> Eun Ji Kim, University of Science and Technology (UST), Korea Institute of Civil Engineering and Building Technology (KICT), South Korea <i>Authors:</i> Eun Ji Kim, Soyong Baek, Kwang Soo Kim, Jiyeol Bae
ICEPTP 160 04:30 - 04:45	Estimation of COD from UV-Vis Spectrometer Exploiting Machine Learning in Leather Industries Wastewater <i>Presenter:</i> Marco Cardia, University of Pisa, Italy <i>Authors:</i> Marco Cardia, Stefano Chessa, Massimiliano Franceschi, Francesca Gambineri, Alessio Micheli
ICEPTP 188 04:45 - 05:00	Removal of Rare Earths from Contaminated Water by Natural Marine Sponges: Optimization by Response Surface Methodology <i>Presenter:</i> Bruno Henriques, University of Aveiro, Portugal <i>Authors:</i> Bruno Henriques, Maria Lapo, Joana Sousa, Daniela Tavares, Thainara Viana, Nicole Ferreira, João Pinto, Eduarda Pereira

AFTERNOON PARALLEL SESSION II - ROOM 2

Seismic Control

04:00 PM - 05:00 PM

SESSION CHAIR: Dr. Hany El Naggar, Dalhousie University, Canada

ICSECT 116 **Seismic Response Control of Benchmark Building using Semi-active Shape Memory Alloy based Tension Sling Damper**
04:00 - 04:15

Presenter: Sujata Mehta, Dr. B.N. College of Architecture, India

Authors: Sujata Mehta, Sharadkumar Purohit

ICSECT 106 **Risk Management Regrading Crashing or Falling Down of Several Machine Tools in a Machine Shop at a Large Earthquake**
04:15 - 04:30

Presenter: Ikuo Tanabe, Sanjo City University, Japan

Authors: Ikuo Tanabe and Hiromi Isobe

ICSECT 109 **A Systematic Methodology for Prioritizing Seismic Retrofit Alternatives**
04:30 - 04:45

Presenter: Roshen Joseph, United Arab Emirates University, UAE

Authors: Roshen Joseph, Aman Mwafy, M. Shahria Alam

ICSECT 113 **Cracked Transformed Moment of Inertia of Steel-Reinforced and FRP-Reinforced Rectangular Beams and Slabs**
04:45 - 05:00

Presenter: Khaldoun Rahal, Kuwait University, Kuwait

Authors: Khaldoun Rahal

Keynote Lecture

09:00 AM - 09:45 AM

SESSION CHAIR:

Dr. Hany El Naggar, Dalhousie University, Canada



Advances in the Canadian Highway Bridge Design Code for Analysis and Design of Bridge Superstructure

Dr. Khaled Sennah,

Toronto Metropolitan University (formerly Ryerson University),

Dr. Khaled Sennah is a Professor of Structural Engineering at the Civil Engineering Department at Ryerson University, Toronto, Canada. Dr. Sennah, core area of expertise includes design, evaluation and rehabilitation of bridges on which he has more than 270 publications and supervised over 75 graduate students. He has demonstrated numerous evidences of impact and contribution to the economical design and sustainable construction that led to field applications and standards. Dr. Sennah's research achievements have been recognized by international awards such as the 1999 Arthur Wellington Prize for best journal paper in transportation-related infrastructure and the 2002 State-of-the-Art in Civil Engineering award for best journal paper, both from the American Society for Civil Engineers, ASCE. Also, he received the 1998 and 2020 P.L. Pratley Award for best paper in bridge engineering and the 2013 A.B. Sanderson Award for "Outstanding Contributions by a Civil Engineer to the Development and Practice of Structural Engineering in Canada," all from the Canadian Society for Civil Engineering. In recognition of his long-term achievements, he was elected Fellow of the Canadian Society for Civil Engineering (CSCE) in 2011, Fellow of the Engineering Institute of Canada (EIC) in 2016, and Fellow of the Canadian Academy of Engineering (CAE) in 2017. He is a member of a few Canadian Standard Association's Technical Subcommittees for the development of the Canadian Highway Bridge Design Code. In 2022, Dr. Sennah was elected Fellow of the International Association of Advanced Materials (FIAAM), in recognition for his contribution to "Innovative Solutions in Structural Design and Construction". Dr. Sennah has a long history of significant contributions to the Canadian Society for Civil Engineering (CSCE) through committee membership, membership and chairing of scientific committees of conferences, Chairing International conferences and chairing CSCE Structures Division and others. He is currently an Associate Editor for the Canadian Journal for Civil Engineering and an Editorial Board member of ASCE Journal of Composites for Construction.

Keynote Lecture

09:00 AM - 09:45 AM

SESSION CHAIR:

Dr. Joaquim Barros, University of Minho, Portugal



Applying Digitalization of the Transport of Air Pollution Pollutants Over Europe in the Efforts to Study More Efficiently Some Dangerous Effects

Dr. Zahari Zlatev,

Aarhus University, Denmark

Zahari Zlatev received his MSc from the Sofia University and his PhD from the Sct. Petersburg University. He is now emeritus senior scientist at the Department of Environmental Science of Aarhus University, Denmark, where he worked during many years. He spent a sabbatical year at the University of Illinois at Urbana-Champaign. Zahari Zlatev developed, together with several of his co-workers, the Unified Danish Eulerian Model (UNI-DEM), which is used by scientists from several European countries in many environmental and climate change studies. He participated in many international scientific projects. Main areas of research: Scientific Computing, Applied Mathematics and Air Pollution Modelling (including here studying the influence of climatic changes on high pollution levels). Zahari Zlatev published seven monographs. He has been editor of many proceedings volumes and twenty special issues of international journals, has published 182 papers in international journals, 233 papers in proceedings of international conferences and more than 200 institutional reports. Zahari Zlatev has been involved in training young specialists; including graduated students and PhD students. Zahari Zlatev organized five international conferences. Moreover, Zahari Zlatev was one of organizers of sixteen mini-symposia at international conferences. He has been an invited speaker at 53 international conferences and many times a member of the organizing committee of international workshops and conferences.

ICEPTP PLENARY MORNING LECTURE - VIRTUAL - ROOM 1

09:45 AM - 10:30 AM

Plenary Lecture**SESSION CHAIR:**

Dr. Hany El Naggar, Dalhousie University, Canada

**Classification of Waste: Assessment of HP 14 Ecotoxicity***Dr. Margarida J Quina,*

University of Coimbra, Portugal

Margarida J. Quina is Associate Professor with Habilitation at the Department of Chemical Engineering – University of Coimbra, Portugal. Her work is focused on waste and wastewater management aiming at developing circular economy and biorefinery approaches while ensuring environmental protection. The main technologies studied have been anaerobic digestion and composting for organic waste, while the recovery of nutrients and metals has been tackled through physical and chemical processes (e.g. adsorption, chemical precipitation, membranes, etc.). Studies involving ecotoxicity assessment of waste have been addressed to ensure environmental protection. She participated in more than 30 R&D projects and supervised several Master's and Ph.D. theses. She is the author/co-author of over 100 peer-reviewed papers, 12 book chapters, 1 patent, and more than 120 communications in International Congresses.

10:30 AM - 11:15 AM COFFEE BREAK & POSTERS PRESENTATION

POSTERS SESSION

Posters Session

10:30 AM - 11:15 AM

SESSION CHAIR: Dr. Marte Gutierrez, Colorado School of Mines, USA & Dr. Goodary Rajeshwar, Universite des Mascareignes, Mauritius

ICGRE 112

A 2D Nonlinear Soil Response Based On the Influence of Vertical Component in Near-Fault Conditions

Presenter: Claudia Germoso, Instituto Tecnológico de Santo Domingo (INTEC), Dominican Republic

Authors: Claudia Germoso, Luis Placeres, Armando Simonelli, Augusto Penna, Diletta Aliperti

ICGRE 129

Seismic Vulnerability Assessment of the Municipality of Santo Domingo Este, Dominican Republic

Presenter: Claudia Germoso, Instituto Tecnológico de Santo Domingo (INTEC), Dominican Republic

Authors: Omar Gonzalez, Jose Muñoz, Claudia Germoso, Belén Benito, Beknur Omarbekov

ICGRE 138

Local Seismic Response Analysis Based On the Non-Linear Soil Behavior. Application to 5 Essential Buildings in Santiago de los Caballeros.

Presenter: Claudia Germoso, Instituto Tecnológico de Santo Domingo (INTEC), Dominican Republic

Authors: Rafael Marmolejos, Claudia Germoso, Alnura Omarbekova

ICEPT 198

Air Quality Prediction with a Combined Machine Learning and Chemical Transport Model

Presenter: Xiaoxiao Feng, Institute of Environmental Engineering (IfU), Swiss Federal Laboratories for Materials Science and Technology, Switzerland

Authors: Xiaoxiao Feng, Xiaole Zhang, Jing Wang

ICEPTP 173 **Development of Particulate matter Emission factors by Incineration of Agricultural by-products**

Presenter: Min-Wook Kim, National Institute of Agricultural Sciences, South Korea

Authors: Min-Wook Kim, Jin-Ho Kim, Sung-Chang Hong

ICEPTP 174 **Establishment Of Air Quality Monitoring System For Agricultural Areas By Nationwide Region In Korea**

Presenter: JIN-Ho Kim, National Institute of Agricultural Sciences, South Korea

Authors: JIN-Ho Kim, Sung-Chang Hong, Min-Wook Kim, II-Hwan Seo, Byoung-Wook Oh, Ki-Youn Kim, Hung-Soo Joo

ICEPTP 158 **Ten-year Trends in Ambient PM_{2.5} and PM_{2.5}-bound Element Concentrations in an Industrialized Border City**

Presenter: Xiaohong Iris Xu, University of Windsor, Canada

Authors: Tianchu Zhang, Xiaohong Iris Xu

ICEPTP 202 **Performance of Membrane Biological Reactor for Tobacco Industrial Wastewater Treatment**

Presenter: Sameer Al-Asheh, American University of Sharjah, UAE

Authors: Abdallah Alhajar, Sameer Al-Asheh, Ahmed Aidan

ICEPTP 148 **Valorization of Plastic and Cork Wastes in the Production of New Composite Materials**

Presenter: Svetlana Petlitckaia, University of Corsica, France

Authors: Svetlana Petlitckaia, Toussaint Barboni, Paul-Antoine Santoni

ICEPTP 190 **Ultrasound-Assisted Soil Washing Process for the Removal of Heavy Metals from Clays**

Presenter: Rachel Pflieger, Univ Montpellier, France

Authors: Sophie Herr, Antoine Leybros, Yves Barre, Sergey I. Nikitenko, Rachel Pflieger

ICEPTP 182 **Co-Adsorption of Pesticides on Surfactant-Modified Adsorbents**

Presenter: Magdalena Andrunik, AGH University of Science and Technology, Poland

Authors: Magdalena Andrunik, Mateusz Skalny, Tomasz Bajda

ICEPTP 130 **Evaluation of the Selected Soil Enzymes Activity in Soils Contaminated with Risk Elements**

Presenter: Milan Novák, Czech University of Life Sciences, Czech Republic

Authors: Milan Novák, Veronika Zemanová, Daniela Pavlíková

ICEPTP 181 **Mobility of Lead in Soil after Application the Innovative Mineral-Organic Mixtures**

Presenter: Renata Jarosz, AGH University of Science and Technology, Poland

Authors: Renata Jarosz, Justyna Szerement, Jakub Mokrzycki, Lidia Marcińska-Mazur, Magdalena Szara-Bąk, Monika Mierzwa-Hersztek

ICEPTP 183 **Effect of Mineral-Organic Mixtures on Ecotoxicity in Contaminated Soil**

Presenter: Monika Mierzwa-Hersztek, AGH University of Science and Technology, University of Agriculture in Krakow, Poland

Authors: Monika Mierzwa-Hersztek, Agnieszka Klimkowicz-Pawlas, Renata Jarosz, Karolina Biel, Lidia Marcińska-Mazur, Aleksandra Paluszewska, Krzysztof Gondek, Magdalena Szara-Bąk

ICEPTP 165 **An Experimental Study on Pyrolysis Characteristics of Waste Tire Using a Lab-scale Tube Furnace**

Presenter: Sang Shin Park, Korea Institute of Energy Research, South Korea

Author: Sang Shin Park

ICSECT 107 **Tensile Performance of Slag-LCDGP Based Geopolymer Reinforced With PE Fiber**

Presenter: Booki Chun, Hanyang University, Republic of Korea

Authors: Seungkyun Lee, Booki Chun, Giwoong Kim, Seung Won Lee, Dooyeol Yoo

MORNING PARALLEL SESSION - ROOM 1

Soil and Rock Mechanics and Characterization II

11:15 AM - 12:30 PM

SESSION CHAIR: Dr. Paul Beetham, Nottingham Trent University,
UK

ICGRE 152

11:15 - 11:30

**Interpretation of Cone Penetration Tests to
Characterize Tropical Residual Soils Using Machine
Learning***Presenter:* Jeniffer Viegas, TPF Consultores de Engenharia e
Arquitetura S.A, Portugal*Authors:* Jeniffer Viegas, António Gallardo, Lucas Bottaro, Rodrigo
Marinero

ICGRE 160

11:30 - 11:45

**Influence of Hammer Energy Correction on SPT
Correlations and Interpretation***Presenter:* Ayush Kumar, Indian Institute of Science, India*Authors:* Ayush Kumar, Anbazhagan Panjamani, Yadhunandan ME

ICGRE 113

11:45 - 12:00

**Application of Full-Waveform Acoustic Borehole
Logging to Detect and Characterize Rock Mass
Fracture***Presenter:* Tartoussi Nourhan, Bordeaux University, France &
Sherbrooke University, Canada*Authors:* Tartoussi Nourhan, Lataste Jean-François , Rivard Patrice,
Barbosa Nicolás D.

ICGRE 107
12:00 - 12:15

Grain-Based Modeling Of The Macro-Mechanical Behavior Of Crystalline Rock Considering The Heterogeneity Of Grain Boundary Contacts

Presenter: Marte Gutierrez, Colorado School of Mines, USA

Authors: Xiongyu Hu, Marte Gutierrez, Zhiwei Yan

ICGRE 142
12:15 - 12:30

Analysis of a High Railway Slope Formed by Highly Jointed Rock Mass

Presenter: Asli Can, Hacettepe University, Turkey

Authors: Asli Can, Yasin Yasin, Candan Gökçeoğlu

MORNING PARALLEL SESSION - ROOM 1

Geoenvironmental and Related Topics II

11:15 AM - 12:30 PM

SESSION CHAIR: Dr. Ikrema Hassan, University of New Brunswick, Canada**ICGRE 135** **Suitability of Laboratory Compaction Procedure for Secondary Materials**
11:15 - 11:30*Presenter:* Deepesh Bansal, Indian Institute of Technology Delhi, India*Authors:* Deepesh Bansal, Debaprakash Parida, G V Ramana, Manoj Datta**ICGRE 150** **Field Investigation on Complete Replacement of Granular Subbase with Flyash and Blast Furnace Slag in Flexible Pavement**
11:30 - 11:45*Presenter:* Mayuresh Dhanraj Bakare, Indian Institute of Technology, India*Authors:* M. D. Bakare, J. T. Shahu, S. Patel**ICEPTP 145** **Sustainable Biodiesel Production from Waste Cooking Oil and Waste Animal Fats**
11:45 - 12:00*Presenter:* Khadija Al Balushi, German University of Technology, Oman*Authors:* Sahar Al Mawaali¹, Khadija Al Balushi¹, Yasmine Souissi**ICGRE 120** **Tied-Back Sheet Pile Wall Collapse – A Case Study**
12:00 - 12:15*Presenter:* Ahmed Fahmy, AECOM, USA*Authors:* Ahmed Fahmy, Vito Schifano**ICGRE 151** **Sustainable Development of the Engineering Geological Environment of Urban Areas: Transition from Theory to Practical Solutions**
12:15 - 12:30*Presenter:* Goodary Rajeshwar, Université des Mascareignes, Mauritius*Authors:* Viacheslav Iegupov, Gennadii Strizhelchik, Rajeshwar Goodary

12:30 PM - 01:30 PM LUNCH

ICEPTP PLENARY AFTERNOON LECTURE - VIRTUAL - ROOM 1

Plenary Lecture

01:30 PM - 02:25 PM

SESSION CHAIR:

Dr. Joaquim Barros, University of Minho, Portugal

Destroying PFAS by Combining Nanoparticle and Microbial Catalysis



Dr. Bruce E. Rittmann,

Arizona State University, USA

Dr. Bruce E. Rittmann is Regents' Professor of Environmental Engineering and Director of the Biodesign Swette Center for Environmental Biotechnology at Arizona State University. His research focuses on the science and engineering needed to "manage microbial communities to provide services to society." Services include generating renewable energy, cleaning water and soil, and improving human health. Dr. Rittmann is a member of the National Academy of Engineering; a Fellow of AAAS, WEF, IWA, AEESP, and NAI; and a Distinguished Member of ASCE. Dr. Rittmann was awarded the first Clarke Prize for Outstanding Achievements in Water Science and Technology from the NWRI, the Walter Huber Research Prize and the Simon Freese Award from ASCE, the G.M. Fair Award from AAEES, the Perry L. McCarty/AEESP Founders Award, and the Camp Applied Research Award from WEF. He is the co-winner of the 2018 Stockholm Water Prize. Dr. Rittmann has published over 790 journal articles, books, and book chapters, and he has 21 patents. With Dr. Perry McCarty, Dr. Rittmann co-authored the textbook *Environmental Biotechnology: Principles and Applications* (McGraw-Hill Book Co.), which is now out in its second edition.

02:25 PM - 02:40 PM COFFEE BREAK

AFTERNOON SESSION - ROOM 1

02:40 PM - 04:10 PM

Air and Soil Pollution and Treatment**SESSION CHAIR:** Dr. Hany El Naggar, Dalhousie University, CanadaICEPTP 124 **Effects of California's Central Valley PM_{2.5} Pollution on Sequoia National Park**
02:40 - 02:55*Presenter:* Joseph Rotondo, University of Oklahoma, USA*Authors:* Joseph Rotondo, Roya Bahreini, Andreas BeyersdorfICEPTP 154 **Tio₂ Photocatalytic Biocidal Activity on Escherichia Coli and On Aspergillus Niger under Different Methodological Conditions**
02:55 - 03:10*Presenter:* Mohamad Al Hallak, Laboratoire Matériaux et Durabilité des Constructions (LMDC), INSA Toulouse, France*Authors:* Mohamad Al Hallak, Thomas Verdier, Alexandra Bertron, Christine Roques, Jean-Denis BaillyICEPTP 146 **Long-Term Associations between Greenness and Air Pollution With Risk Factors for Cardiovascular Disease: A Cohort Study**
03:10 - 03:25*Presenter:* Kanawat Paoin, Chulalongkorn University, Thailand*Authors:* Kanawat Paoin, Chanathip Pharino, Prin Vathesatogkit, Arthit Phosri, Suhaimee Buya, Kayo Ueda, Xerxes Tesoro Seposo, Thammasin Ingviya, Krittika Saranburut, Nisakron Thongmung, Teerapat Yingchoncharoen, Piyamitr SritaraICEPTP 123 **Phytoextraction of Dieldrin from a Historically Contaminated: Focus On Accumulation and Distribution in Various Plant Species**
03:25 - 03:40*Presenter:* Cohen Grégory, University of Bordeaux-Bordeaux INP, France*Authors:* Marie-Cécile Affholder, Gréory Cohen, Michel Mench

ICEPTP 127
03:40 - 03:55

Soil Gas Fluxes to Atmosphere: Soil Diffusion Parameters and Rainfall Effect

Presenter: Isabelle Delsarte, Bordeaux-INP & University of Bordeaux, France

Authors: Isabelle Delsarte, Grégory Cohen and Olivier Atteia

ICEPTP 136
03:55 - 04:10

Progressive Localization of a Contaminant Source at a Chlorinated Solvent Site Using Iterative Well Drilling and Numerical Modelling

Presenter: Olivier Atteia, EPOC-PROMESS, France

Authors: Olivier Atteia and Elyess Essouayed

CRUISE TOUR

07:00 PM - 10:00 PM

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