



CSEE

CONGRESS

7TH WORLD CONGRESS ON CIVIL, STRUCTURAL, AND ENVIRONMENTAL ENGINEERING (CSEE'22)

April 10, 2022 - April 12, 2022 | ~~Lisbon, Portugal~~ | Virtual
Conference

THE CSEE'22 CONGRESS IS COMPOSED OF 3 CONFERENCES

ICGRE
2022

ICSECT
2022

ICEPTP
2022

April 10

April 11

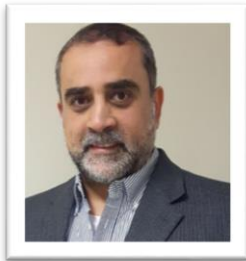
April 12

OUR PROGRAM SCHEDULE IS BASED ON EASTERN TIME
(EDT - OTTAWA TIME)

APRIL 10

10:00 AM – 12:00 PM Registrations

CSEE'22 Scientific Committee Chair



Prof. Hany El Naggari

Dalhousie University, Canada
Congress Chair



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Dr. Joaquim Barros

Institute for Sustainability and
Innovation in Structural Engineering,
University of Minho, Portugal
Congress Co-Chair

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CSEE'22 Local Committee Chair



Dr. Paulo Cachim

University of Aveiro, Portugal
local Committee Member

[View Profile](#)

Return to Top

APRIL 11

7:00 AM - 8:00 AM	Registrations
8:00 AM - 8:15 AM	Official Opening
	Dr. Hany El Naggar, Dalhousie University, Canada
8:15 AM - 09:00 AM	ICSECT'22 KEYNOTE LECTURE
	<u>Seismic Vulnerability and Retrofitting Of RC Buildings Not Designed To Resist Earthquakes</u> Dr. Ivo Calìò, Università degli Studi di Catania, Italy
9:00 AM - 09:45 AM	ICSECT'22 KEYNOTE LECTURE
	<u>Monuments and Historic Buildings: Earthquakes and Structural Engineering</u> Dr. Paulo B. Lourenço, University of Minho, Portugal
9:45 AM - 10:30 AM	ICSECT'22 KEYNOTE LECTURE
	<u>Recent Canadian Developments Related to FRP Reinforcement for Concrete Structures, Design Codes, and Applications in Buildings and Bridges</u> Dr. Brahim Benmokrane, University Of Sherbrook, Canada

APRIL 11

10:30 AM - 10:40 AM		Break			
Room 1		Room 2		Room 3	
10:40 AM - 12:00 PM	SESSION <u>Construction Materials I</u>	10:40 AM - 12:10 PM	SESSION <u>Geotechnical Infrastructure</u>	10:40 AM- 12:00 PM	SESSION <u>Geohazards and Risk Assessment</u>
12:10 PM - 01:15 PM	SESSION <u>Wastewater Pollution and Treatment</u>	12:10 AM- 01:15 PM	SESSION <u>Construction Safety and Standards</u>	12:10 AM- 01:10 PM	SESSION <u>Green Design</u>
01:15 PM - 01:35 PM	Lunch Break				
01:35 PM - 02:20 PM	ICSECT'22 KEYNOTE LECTURE				
	<u>Fibre-Reinforced and Hybrid-Reinforced Concrete: An Updated Bridged Crack Model with Softening Pull-Out Forces</u> Dr. Federico Accornero, Politecnico di Torino, Italy				
02:20 PM - 03:05 PM	ICEPTP'22 KEYNOTE LECTURE				
	<u>Recent Trends in Wastewater Treatment with Emphasis on MetalOrganic Frameworks (MOFs)</u> Dr. Rana Sabouni, American University of Sharjah, UAE				
03:05 PM - 03:50 PM	ICSECT'22 KEYNOTE LECTURE				
	<u>Toward Durable Structures: Novel Design and Advanced Material Characterization</u> Dr. Adil Al-Mayah, University of Waterloo, Canada				

APRIL 11

Room 1		Room 2		Room 3	
03:50 PM - 05:15 PM	SESSION <u>Design and Modelling</u>	03:50 AM - 05:15 PM	SESSION <u>Water Pollution and Treatment</u>	03:50 AM- 05:05 PM	SESSION <u>Dams and Tunnelling</u>
05:15 PM - 05:45 PM	SESSION <u>New Technologies in Structural Design and Construction</u>	05:15 AM - 06:00 PM	SESSION <u>Soil Pollution and Treatment</u>		

ICSECT'22 KEYNOTE LECTURE

APRIL 11 | 8:15 AM - 09:00 AM | SESSION CHAIR: DR. HANY EL NAGGAR, DALHOUSIE UNIVERSITY, CANADA



Titles: Seismic Vulnerability and Retrofitting Of RC Buildings Not Designed To Resist Earthquakes
[Dr. Ivo Calìo, Università degli Studi di Catania, Italy](#)

[View Abstract](#)

[Return to Top](#)

Ivo Calìo received his PhD in Structural Engineering in 1995 investigating the large displacement response of structures subjected to uplift foundations during earthquakes. In 1997 he started his academic career at the University of Catania in Italy where he continued his research on nonlinear dynamics and earthquake engineering. He supervised many PhD students and post-doctoral researchers working on seismic vulnerability and retrofitting of existing buildings not designed to resist earthquakes and proposed a new computational strategy for the simulation of the nonlinear behaviour of masonry structures known as Discrete Macro-Element Method (DMEM). In 2009 he initiated a research group, involving many PhD students and academic researchers, for the development of advanced structural engineering software based on the DMEM, suitable both for academic investigations and practical engineering. Within this research topic two structural analysis programs have been developed: 3DMacro for masonry buildings and HiStrA (Historical Structure Analysis) focused on the Structural Assessment of Historical Monumental Structures and Masonry Bridges. A key feature of his work has been extensive international collaboration with fellow academics particularly in Portugal and UK. From 2012 he is collaborating with Prof Paulo Lourenco of the university of Minho and his research team on the use and validation of the DMEM for masonry monumental structures and masonry bridge. In 2015 he started a collaboration with Prof Bassam Izzuddin of the Imperial College of London on the seismic vulnerability assessment and innovative retrofitting strategies of buildings not designed to resist earthquakes

ICSECT'22 KEYNOTE LECTURE

APRIL 11 | 9:00 AM - 09:45 AM | SESSION CHAIR: DR. HANY EL NAGGAR, DALHOUSIE UNIVERSITY, CANADA



Titles: Monuments and Historic Buildings:
Earthquakes and Structural Engineering
[Dr. Paulo B. Lourenço, University of Minho, Portugal](#)

[View Abstract](#)

[Return to Top](#)

Professor at the Department of Civil Engineering, University of Minho, Portugal, and Head of the Institute in Sustainability and Innovation in Structural Engineering, with 250 researchers. Experienced in the fields of non-destructive testing, advanced experimental and numerical techniques, innovative repair and strengthening techniques, and earthquake engineering. Specialist in structural conservation and forensic engineering, with work on 100+ monuments including 17 UNESCO World Heritage. Leader of the revision of the European masonry code (EN 1996-1-1). Coordinator of the European Master on Structural Analysis of Monuments and Historical Constructions, with alumni from 70+ countries and European Heritage / Europa Nostra Award (most prestigious in Europe). Editor of the International Journal of Architectural Heritage and advisor of the Conference Series on Structural Analysis of Historical Constructions. Supervised more than 60 PhD theses and coordinate multiple national and international research projects. Awarded an Advanced European Research Council Grant of 3.0 M€ to develop an integrated seismic assessment approach for heritage buildings. Coordinator of an innovative training network sustainable building lime applications via circular economy and biomimetic approaches with 15 PhD students across Europe.

ICSECT'22 KEYNOTE LECTURE

APRIL 11 | 9:45 AM - 10:30 AM | SESSION CHAIR: DR. HANY EL NAGGAR, DALHOUSIE UNIVERSITY, CANADA



Titles: Recent Canadian Developments Related to FRP Reinforcement for Concrete Structures, Design Codes, and Applications in Buildings and Bridges
[Dr. Brahim Benmokrane, University Of Sherbrook, Canada](#)

[View Abstract](#)

[Return to Top](#)

Professor Brahim Benmokrane is one of the world's top in the field of structural concrete internally reinforced with fiber-reinforced polymer (FRP) reinforcement. He has made outstanding contributions to research, teaching, innovation, and leadership targeting the development of FRP reinforcement for concrete structures and their durability, structural performance, field applications, development of design codes and standards and the relentless pursuit of knowledge transfer to industry. His research has significantly influenced the development of concrete structures reinforced with FRP bars, building codes, design specifications, and its practical use in North America and beyond. Professor Benmokrane holds the Tier-1 Canada Research Chair in Advanced Composite Materials for Civil Structures and the NSERC-Alliance Industrial Research Chair in Innovative FRP Reinforcement for Sustainable Concrete Infrastructures at the Department of Civil and Building Engineering at the University of Sherbrooke (Sherbrooke, QC, Canada). His research has significantly influenced the development of concrete structures reinforced with FRP bars, building codes, design specifications, and its practical use in North America and beyond.

SESSION

CONSTRUCTION MATERIALS I

APRIL 11 | 10:40 AM - 12:00 AM | DR. PAULO CACHIM, UNIVERSITY OF AVEIRO, PORTUGAL
& DR. MAGDALINI TITIRLA, STRUCTURAL MECHANICS AND COUPLED SYSTEMS
LABORATORY (LMSSC), FRANCE

Titles: A Study on the Optimal Utilization Conditions by Verifying the Effectiveness of Fine Dust Reduction of TiO_2

ICSECT 140

Time: 10:40 - 10:45

Presenter: Young-sook Roh, Seoul National University of Science & Technology, South Korea

Authors: Ji-woo Lee, Do-hwan Kim, Young-sook Roh

Titles: Transport Properties of Pozzolanic Concrete Based on the South African Durability Indexes

ICSECT 116

Time: 10:45 - 11:00

Presenter: Victor S. Gilayeneh, University of the Witwatersrand, South Africa

Authors: Victor S. Gilayeneh, Sunday O. Nwaubani

Titles: Northern Kuwait Soil Evaluation in Producing Environmentally Friendly Blocks

ICSECT 154

Time: 11:00 - 11:15

Presenter: Ahmad Said Saad, Australian College of Kuwait, Kuwait

Authors: Ahmad S. Saad, Taha A. Ahmed, Rana Ezzdine Lakys, Ali I. Radwan

[Return to Top](#)

SESSION

CONSTRUCTION MATERIALS I

APRIL 11 | 10:40 AM - 12:00 AM | DR. PAULO CACHIM, UNIVERSITY OF AVEIRO, PORTUGAL
& DR. MAGDALINI TITIRLA, STRUCTURAL MECHANICS AND COUPLED SYSTEMS
LABORATORY (LMSSC), FRANCE

Titles: Early-Age Properties of Slag-Fly Ash Blended Geopolymer Concrete Reinforced with Glass Fibers – A Preliminary Study

ICSECT 128

Time: 11:15 - 11:30

Presenter: Mohammad Zuaiter, United Arab Emirates University, UAE

Authors: Mohammad Zuaiter, Hilal El-Hassan, Bilal El-Ariss, Tamer El-Maaddawy

Titles: Effect of Basalt Fibers on Properties of Normal and High Strength Concrete Made with Dune Sand

ICSECT 130

Time: 11:30 - 12:45

Presenter: Shahrukh Shoaib, United Arab Emirates University, UAE

Authors: Shahrukh Shoaib, Tamer El-Maaddawy, Hilal El-Hassan, Bilal El-Ariss, Marwa Alsalami

Titles: Identification of Price Leading Indicators for Construction Resources

ICSECT 112

Time: 11:45 - 12:00

Presenter: Ahmed Shiha, The American University in Cairo, Egypt

Authors: Ahmed Shiha, Elkhayam M. Dorra, Khaled Nassar

[Return to Top](#)

SESSION

GEOTECHNICAL INFRASTRUCTURE

APRIL 11 | 10:40 AM - 12:10 PM | SESSION CHAIR: DR. NANDA KISHORE YADLA, NPCC,
UNITED ARAB EMIRATES

Titles: Numerical Study of A Deep Cut Slope Stabilization in Residual Soil

ICGRE 140

Time: 10:40 - 10:55

Presenter: Xing-Cheng Lin, Virtuosity, Bentley System(s), Singapore

Authors: Xing-Cheng Lin

Titles: Instrumented Bidirectional Load Test to 157000kN for Deep Foundation Design

ICGRE 173

Time: 10:55 - 11:10

Presenter: Anil Cherian, Straininstall Middle East LLC (James Fisher and Sons plc, United Kingdom), UAE

Authors: Anil Cherian

Titles: Sludge as an Alternative to Cement for Canal Lining

ICGRE 175

Time: 11:10 - 11:25

Presenter: Nahla Hazem Hussein Mohamed, Nile University, Egypt

Authors: Nahla Hazem, Ibrahim F. Mohamed, Abdelrahman M. Megahed, Ahmed A. Gaafar, and Sherif S. AbdelSalam

[Return to Top](#)

SESSION

GEOTECHNICAL INFRASTRUCTURE

APRIL 11 | 10:40 AM - 12:10 PM | SESSION CHAIR: DR. NANDA KISHORE YADLA, NPCC, UNITED ARAB EMIRATES & DR. ANIL CHERIAN, STRAINSTALL, UAE

Titles: Settlement Analysis of Field Monitoring Data at Kanchpur Bridge, Bangladesh

ICGRE 181

Time: 11:25 - 11:40

Presenter: Saima Sadia, Islamic University of Technology Gazipur, Bangladesh

Authors: Dr. Hossain Md. Shahin, Saima Sadia, Mayesha Farzana Islam, Rafia Nusrat Khan Broti, Md. Shamsul Islam

Titles: Comparison of Instrumented Pile Load Test Results with Finite Element Simulation

ICGRE 206

Time: 11:40 - 11:55

Presenter: G. Harshani Iromi Diyes, CINEC Campus Malabe, Sri Lanka

Authors: G. H. I. Diyes, H.S. Thilakasiri, L.I.N.deSilva

Titles: Pullout Behaviour of Geogrid in Sand-Crumb Rubber Mixtures

ICGRE 180

Time: 11:55 - 12:10

Presenter: Tirtha Sathi Bandyopadhyay, Indian Institute of Technology Patna, India

Authors: Tirtha Sathi Bandyopadhyay, Pradipta Chakraborty, A. Hegde

[Return to Top](#)

SESSION

GEOHAZARDS AND RISK ASSESSMENT

APRIL 11 | 10:40 PM - 12:00 PM | SESSION CHAIR: DR. MARTE GUTIERREZ, COLORADO SCHOOL OF MINES, USA & DR. GOODARY RAJESHWAR, UNIVERSITE DES MASCAREIGNES, MAURITIUS

Titles: Lessons Learned from Liquefaction Case Histories of 2012 Emilia Earthquake (Italy)

Invited Speaker

Time: 10:40 - 11:00

Presenter: Dr. Johann Facciorusso, University of Florence, Italy

Authors: Dr. Johann Facciorusso

Titles: Monitoring Of Geotechnical Instabilities at Deep Underground Mines, Case of Draa Sfar Mine, Morocco

ICGRE 212

Time: 11:00 - 11:15

Presenter: Kaoutar Clero, Moroccan Foundation for Advanced Science, National School of Mines of Rabat, Morocco

Authors: Kaoutar Clero, Said Ed-Diny, Tarik Soror, Said Rziki, Mohammed Achalhi, Sanaa El Fkihi, Andronic Boanarijesy

Titles: Stability Modelling of Clay and Silt Slopes to Evaluate the Feasibility of Rheometer Test Results

ICGRE 219

Time: 11:15 - 11:30

Presenter: Juan Villacreses, Universidad San Francisco de Quito, Ecuador

Authors: Gabriel Urquía, Juan Villacreses, Laura Ibagón, Fabricio Yopez

Titles: Critical Rainfall and Slope Hazards in Central Taiwan Mountain

ICGRE 239

Time: 11:30 - 11:45

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

Authors: Sung-Chi Hsu, Qi-Zhi Liao, Yi-Chun Yeh

Titles: Combination of UAV-borne LiDAR and UAV-borne photogrammetry to assess slope stability

ICGRE 107

Time: 11:45 - 12:00

Presenter: Stella Coccia, Institut National de l'Environnement Industriel et des Risques (Ineris), France

Authors: Stella Coccia, Marwan Al Heib, Emmanuelle Klein

[Return to Top](#)

SESSION

WASTEWATER POLLUTION AND TREATMENT

APRIL 11 | 12:10 PM - 01:15 PM | SESSION CHAIR: DR. EMMA HELLAWELL, UNIVERSITY OF SURREY, UK

Titles: Adsorption of Remazol Brilliant Blue RR from Aqueous Solution with Calcined Ostrich Eggshells

ICEPTP 165

Time: 12:10 - 12:15

Presenter: Eszter Rapo, Sapientia Hungarian University of Transylvania, Romania & Hungarian University of Agriculture and Life Sciences, Hungary

Authors: Eszter Rápó, Szende Tonk

Titles: Eriochrome Black T Decolorization with Active Carbon and Hv/TiO_2 : Modeling and Process Optimization

ICEPTP 188

Time: 12:15 - 12:30

Presenter: Elena Niculina Dragoi, "Gheorghe Asachi" Technical University of Iasi, România

Authors: Loredana Pintilie, Elena Niculina Drăgoi, Gabriel Dan Suditu, Mircea Teodor Nechita, Vlad Dafinescu

Titles: Role of Algae in Mitigating Impacts of Air, Soil and Wastewater Pollution

ICEPTP 190

Time: 12:30 - 12:45

Presenter: Simrat Kaur, Climate Survival Solutions, India

Authors: Simrat Kaur, Brad Reddersen

Titles: Optimization of DLLME Extraction Parameters for Pesticides Analysis by High Performance Liquid Chromatography

ICEPTP 193

Time: 12:45 - 01:00

Presenter: Ezgi Altiparmak, Erciyes University, Turkey

Authors: Ezgi Altiparmak, Emine Yilmaz, Filiz Dadaser-Celik, Nuray Ates

Titles: Eco-Friendly Strategies to Regenerate Cyclodextrin-Based Adsorbents

ICEPTP 205

Time: 01:00 - 01:15

Presenter: Paola Fini, Consiglio Nazionale delle Ricerche CNR-IPCF, Italy

Authors: Paola Fini, Vito Rizzi, Jennifer Gubitosa, Pinalysa Cosma

[Return to Top](#)

SESSION

CONSTRUCTION SAFETY AND STANDARDS

APRIL 11 | 12:10 PM - 01:15 PM | SESSION CHAIR: DR. MAGDALINI TITIRLA, STRUCTURAL MECHANICS AND COUPLED SYSTEMS LABORATORY (LMSSC), FRANCE & DR. NATIVIDAD GARCIA-TRONCOSO, ESCUELA SUPERIOR POLITECNICA DEL LITORAL - ESPOL, ECUADOR

Titles: Influence of Fall Hazard Warnings on Construction Sites

ICSECT 142

Time: 12:10 - 12:15

Presenter: Chia-Wen Liao, China University of Technology, Taiwan

Authors: Chia-Wen Liao, Tsung-Lung Chiang

Titles: Experimental and Numerical Study of Strain Degree of Medium-Reinforced Prism Specimens

ICSECT 166

Time: 12:15 - 12:30

Presenter: Theodoros Chrysanidis, Democritus University of Thrace, Greece

Authors: Theodoros Chrysanidis, Nikolaos Alamanis, Grigorios Papageorgiou

Titles: Fragility Assessment in RC Bridges Considering the Cumulative Damage over Time Due To Earthquakes

ICSECT 121

Time: 12:30 - 12:45

Presenter: Dante Tolentino, Universidad Autónoma Metropolitana, México

Authors: Daniel Herrera, Dante Tolentino

Titles: Experimental Response of T-beams with Exposed Reinforcement under Static Point-loads

ICSECT 169

Time: 12:45 - 01:00

Presenter: Maria Giulia Parmiani, Tecnológico de Monterrey, México

Authors: M.G. Parmiani, G. Faraone, L.Orta

Titles: First Results of the Application of Infrared Thermography to the Crack Inspection in Wooden Beams

ICSECT 109

Time: 01:00 - 01:15

Presenter: Manuel Cabaleiro Nuñez, University of Vigo, Spain

Authors: Miguel Gallego, Manuel Cabaleiro, Ivan Garrido, Borja Conde Belen Riveiro

[Return to Top](#)

SESSION

GREEN DESIGN

APRIL 11 | 12:10 PM - 01:10 PM | SESSION CHAIR: DR. GOODARY RAJESHWAR, UNIVERSITE DES MASCAREIGNES, MAURITIUS

Titles: Effect of Incorporating Shredded and Crumbed Rubber in Pavement-Grade Concrete on Elasticity and Toughness Moduli

ICSECT 131

Time: 12:10 - 12:25

Presenter: Nasser Kh. M. Mohammad, Australian College of Kuwait, Kuwait

Authors: Sayed Mohamad Soleimani, Naser Mohammad, Abdel Rahman Alaqqad, Adel Jumaah, Tahir Afrasiab

Titles: CEB as Potential Alternative Sustainable Material in Construction Industry: Survey on the Level of Acceptance in Kuwait

ICSECT 156

Time: 12:15 - 12:30

Presenter: Rana Ezzdine Lakys, Australian College of Kuwait, Kuwait

Authors: Rana Ezzdine Lakys, Ahmad Saad, Taha Ahmed

Titles: Demolition Waste as an Alternative Aggregate for Plaster Mortars

ICSECT 178

Time: 12:40 - 12:55

Presenter: Hernan Cañola, Universitaria Colegio Mayor de Antioquia, Colombia

Authors: Hernan Dario Cañola, Karen Venegas, Gersson F. B. Sandoval, Álisson F. do Couto

Titles: A Review of Machine Learning Methods in Building Energy Performance Assessment

ICSECT 174

Time: 12:55 - 01:10

Presenter: Handan Kunkcu, Eskisehir Technical University, Turkey

Authors: Handan Kunkcu, Kerim Koc, Asli Pelin Gurgun

[Return to Top](#)

ICSECT'22 KEYNOTE LECTURE

APRIL 11 | 01:35 PM - 02:20 PM | SESSION CHAIR: DR. JOAQUIM BARROS, UNIVERSITY OF MINHO, PORTUGAL



Titles: Fibre-Reinforced and Hybrid-Reinforced Concrete: An Updated Bridged Crack Model with Softening Pull-Out Forces

Dr. Federico Accornero, Politecnico di Torino, Italy

[View Abstract](#)

[Return to Top](#)

Federico ACCORNERO is currently adj. professor of Structural Mechanics at the National School of the Italian Army (Turin-Italy) and Fellow of the Shantou University (Guangdong-China). He received his PhD in Structural Engineering with distinction at Politecnico di Torino (Turin-Italy) in 2014. Before that, he studied at Politecnico di Torino and Ecole Nationale des Ponts et Chaussées (Paris-France).

His main research interests are: Fracture Mechanics; Next-generation Reinforced Concrete; Acoustic Emission Testing. Several of his researches have been published in international peer-reviewed journals, including ACI Structural Journal, ASCE Journal of Structural Engineering, ASCE Journal of Bridge Engineering, FIB Structural Concrete, Engineering Fracture Mechanics, Theoretical and Applied Fracture Mechanics, Cement and Concrete Composites, Magazine of Concrete Research, Construction and Building Materials, Engineering Structures.

ICEPTP'22 KEYNOTE LECTURE

APRIL 11 | 02:20 PM - 03:05 PM | SESSION CHAIR: DR. JOAQUIM BARROS, UNIVERSITY OF MINHO, PORTUGAL



Titles: Recent Trends in Wastewater Treatment with Emphasis on Metal Organic Frameworks (MOFs)

Dr. Rana Sabouni, American University of Sharjah, UAE

[View Abstract](#)

[Return to Top](#)

Dr. Rana Sabouni earned her MEd and PhD in Chemical Engineering from Western University (Canada) in 2009 and 2013, respectively. While doing so, she was awarded several scholarships and merit awards including OGS, and MITACS. She worked as a Post-Doctorate at Western University until joining American University of Sharjah as assistant professor in the Department of Chemical Engineering in September 2014. Recently, she was promoted to Associate professor of chemical engineering at AUS. Since then, Dr. Rana Sabouni has been actively involved with significant contributions in research and teaching, in addition to university and community service. In 2020, Dr. Rana Sabouni was awarded the Teaching Excellence Award. Her list of publications includes more than 37 research papers in high impact factor refereed Journals (Q1 and Q2), in addition to a number of conference proceedings and presentations. Dr. Rana Sabouni main research interest includes Metal-Organic Frameworks (MOFs) and their applications in drug delivery, and wastewater treatment. She supervised and co-supervised more than 10 Master's students and several senior design projects.

ICSECT'22 KEYNOTE LECTURE

APRIL 11 | 03:05 PM - 03:50 PM | SESSION CHAIR: DR. JOAQUIM BARROS, UNIVERSITY OF MINHO, PORTUGAL



Titles: Toward Durable Structures: Novel Design and Advanced Material Characterization
[Dr. Adil Al-Mayah, University of Waterloo, Canada](#)

[View Abstract](#)

[Return to Top](#)

Dr. Adil Al-Mayah has a blend of work experience in both the engineering and medical fields, resulting in the licensing of ground-breaking innovations in both areas. Dr. Al-Mayah's expertise includes material characterizations, composite materials mechanics, imaging, biomechanical-based deformable image registration, biomechanical characterization of soft tissues, and cancer mechanics. He is the director of the Imaging-Mechanics Integration Laboratory (IMILab) at the University of Waterloo equipped with a state-of-the-art high resolution (20 μm) computed tomography (CT) imaging system, in addition to advanced computing facilities. The IMILab has attracted many researchers from different fields including environmental, earth science, building science, applied health and materials, in addition to civil and mechanical engineering fields. Al-Mayah's current research programs have resulted in the development of economical gripping systems for prestressing fiber reinforced polymer (FRP) plates and rods. These economical systems are epoxy free, compact, and reusable. Also, he developed innovative components-based material characterization methods that integrate mechanics into 3D imaging to account for the contributions internal components of materials including voids, cracks, and corrosion.

SESSION

DESIGN AND MODELLING

APRIL 11 | 3:50 PM - 05:15 PM | SESSION CHAIR: DR. JOAQUIM BARROS, UNIVERSITY OF MINHO, PORTUGAL

Titles: Pseudo-Static Analytical Model For The Static And Seismic Stability Of Dry Stone Retaining Walls

ICGRE 138

Time: 3:50 - 04:05

Presenter: Nathanaël Savalle, University of Minho, Portugal

Authors: Nathanaël Savalle, Eric Vincens, Paulo B. Lourenço

Titles: Performance Analysis of Disconnected Piled Raft System in Soft Clay under Static Load

ICGRE 186

Time: 04:05 - 04:10

Presenter: Anjali Suresh, National Institute of Technology Calicut, India

Authors: Seethalakshmi P, Anjali S

Titles: A Parametric Study of Braced Excavation Considering the Effect of Adjacent Structures and Foundations Types

ICGRE 187

Time: 04:10 - 04:15

Presenter: Tamanna-E-Hafiz Maisha, Islamic University of Technology, Bangladesh

Authors: Tamanna-E-Hafiz Maisha, Fahim Shahriar Hassan, Istiakur Rahman

Titles: Prediction of Cyclic Behaviour of Quaternary Alluvial Soil using Finite Element Approach

ICGRE 203

Time: 04:15 - 04:30

Presenter: Angshuman Das, Indian Institute of Technology Madras, India

Authors: Angshuman Das, Rohan Deb, Subhadeep Banerjee

[Return to Top](#)

SESSION

DESIGN AND MODELLING

APRIL 11 | 3:50 PM - 05:15 PM | SESSION CHAIR: DR. JOAQUIM BARROS, UNIVERSITY OF MINHO, PORTUGAL

Titles: Some Observations on Numerical Analysis of Lateral Response of Caisson Foundation

ICGRE 205

Time: 04:30 - 04:45

Presenter: Ramyasri Rachamadugu, Shiv Nadar University, India

Authors: Sanshrit Singhai, Ramyasri Rachamadugu, Gyan Vikash

Titles: Finite Element Simulation of Reinforced Concrete Beams under Fatigue Loading

ICSECT 136

Time: 04:45 - 05:00

Presenter: Ahmed Godat, United Arab Emirates University, UAE

Authors: Nagwa Ibrahim, Said Elkholy, Ahmed Godat

Titles: Interaction Dynamic Analysis of Flexible Structures under Wind Load

ICSECT 189

Time: 05:00 - 05:15

Presenter: Ehab Elsayed Hassan Hendy, Alexandria University, Egypt

Authors: Hesham Zieneldin, Mohammed Heweity, Mohammed Abdelnaby, Ehab Hendy

[Return to Top](#)

SESSION

WATER POLLUTION AND TREATMENT

APRIL 11 | 3:50 PM - 05:15 PM | SESSION CHAIR: DR. HANY EL NAGGAR, DALHOUSIE UNIVERSITY, CANADA & DR. PAOLA FINI, IPCF - CNR, ITALY

Titles: Food Wastes As Adsorbent Materials for Water Decontamination: The Use of Kiwi Peels To Remove Emerging Pollutants and Textile Dyes

ICEPTP 196

Time: 03:50 - 04:05

Presenter: Vito Rizzi, University of Bari, Italy

Authors: Vito Rizzi, Jennifer Gubitosa, Paola Fini, Angela Agostiano, Pinalysa Cosma

Titles: Trophic Transfer of Mercury in a Temperate Marine Food Web, Southern Baltic Sea

ICEPTP 173

Time: 04:05 - 04:10

Presenter: Agnieszka Jedruch, University of Gdańsk, Institute of Oceanography, Poland

Authors: Agnieszka Jedruch

Titles: Spatial-seasonal Variation in Microplastic Distribution at the Han River Estuary to the Coastal Area of Incheon, Korea

ICEPTP 186

Time: 04:10 - 04:15

Presenter: Seon Yeong Park, INHA University, South Korea

Authors: Seon Yeong Park, Chang Gyun Kim

Titles: Influence of Benzodiazepine Delorazepam on *Xenopus laevis* Embryogenesis

ICEPTP 194

Time: 04:15 - 04:30

Presenter: Chiara Fogliano, University of Naples "Federico II", Italy.

Authors: Chiara Fogliano, Bice Avallone, Chiara Maria Motta, Rosa Carotenuto

[Return to Top](#)

SESSION

WATER POLLUTION AND TREATMENT

APRIL 11 | 3:50 PM - 05:15 PM | SESSION CHAIR: DR. HANY EL NAGGAR, DALHOUSIE UNIVERSITY, CANADA & DR. PAOLA FINI, IPCF - CNR, ITALY

Titles: Preparation and Characterization of Sulfonic Acid Functionalized Activated Carbon for Applications in Water and Wastewater Treatment

ICEPTP 201

Time: 04:30 - 04:45

Presenter: Betül Aykut Şenel, Suleyman Demirel University, Isparta, Turkey

Authors: Betul Aykut-Senel, S. Sule Kaplan-Bekaroglu, Nuray Ates

Titles: Coefficient of Variation of Drinking Water Networks in Residential Urban Complexes

ICEPTP 109

Time: 04:45 - 05:00

Presenter: Leonardo David Pinela Vargas, Universidad Espíritu Santo, Ecuador

Authors: Leonardo Pinela-Vargas, Natividad Garcia-Troncoso, Hilda Zambrano-Montalvan

Titles: Determination of Primary Surface Water Pollution Indicators by Multivariate Statistical Techniques in an Industrialized Basin.

ICEPTP 166

Time: 05:00 - 05:15

Presenter: Halil Hurullah, Gebze Technical University, Turkey

Authors: Halil N. Oruc, Mehmet Salim Oncel, Guleda Onkal Engin, Fatih Gulgen, Mehmet Karpuzcu, Sinem Vural, Batuhan Kılıç, Meltem Çelen

[Return to Top](#)

SESSION

DAMS AND TUNNELLING

APRIL 11 | 3:50 PM - 05:05 PM | SESSION CHAIR: DR. ANIL CHERIAN, STRAINSTALL, UAE

Titles: Cellular Cofferdams for Hydropower Generation

ICGRE 179

Time: 3:50 - 04:05

Presenter: Marte Gutierrez, Colorado School of Mines, USA

Authors: Marte Gutierrez, Simon Heru Prassetyo

Titles: Evaluation of the Static Liquefaction Behaviour of Silty Tailings in Unsaturated Conditions

ICGRE 221

Time: 04:05 - 04:20

Presenter: Gianluca Bella, Politecnico di Torino, Italy

Authors: Gianluca Bella

Titles: A Preliminary Insight into the Water Retention Response of Sand-Silt Mixtures of Stava Tailings

ICGRE 222

Time: 04:20 - 04:35

Presenter: Gianluca Bella, Politecnico di Torino, Italy

Authors: Gianluca Bella

Titles: Seismic Slope Stability and Liquefaction Potential of Large Existing Local Dams

ICGRE 226

Time: 04:35 - 04:50

Presenter: Nguyen Hong Nam, ThuyLoi University, Vietnam

Authors: Nguyen Hong Nam

Titles: Performance of Lateral Cutoff Wall on Seepage Characteristics Around Hydraulic Structures

ICGRE 228

Time: 04:50 - 05:05

Presenter: Ahmed Sheba, Alexandria University, Egypt

Authors: Ahmed Sheba, Rabiea Nasr, Mohamed Elkholy

[Return to Top](#)

SESSION

NEW TECHNOLOGIES IN STRUCTURAL DESIGN AND CONSTRUCTION I

APRIL 11 | 05:15 PM - 05:45 PM | SESSION CHAIR: DR. MARTE GUTIERREZ, COLORADO SCHOOL OF MINES, USA

Titles: A Vision-Based System for Structural Displacement Measurement

ICSECT 127

Time: 05:15 - 05:30

Presenter: Felipe J. Perez & Omar E. Mora, California State Polytechnic University, USA

Authors: Felipe J. Perez, Omar E. Mora

Titles: Inverted T-Beams in Structures: A Review

ICSECT 133

Time: 05:30 - 05:45

Presenter: Amina Yakout, United Arab Emirates University, UAE

Authors: Amina Yakout, Bilal El-Ariss, and Tamer El-Maaddawy

[Return to Top](#)

SESSION

SOIL POLLUTION AND TREATMENT

APRIL 11 | 05:15 PM - 05:30 PM | SESSION CHAIR: DR. HANY EL NAGGAR, DALHOUSIE UNIVERSITY, CANADA

Titles: Evaluating Site Investigation Data to Assess Polycyclic Aromatic Hydrocarbon (PAH) Soil Contamination on Brownfield Sites in Surrey, UK

ICEPTP 113

Time: 05:15 - 05:30

Presenter: Emma Hellawell, University of Surrey , UK

Authors: E. E. Hellawell¹, T. O'Reilly and S.J.Hughes

Titles: Prediction of Organic Pollutants Transfers in Contaminated Soils Using an In-House Thermodynamic Calculator

ICEPTP 182

Time: 05:30 - 05:45

Presenter: Zouma KOUAME, IFP Energies Nouvelles, France

Authors: Kouaho KOUAME, Simon AYACHE, Pauline MICHEL, Pascal MOUGIN

Titles: Granitic Mining Waste Feasibility for Liner Material Production

ICEPTP 203

Time: 5:45 - 6:00

Presenter: Leonardo Marchiori, University of Beira Interior, Geobiotec, FibEnTech, Portugal

Authors: Leonardo Marchiori, António Albuquerque, Victor Cavaleiro

[Return to Top](#)

APRIL 12

8:00 AM - 08:45 AM		ICEPTP'22 KEYNOTE LECTURE			
		<u>Improved Dewatering of Mine Waste Tailings</u> Dr. Shahid Azam, University of Regina, Canada			
08:45 AM - 09:30 AM		ICGRE'22 KEYNOTE LECTURE			
		<u>Protecting Geo-Infrastructure from Climate Change</u> Dr. David Toll, Durham University, UK			
09:30 AM - 10:15 AM		ICGRE'22 KEYNOTE LECTURE			
		<u>Sustainable Geotechnical Engineering - A Research Perspective</u> Dr. Dipanjan Basu, University of Waterloo, Canada			
10:15 AM - 10:50 AM		Break			
Room 1		Room 2		Room 3	
10:25 AM- 11:15 AM	SESSION <u>Geoenvironmental Related Topics</u>	10:25 AM- 11:25 AM	SESSION <u>Building Optimal Design</u>	10:25 AM- 11:30 AM	SESSION <u>Environmental Risk Management and other Related Topics</u>
11:15 AM- 11:50 AM	SESSION <u>Fossil Fuels and Renewable Energy</u>	11:25 AM- 12:15 PM	SESSION <u>Site Investigation and Terrain Characterization</u>	11:30 AM- 12:30 PM	SESSION <u>Composites and Construction</u>

APRIL 12

12:15 PM - 12:45 AM	Lunch Break				
12:45 PM - 01:30 PM	ICGRE'22 KEYNOTE LECTURE				
	<u>Seismic Performance of Helical Piles</u> Dr. Hesham El Naggar, Western University, Canada				
Room 1		Room 2		Room 3	
1:30 PM – 2:30 PM	SESSION <u>Air Pollution and Treatment I</u>	1:30 PM – 2:30 PM	SESSION <u>Soil and Rock Mechanics and Characterization</u>	1:30 PM – 2:30 PM	SESSION <u>Transportation Geotechnics, Engineering and Technology</u>
2:30 PM - 3:10 PM	SESSION <u>Air Pollution and Treatment II</u>	2:30 PM - 3:15 PM	SESSION <u>Construction Materials II</u>	2:30 PM - 3:00 PM	SESSION <u>Marine Geotechnics</u>
3:10 PM - 4:05 PM	SESSION <u>Construction Materials III</u>	3:15 PM - 4:00 PM	SESSION <u>Seismic Control</u>	3:15 PM - 4:00 PM	SESSION <u>New Technologies in Structural Design and Construction II</u>

ICSECT'22 KEYNOTE LECTURE

APRIL 12 | 08:00 AM - 08:45 AM | SESSION CHAIR: DR. JOAQUIM BARROS, UNIVERSITY OF MINHO, PORTUGAL



Improved Dewatering of Mine Waste Tailings

Dr. Shahid Azam, University of Regina, Canada

[View Abstract](#)

[Return to Top](#)

Shahid Azam is Professor of Environmental Systems Engineering at the University of Regina. He has worked for 30 years in the fields of geotechnical and geoenvironmental engineering. Through his research, he has devised advanced testing methods and modeling protocols to manage civil infrastructure and mining wastes. He has trained dozens of graduate students and post-doctoral fellows and has authored more than 140 publications in peer reviewed journals and international conferences.

ICGRE'22 KEYNOTE LECTURE

APRIL 12 | 08:45 AM - 09:30 AM | SESSION CHAIR: DR. JOAQUIM BARROS, UNIVERSITY OF MINHO, PORTUGAL



Titles: Protecting Geo-Infrastructure from Climate Change

[Dr. David Toll, Durham University, UK](#)

[View Abstract](#)

[Return to Top](#)

David Toll is Professor of Engineering and Co-Director of the Institute of Hazard, Risk and Resilience at Durham University. He is Chair of the British Geotechnical Association and has just completed an 8-year term as Chair of the Technical Committee on Unsaturated Soils of the International Society for Soil Mechanics and Geotechnical Engineering. He is a Fellow of the Learned Society of Wales and a Fellow of the Institution of Civil Engineers. He has been carrying out research into geo-hazards related to unsaturated and tropical soils for over 35 years. The main applications of his research are in the impacts of climate change on infrastructure slopes, rainfall-induced landslides and use of naturally occurring materials in road construction. He is Principal Investigator on major grants relating to climate adaptation: CACTUS (£1.76M) and Transport Africa (£1.1M) and Co-Investigator on the ACHILLES programme grant (£4.8M). He is currently Editor-in-Chief of the Springer Nature journal, Geotechnical & Geological Engineering and has served as a member of the Editorial Boards for Géotechnique and Quarterly Journal of Engineering Geology and Hydrogeology.

ICGRE'22 KEYNOTE LECTURE

APRIL 12 | 09:30 AM - 10:15 AM | SESSION CHAIR: DR. JOAQUIM BARROS, UNIVERSITY OF MINHO, PORTUGAL



Titles: Sustainable Geotechnical Engineering - A Research Perspective
[Dr. Dipanjan Basu, University of Waterloo, Canada](#)

[View Abstract](#)

[Return to Top](#)

Dr. DIPANJAN BASU is a Professor in the Department of Civil and Environmental Engineering at the University of Waterloo (UW) (Canada). He was an Assistant Professor at the University of Connecticut (USA) before joining UW. Dr. Basu obtained his academic degrees from Purdue University (USA), Indian Institute of Technology Kanpur (India), and Jadavpur University (India). He is a Professional Engineer in the province of Ontario in Canada, and a Chartered Engineer and Professional Engineer in India. He is a member of several learned societies in USA, Canada, and India.

Dr. Basu has broad research and teaching interests that include Foundations and Soil Structure Interaction, Energy Geotechnics, Sustainability and Resilience Quantification in Geotechnical Engineering, Soil Constitutive Modeling, Blast Analysis of Geo-structures, Probabilistic Analysis, Soil Dynamics, and Ground Improvement. He has close to 150 peer reviewed publications with more than 60 refereed articles in reputed journals. Dr. Basu has delivered several keynotes and invited lectures in the U.S.A., Canada, South Africa, Argentina, India, China, and Kazakhstan. He has taught professional and university short courses in the U.S.A., South Africa, India, and Ethiopia.

SESSION

GEOENVIRONMENTAL RELATED TOPICS

APRIL 12 | 10:25 AM - 11:15 AM | SESSION CHAIR: DR. ANIL CHERIAN, STRAINSTALL, UAE

Titles: Review on Biogeotechnics for Soil Treatment

ICGRE 142

Time: 10:25 - 10:40

Presenter: Sadak Shahid, Ambedkar National Institute of Technology, Jalandhar

Authors: Sadak Shahid

Titles: Influence of Single-Dose Biocement Treatment on the Hydraulic Conductivity of the Riverbank Sand

ICGRE 201

Time: 10:40 - 10:55

Presenter: K. Ravi, India Institute of Technology Guwahati, India

Authors: Anant Aishwarya Dubey , Rituraj Devrani , K. Ravi, Navdeep K Dhami, Abhijit Mukherjee

Titles: Laboratory-Scale Production of 'Sand-like' Material from Excavated Soft Soil

ICGRE 202

Time: 10:55 - 11:10

Presenter: Juan Wei Koh, National University of Singapore, Singapore

Authors: Juan Wei Koh, Subramanian Sathyamoorthy, Soon Hoe Chew, Kai En Low, Kok Eng Chua, Yeow Chong Tan, Teo Cheng Soon, Ji Mei Jamie Lee, Meng Yang Charmaine Koh

Titles: Chemical-Physical Characterization of Stava Tailings Subjected to an Innovative Aging Technique

ICGRE 229

Time: 11:10 - 11:15

Presenter: Gianluca Bella, Politecnico di Torino, Italy

Authors: Gianluca Bella, Monica Barbero, Fernando Soares Lameiras, Terezinha Esposito, Fabrizio Barpi

[Return to Top](#)

SESSION

BUILDING OPTIMAL DESIGN

APRIL 12 | 10:25 AM - 11:25 PM | SESSION CHAIR: DR. THEODOROS CHRYSANIDIS,
DEMOCRITUS UNIVERSITY OF THRACE, GREECE

Titles: Optimal Design of Viscous and Friction Dampers in Symmetric Reinforced Concrete Buildings

ICSECT 149

Time: 10:25 - 10:40

Presenter: Magdalini Titirla, Structural Mechanics and Coupled Systems Laboratory (LMSSC), Conservatoire National des Arts et Métiers (CNAM), France

Authors: Charbel Mrad, Magdalini Titirla, Walid Larbi

Titles: Influence Of Sand To Aggregate Ratio On The Fresh And Mechanical Properties Of Self-Compacting High-Performance Concrete

ICSECT 171

Time: 10:40 - 10:55

Presenter: Abdullah Alshahrani, Cardiff University, UK

Authors: Abdullah Alshahrani, Tianyi Cui, Sivakumar Kulasegaram

Titles: Influence of the Design Parameters on the Current Seismic Design Approach for Automated Rack Supported Warehouses

ICSECT 202

Time: 10:55 - 11:10

Presenter: Agnese Natali, University of Pisa, Italy

Authors: Agnese Natali, Francesco Morelli, Walter Salvatore

Titles: Seismic Performance of Currently Designed Automated Rack Supported

ICSECT 203

Time: 11:10 - 11:25

Presenter: Agnese Natali, University of Pisa, Italy

Authors: Agnese Natali, Francesco Morelli, Walter Salvatore

[Return to Top](#)

SESSION

ENVIRONMENTAL RISK MANAGEMENT AND OTHER RELATED TOPICS

APRIL 12 | 10:25 AM - 11:15 PM | SESSION CHAIR: DR. VITO RIZZI, UNIVERSITY OF BARI, ITALY & DR. SHUNDE YIN, UNIVERSITY OF WATERLOO, CANADA

Titles: How Could A Waste Become A Resource? The Case of Kiwi Peels' Application for Synthesizing Nanomaterials

ICEPTP 198

Time: 10:25 - 10:40

Presenter: Jennifer Gubitosa, Università degli Studi "Aldo Moro", Italy

Authors: Jennifer Gubitosa, Vito Rizzi, Doriana Marino, Angela Agostiano, Paola Fini, Pinalysa Cosma

Titles: Assessing the Environmental Risk of Silver Nanoparticles in Aquatic Ecosystems

ICEPTP 202

Time: 10:40 - 10:55

Presenter: Rosember Ramirez, Universitat Politècnica de Catalunya. Barcelona Tech, Spain

Authors: Rosember Ramírez, Vicenç Martí, R.M. Darbra

Titles: Forest Fire Detection and Prediction from image processing using RCNN

ICEPTP 204

Time: 10:55 - 11:10

Presenter: Ansh Magon, Vishwakarma Institute of Technology, India

Authors: Abhay Chopde, Ansh Magon, Shreyas Bhatkar

Titles: Hazardous Chemicals Impacts Assessment for Risk Management and Reduction

ICEPTP 106

Time: 11:10 - 11:15

Presenter: Anahit Aleksandryan, Ministry of Environment of the Republic of Armenia, Republic of Armenia

Authors: Anahit Aleksandryan

Titles: Altering the Solid Phase Speciation of Arsenic in Paddy Soil: An Approach to Reduce Rice Grain Arsenic Uptake

ICEPTP 207

Time: 11:15 - 11:30

Presenter: Supriya Majumder, Indian Statistical Institute, India

Authors: Supriya Majumder, Pabitra Banik

[Return to Top](#)

SESSION

FOSSIL FEULS AND RENEWABLE ENERGY

APRIL 12 | 11:15 AM - 11:50 PM | SESSION CHAIR: DR. VITO RIZZI, UNIVERSITY OF BARI, ITALY

Titles: Preparation of Cu/ZnO/SBA-15 Catalyst for Methanol Synthesis via CO₂ Hydrogenation at Low Pressure: Effect of Calcination Temperature

ICEPTP 171

Time: 11:15 - 11:20

Presenter: Zane Abelniece, Riga Technical University, Latvia

Authors: Zane Abelniece, Valdis Kampars

Titles: Steam Distillation of Acidulated Soapstock and FAME Synthesis

ICEPTP 176

Time: 11:20 - 11:35

Presenter: Lauma Laipniece, Riga Technical University, Latvia

Authors: Lauma Laipniece, Valdis Kampars

Titles: Scale-up of Biodiesel Synthesis in Chemical Interesterification Reaction of Rapeseed Oil with Methyl Formate and Methyl Acetate

ICEPTP 206

Time: 11:35 - 11:50

Presenter: Lauma Laipniece, Riga Technical University, Latvia

Authors: Lauma Laipniece, Valdis Kampars

[Return to Top](#)

SESSION

SITE INVESTIGATION AND TERRAIN CHARACTERIZATION

APRIL 12 | 11:25 AM - 12:15 PM | SESSION CHAIR: DR. ANIL CHERIAN, UNIVERSITY OF CAMPINAS, BRAZIL & DR. ANTONIO MIGLIO, HYDRAULIC AND PIPELINE CONSULTANT ENGINEER, ITALY

Titles: Features of Engineering Geological Investigations in Regions Underlain by Deposits of Volcanic Origin

ICGRE 101

Time: 11:25 - 11:40

Presenter: Yeshvin Goodary, McGill University, Canada

Authors: Rajeshwar Goodary, Viacheslav Iegupov, Yeshvin Goodary

Titles: Seismic Surface Waves Methods for High-Speed Rail Earthworks Compliance: A Review of Measurement Practice

ICGRE 184

Time: 11:40 - 11:55

Presenter: Katerina Kyrkou, University of Loughborough, UK

Authors: Katerina Kyrkou, Matthew Frost, Paul Fleming, Nick Sartain, Sarah Trinder

Titles: CPT in Layered Soils and Correction of Thin-Layer Effect

ICGRE 204

Time: 11:55 - 12:00

Presenter: Houman Soleimani Fard, Keller Grundbau GmbH, UAE

Authors: Houman Soleimani Fard, Nicol Chang

Titles: Effect of Agricultural Supplies on the Physical Properties of Tropical Soils

ICGRE 233

Time: 12:00 - 12:15

Presenter: Andrea Cardona Perez, University of Brasilia, Brazil

Authors: Andrea Cardona Pérez, José Camapum de Carvalho, Renato Marques Cabral

[Return to Top](#)

SESSION

COMPOSITES AND CONSTRUCTION

APRIL 12 | 11:30 AM - 12:30 PM | SESSION CHAIR: DR. PAULO CACHIM, UNIVERSITY OF AVEIRO, PORTUGAL & DR. AHMAD SAID SAAD, AUSTRALIAN COLLEGE OF KUWAIT, KUWAIT

Titles: Stabilised Base with Soil-Cement for Unpaved Roads “Ruta Del Cacao” (Guayas, Ecuador)

ICSECT 110

Time: 11:30 - 11:45

Presenter: Natividad Garcia-Troncoso, ESPOL Polytechnic University, Ecuador

Authors: Daniel Bucheli-Pérez, Holger Sarmiento-Segovia, Natividad García-Troncoso, Jorge Flores-Rada

Titles: Shear Strength of Steel Fiber-Reinforced Recycled Aggregates Concrete Deep Beams

ICSECT 132

Time: 11:45 - 12:00

Presenter: Nancy Kachouh, United Arab Emirates University, UAE

Authors: Nancy Kachouh, Tamer El-Maaddawy, Hilal El-Hassan, Bilal El-Ariss

Titles: Structural Safety Evaluation of Polymeric Adhesive Systems for Concrete Bonding

ICSECT 144

Time: 12:00 - 12:15

Presenter: Martin Brandtner-Hafner, FRACTURE ANALYTICS , Austria

Authors: Martin Brandtner-Hafner

Titles: A Comparative Analysis of Timber and Composite Sleepers

ICSECT 184

Time: 12:15 - 12:30

Presenter: Hossein Askarinejad, Ara Institute of Canterbury, New Zealand

Authors: Hossein Askarinejad, Jiaya Zeng, Wahid Ferdous

[Return to Top](#)

ICGRE'22 KEYNOTE LECTURE

APRIL 12 | 12:45 PM - 1:30 PM | SESSION CHAIR: DR. JOAQUIM BARROS, INSTITUTE FOR SUSTAINABILITY AND INNOVATION IN STRUCTURAL ENGINEERING, UNIVERSITY OF MINHO, PORTUGAL



Titles: From Physical Measurements to Design Codes for MSE Walls

[Dr. Hesham El Naggar, Western University, Canada](#)

[View Abstract](#)

[Return to Top](#)

Dr. El Naggar is a Distinguished University Professor of Western University, Canada. He is Editor-In-Chief of Soil Dynamics and Earthquake Engineering and past Associate Editor of the Canadian Geotechnical Journal. He published more than 450 technical papers/book chapters on foundations, soil-structure interaction and geotechnical earthquake engineering; and consulted on major projects worldwide. He is the main developer of software DYNA6 used worldwide for design of foundations for dynamic loads. He received numerous awards including: Geosynthetics, Stermac, Meyerhof, Canadian Geotechnical Colloquium Speaker, Western University Distinguished Professorship, Faculty Scholar Award, Outstanding Teaching, and Research Excellence Awards as well as the 2015 Ontario Professional Engineers Medal for Engineering Research & Development. He is an elected Fellow of Canadian Academy of Engineers, Engineering Institute of Canada and the American Society for Civil Engineers.

SESSION

AIR POLLUTION AND TREATMENT I

APRIL 12 | 1:30 PM - 02:30 PM | SESSION CHAIR: DR. PAOLA FINI, IPCF - CNR, ITALY

Titles: Evaluation a portable Air circulation system-ACS for increased IAQ

ICEPTP 199

Time: 1:30 - 1:45

Presenter: Bongkotmat Donsomphai, University of Phayao, Thailand

Authors: Bongkotmat Donsomphai, Wipada Ruanchatchawan, Jirod Chaisan

Titles: Using Composite Membrane Contactors with Polyamide Functional Layer for Co₂ Separation

ICEPTP 185

Time: 1:45 - 2:00

Presenter: Mariia Pasichnyk, Institute of Chemical Process Fundamentals of the Czech Academy of Science, Czech

Authors: Mariia Pasichnyk, Petr Stanovsky, Pavel Izak, Michal Šyc

Titles: Insignificant Changes in Particulate Matter during the COVID-19 Lockdown: A Machine Learning Study in Zagreb, Croatia

ICEPTP 187

Time: 2:00 - 2:15

Presenter: Mario Lovrić, Know-Center, Institute for Anthropological Research, Austria

Authors: Mario Lovrić, Mario Antunović, Iva Šunić, Matej Vuković, Simonas Kecorius, Mark Kröll, Ivan Bešlić, Iva Šimić, Gordana Peh nec

Titles: Traffic Related Air Pollution Severity Assessment in South-East London Schools

ICEPTP 174

Time: 02:15 - 2:30

Presenter: Ho Yin Wickson Cheung, University College London, UK

Authors: Ho Yin Wickson Cheung, Liora Malki-Epshtein

[Return to Top](#)

SESSION

SOIL AND ROCK MECHANICS AND CHARACTERIZATION

APRIL 12 | 01:30 AM - 02:30 PM | SESSION CHAIR: DR. HANY EL NAGGAR, DALHOUSIE UNIVERSITY, CANADA & DR. FARSHID VAHEDIFARD, Mississippi State University, USA

Titles: An Effect of Sodium Polyacrylate on Sandy Soil Parameters and Its Use in Soil Improvement

ICGRE 185

Time: 01:30 - 01:45

Presenter: Nesil Özbakan, Eskisehir Technical University, Turkey

Authors: Nesil Özbakan, Burak Evirgen

Titles: Effect of Retarders and Dispersing Agents on the Performance of Cement-Bentonite Cut off Wall

ICGRE 214

Time: 01:45 - 2:00

Presenter: Subramanian Sathyamoorthy, National University of Singapore, Singapore

Authors: Sathya Subramanian, Kai En Low, Soon Hoe Chew, Aw You Jin Eugene, Say Cheong Ng, Yeow Chong Tan, Pei Ling Goh, Theng Yi Tian Angelina, Zi Xiang Gng

Titles: Simple Regression Models to Estimate the Standard and Modified Proctor Characteristics of Specific Compacted Fine-Grained Soils

ICGRE 232

Time: 02:00 - 02:15

Presenter: Hazal Berrak Gençdal, Istanbul University-Cerrahpaşa, Turkey

Authors: Zülal AKBAY ARAMA, Hazal Berrak GENÇDAL

Titles: Relationship between Enzyme Concentration and Carbonate Precipitation in a Sand Treated By Biocementation Using Enzyme

ICGRE 240

Time: 02:15 - 02:30

Presenter: Rafaela Cardoso, University of Lisbon, Portugal

Authors: Román Fernández Rodríguez, Rafaela Cardoso

[Return to Top](#)

SESSION

TRANSPORTATION GEOTECHNICS, ENGINEERING AND TECHNOLOGY

APRIL 12 | 01:30 AM - 02:30 PM | SESSION CHAIR: DR. GOODARY RAJESHWAR, UNIVERSITE DES MASCAREIGNES, MAURITIUS

Titles: Sand-Biosolids Mixture Characterization and Potential
ICGRE 178

Time: 01:30 - 01:45

Presenter: Ahmed M. M. Hasan, Nile University, Egypt

Authors: Ahmed M. M. Hasan, Ahmed M. Elwy, Begad A. Taha, Ahmed M. Mostafa, Sherif S. AbdelSalam

Titles: Estimation of Suction Profile and Vertical Deformation in the Indian Expansive Soil Using Thornthwaite Moisture Index

ICGRE 225

Time: 01:45 - 02:00

Presenter: Ashwini Vikas Chavan, College of Engineering Pune, India

Authors: Ashwini Chavan, Sukhanand Bhosale

Titles: Differential Settlement and Dynamic Load Effects across Lime Treated Rail Transition Zones

ICGRE 231

Time: 02:00 - 02:15

Presenter: Jake Lewis William Davies, Nottingham Trent University, UK

Authors: Jake Davies, Paul Beetham, Koohyar Faizi

Titles: A Simulation of Embodied CO2 Emission of Ground Improvement Technique Using Life-Cycle Assessment in Runway Construction

ICGRE 236

Time: 02:15 - 02:30

Presenter: Meilani Adriyati, Kyushu University, Japan

Authors: Meilani Adriyati, Noriyuki Yasufuku, Ryohei Ishikura, Ahmad Rifa'i

[Return to Top](#)

SESSION

AIR POLLUTION AND TREATMENT II

APRIL 12 | 2:30 PM - 03:10 PM | SESSION CHAIR: DR. PAOLA FINI, IPCF - CNR, ITALY

Titles: Fast Method to Design Air Filtration Solution at Low Energy Cost in Subterranean Train Stations
ICEPTP 167

Time: 02:30 - 02:45

Presenter: Pierre-Emmanuel Pretot, LHEEA lab.(ECN/CNRS)/Centrale Nantes, France

Authors: Pierre-Emmanuel PRETOT, Christoph SCHULZ, David CHALET, Jérôme MIGAUD, Mateusz BOGDAN

Titles: NO₂ Concentration Modelling Using Meteorological and Traffic Features.

ICEPTP 172

Time: 02:45 - 03:00

Presenter: Tomasz Turek, Wrocław University of Environmental and Life Sciences, Poland

Authors: Tomasz Turek, Joanna A. Kamińska

Titles: The Impact of Climate Conditions and Traffic Emissions on the Pms Variations in Rhodes City during the Summer of 2021

ICEPTP 181

Time: 03:00 - 03:05

Presenter: Ioannis Logothetis, Centre for Research and Technology Hellas, CPERI, Greece

Authors: Ioannis Logothetis, Christina Antonopoulou, Georgios Zisopoulos, Adamantios Mitsotakis, Panagiotis Grammelis

Titles: Exposure of Pedestrians and Cyclist to Air Pollution in the City.

ICEPTP 184

Time: 03:05 - 03:10

Presenter: Joanna Amelia Kaminska, Wrocław University of Enviromental and Life Sciences, Poland

Authors: Joanna Amelia Kaminska, Tomasz Turek, an Krzysztof Kazak

[Return to Top](#)

SESSION

CONSTRUCTION MATERIALS II

APRIL 12 | 02:30 AM - 03:15 PM | SESSION CHAIR: DR. HANY EL NAGGAR, DALHOUSIE UNIVERSITY, CANADA

Titles: Self-Healing Concrete: A Bibliometric Analysis

ICSECT 143

Time: 02:30 - 02:45

Presenter: Mohammed H. H. Alzard, 1United Arab Emirates University, UAE

Authors: Mohammed H. Alzard, Hilal El-Hassan, Tamer El-Maaddawy, Ashraf Aly Hassan, Marwa Alsalami, Fatma Abdulrahman

Titles: Experimental Study on the Effect of Elongation Degree on the Cracking of Highly-Reinforced R/C Members

ICSECT 147

Time: 02:45 - 03:00

Presenter: Theodoros Chrysanidis, Aristotle University of Thessaloniki, Greece

Authors: Theodoros Chrysanidis, Nikolaos Alamanis, Grigorios Papageorgiou

Titles: Experimental Investigation on the Impact of Longitudinal Rebar Ratio on the Cracking Characteristics of R/C Components

ICSECT 148

Time: 03:00 - 03:15

Presenter: Theodoros Chrysanidis, Aristotle University of Thessaloniki, Greece

Authors: Theodoros Chrysanidis

[Return to Top](#)

SESSION

MARINE GEOTECHNICS

APRIL 12 | 02:30 PM - 03:00 PM | SESSION CHAIR: DR. MARTE GUTIERREZ, COLORADO SCHOOL OF MINES, USA

Titles: Correlation between Shear Wave Velocity and Cone Penetration Test Data in Offshore Carbonate Soils

ICGRE 118

Time: 02:30 - 02:45

Presenter: Muhammad Bilal Mumtaz, Fugro Survey Middle East, UAE

Authors: Muhammad Bilal Mumtaz, Dharendra Kumar, Luke Martin, Yassine Benboudiaf

Titles: Optimization of Jacket Structure in Carbonate Soils

ICGRE 210

Time: 02:45 - 03:00

Presenter: Nanda Kishore Yadla, National Petroleum Construction Company, UAE

Authors: Nanda Kishore Yadla, Rama Mohan Gajulapalli, Kandasamy K K, Faris Kamal

[Return to Top](#)

SESSION

CONSTRUCTION MATERIALS III

APRIL 12 | 03:10 PM - 04:05 PM | SESSION CHAIR: DR. HOSSEIN ASKARINEJAD, ARA
INSTITUTE OF CANTERBURY, NEW ZEALAND

Titles: Developing Self-Compacting Steel Fibre Reinforced Concrete (SCSFRC) Mixes Based On Target Plastic Viscosity and Compressive Strength

ICSECT 177

Time: 03:10 - 03:25

Presenter: Abdulkarim Mimoun, Cardiff University, UK

Authors: Abdulkarim Mimoun, Sivakumar Kulasegaram

Titles: Design of Alkali-Activated Ladle Slag Mortar Using Taguchi Method

ICSECT 141

Time: 03:25 - 03:40

Presenter: Omar Najm, United Arab Emirates University, UAE

Authors: Omar Najm, Hilal El-Hassan, Amr El-Dieb

Titles: Valorisation of Local Residues, By-Products and Wastes into Ceramic Materials for Civil Engineer Application

ICSECT 176

Time: 03:40 - 03:55

Presenter: Jean-Regis Martinent, Université de Toulouse, France

Authors: Jean-Régis Martinent, Yasmine Lalau, Guilhem Dejean, Doan Pham Minh

Titles: Manufacturing Ultra-High Performance Concrete UHPC with Conventional Production Processes

ICSECT 152

Time: 03:55 - 04:05

Presenter: Cristian Javier Caicedo, Universidad Nacional de Colombia, Colombia

Authors: Juan Felipe Serna, Cristian Javier Caicedo, César Echavarría

[Return to Top](#)

SESSION

SEISMIC CONTROL

APRIL 12 | 03:15 PM - 04:00 PM | SESSION CHAIR: DR. BEATRIZ MARTIN-PEREZ,
ARCELORMITTAL INNOVACIÓN INVESTIGACIÓN E INVERSIÓN, SPAIN

Titles: A Displacement Based Design Approach For Seismic Assessment of Flat Slab Structure With Core Shear Wall

ICSECT 125

Time: 03:15 - 03:30

Presenter: Samia Zakir Sarothi, Military Institute of Science and Technology, Bangladesh

Authors: Khondaker Sakil Ahmed, Mohana Kawsher, Rezvi Ahmed³, Rishath Sabrin, Samia Zakir Sarothi, Afia Farzana

Titles: Influence of Nonlinearities on the Vertical Kinematic Interaction of Piles

ICSECT 173

Time: 03:30 - 03:45

Presenter: Usama Zafar, Saitama University, Japan

Authors: Usama Zafar, Chandra S. Goit, Masato Saitoh

Titles: Multiplication Factors for Design of Open Ground Story RC Building – A Probabilistic Approach

ICSECT 204

Time: 03:45 - 04:00

Presenter: Mustafa Salsal, British Applied College, UAE

Authors: D C Haran Pragalath, Saleema Panda and Mustafa Salsal

SESSION

NEW TECHNOLOGIES IN STRUCTURAL DESIGN AND CONSTRUCTION II

APRIL 12 | 03:15 PM - 04:00 PM | SESSION CHAIR: DR. MARTE GUTIERREZ, COLORADO SCHOOL OF MINES, USA

Titles: Evaluation of the Structural Reliability of a Fixed Offshore Structure over Time

ICSECT 120

Time: 03:15 - 03:30

Presenter: Dante Tolentino, Universidad Autónoma Metropolitana, Mexico

Authors: Gerardo Varela, Dante Tolentino

Titles: Improving the Behavior of Steel Plate Shear Wall Using Double Infill Plates

ICSECT 161

Time: 03:30 - 03:45

Presenter: Denise-Penelope N. Kontoni, University of the Peloponnese, Hellenic Open University, Greece

Authors: Ahmad Jabbar Hussain Alshimmeri, Denise-Penelope N. Kontoni

Titles: Behavior of R.C. Lightweight Deep Beam

ICSECT 187

Time: 03:45 - 04:00

Presenter: Karim Helmi, College of Engineering & Technology/AASTMT, Egypt

Authors: Alaa Morsy, Karim Helmi and Waleed Alsaadi

[Return to Top](#)