7th INTERNATIONAL CONFERENCE OF RECENT TRENDS IN ENVIRONMENTAL SCIENCE AND ENGINEERING (RTESE'23)

8th LATIN-AMERICAN CONGRESS OF PHOTOCATALYSIS, PHOTOCHEMISTRY AND PHOTOBIOLOGY – LACP3 2023

8th INTERNATIONAL CONFERENCE ON CIVIL, STRUCTURAL AND TRANSPORTATION ENGINEERING (ICCSTE'23)

JUNE 04-06, 2023

Carleton University, Ottawa, CANADA

Dr. Mehrab Mehrvar
Toronto Metropolitan University
CONFERENCE CHAIR, RTESE'23 & LACP3'23

Dr. Khaled Sennah
Toronto Metropolitan University
CONFERENCE CHAIR, ICCSTE'23

Dr. Zhi Chen
Concordia University
CONFERENCE CO-CHAIR, RTESE'23

SUNDAY, JUNE 04

09:00 AM	**Registrations & Networking**
	AFTERNOON VIRTUAL PARALLEL SESSIONS I
01:00 PM	**TRANSPORTATION & TRAFFIC ENGINEERING I** - PAGE 1
01:00 PM	**WATER RESOURCES, POLLUTION, AND TREAMENT** PAGES 2-3
	AFTERNOON VIRTUAL PARALLEL SESSIONS II
02:15 PM	**NEW TECHNOLOGY IN CIVIL ENGINEERING** - PAGES 3 -4
03:00 PM	**ENVIRONMENTAL PROTECTION I** - PAGE 4 - 5
03:30 PM	**Session Break**
	AFTERNOON VIRTUAL SESSION III
03:35 PM	**GEOTECHNICAL ENGINEERING & CONSTRUCTION MANAGEMENT** - PAGE 6

MONDAY, JUNE 05

8:00 AM	**Registration**
9:00 AM	**Official Opening**
	PARALLEL LECTURES I
9:15 AM	**ICCSTE'23 KEYNOTE LECTURE - PHYSICAL** **Dr. Luigi Di Sarno, University of Liverpool, UK** PAGE 7 - **ROOM 1**
9:15 AM	**RTESE'23 PLENARY LECTURE - VIRTUAL** **Dr. Parisa A. Ariya, McGill University, Canada** PAGE 8- **ROOM 2**
	PARALLEL LECTURES II
10:00 AM	**ICCSTE'23 KEYNOTE LECTURE - PHYSICAL** **Dr. Marte Gutierrez, Colorado School of Mines, USA** PAGE 9 - **ROOM 1**
10:05 AM	**LACP3'23 PLENARY LECTURE - PHYSICAL** **Dr. Vicente Rodríguez-González, Institute for Scientific and Technological Research of San Luis Potosi, Mexico** - PAGE 10 - **ROOM 2**
10:45 AM	**Coffee Break**
	PARALLEL LECTURES III
11:05 AM	**ICCSTE'23 PLENARY LECTURE - VIRTUAL** **Dr. Venkatesh Kodur, Michigan State University, USA** PAGE 11 - **ROOM 1**
11:10 AM	**LACP3'23 KEYNOTE LECTURE - PHYSICAL** **Dr. Iliana Medina-Ramírez, Universidad Autonoma de Aguascalientes, Mexico** - PAGE 12 - **ROOM 2**
	MORNING PARALLEL SESSIONS
11:55 AM	**Building Material I** - PAGE 13 - **ROOM 1**
11:55 AM	**Water & Waste water management & Treatment I** PAGE 14 - **ROOM 2**
1:10 PM	**Group Photo**
1:15 PM	**Lunch**
	AFTERNOON PARALLEL SESSIONS
2:15 PM	**BUILDING MATERIAL II** - PAGE 15 - **ROOM 1**
2:15 PM	**WATER & WASTE WATER MANAGEMENT & TREATMENT II** - PAGE 16 - **ROOM 2**
	KEYNOTE LECTURE
3:15 PM	**ICCSTE'23 KEYNOTE LECTURE - VIRTUAL** **DR. NAWAWI CHOUW, UNIVERSITY OF AUCKLAND, NEW ZEALAND** - PAGE 17 - **ROOM 1**
	AFTERNOON SESSION I
03:15 PM	**AIR POLLUTION & TREATMENT** - PAGE 18 - **ROOM 2**
04:00 AM	**Coffee Break**
	AFTERNOON SESSION II
04:20 PM	**BRIDGE ENGINEERING** - PAGE 19 - **ROOM 1**

TUESDAY, JUNE 06

	MORNING LECTURES I
9:00 AM	**ICCSTE'23 PLENARY LECTURE - PHYSICAL** **Dr. Tribikram Kundu, The University of Arizona, USA** - PAGE 20 - **ROOM 1**
9:50 AM	**ICCSTE'23 KEYNOTE LECTURE - PHYSICAL** **Dr. Lorenzo Macorini, Imperial College London, UK** - PAGE 21 - **ROOM 1**
10:35 AM	**Coffee Break & Posters Presentation** - PAGE 22
	MORNING LECTURE II
10:55 AM	**ICCSTE'23 KEYNOTE LECTURE - PHYSICAL** **Dr. Husham Almansour, National Research Council Canada (NRC), Canada** - PAGE 23 - **ROOM 1**
	MORNING PARALLEL SESSIONS
11:40 PM	**GEOTECHNICAL & STRUTURAL ENGINEERING I** PAGE 24 - **ROOM 1**
11:40 PM	**ENVIRONMENTAL PROTECTION II** - PAGE 25 - **ROOM 2**
12:40 PM	**Lunch**
	AFTERNOON SESSIONS I
1:55 PM	**TRANSPORTATION & TRAFFIC ENGINEERING II**- PAGES 26-27 - **ROOM 1**
	AFTERNOON LECTURES II
1:25 PM	**ICCSTE'23 KEYNOTE LECTURE - VIRTUAL** **Dr. Ning Lin, Princeton University, USA** - PAGE 28 - **ROOM 2**
2:10 PM	**RTESE'23 KEYNOTE LECTURE - VIRTUAL** **Dr. Jun Xia, Wuhan University, China** - PAGE 29 - **ROOM 2**
	AFTERNOON SESSIONS II
2:45 PM	**ENVIRONMENTAL PROTECTION III** - PAGE 30 - **ROOM 2**
3:40 PM	**Coffee Break**
	AFTERNOON SESSIONS III
4:00 PM	**GEOTECHNICAL & STRUTURAL ENGINEERING II** PAGE 31 - **ROOM 1**
7:00 PM	**GALA DINNER** PAGE 31

7TH INTERNATIONAL CONFERENCE OF RECENT TRENDS IN ENVIRONMENTAL SCIENCE AND ENGINEERING (RTESE 2023)

CO-LOCATED WITH THE 8TH LATIN-AMERICAN CONGRESS OF PHOTOCATALYSIS, PHOTOCHEMISTRY AND PHOTOBIOLOGY (LACP3 2023)

&

8TH INTERNATIONAL CONFERENCE ON CIVIL, STRUCTURAL AND TRANSPORTATION ENGINEERING (ICCSTE'23)

JUNE 04 - 06, 2023 | CARLETON UNIVERSITY, OTTAWA, CANADA

The organizing and scientific committees would like to welcome you to the 7th International Conference of Recent Trends in Environmental Science and Engineering (RTESE 2023) co-located with the 8th Latin-American Congress of Photocatalysis, Photochemistry, and Photobiology (LACP3 2023) and the 8th International Conference on Civil, Structural, and Transportation Engineering (ICCSTE'23).

These International Conferences (RTESE'23, LACP3'23 and ICCSTE'23) aim to become the leading international annual events in the fields related to environmental science and engineering, and in the fields of civil, structural and transportation engineering. These Conferences 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 fields.

The conferences are organized in Carleton University, Ottawa, Ontario. Ottawa is the capital city of Canada, located on the Rideau Canal and the Ottawa River. 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 7th International Conference of Recent Trends in Environmental Science and Engineering (RTESE 2023) co-located with the 8th Latin-American Congress of Photocatalysis, Photochemistry, and Photobiology (LACP3 2023) and the 8th International Conference on Civil, Structural, and Transportation Engineering (ICCSTE'23).

Dr. Mehrab Mehrvar
Toronto Metropolitan University, Canada
Conference Chair
RTESE'23 & LACP3 2023

Dr. Khaled Sennah
Toronto Metropolitan University, Canada
Conference Chair
ICCSTE'23

Dr. Zhi Chen
Concordia University, Canada
Conference Co-Chair
RTESE'23

7th International Conference of Recent Trends in Environmental Science and Engineering (RTESE'23)

The Organizing Committee of the 7th International Conference of Recent Trends in Environmental Science and Engineering (RTESE'23) would like to thank the following members for accepting to contribute to the conference.

Scientific Committee Members:

Dr. Chunjiang An, Concordia University, Canada

Dr. Christopher Y H Chao, The Hong Kong Polytechnic University, Hong Kong

Dr. Paul Christodoulides, Cyprus University of Technology, Cyprus

Dr. Wayne T. Davis, University of Tennessee, USA

Dr. Haoran Duan, The University of Queensland, Australia

Dr. Rajiv Gupta, Concordia University, Canada

Dr. Younggy Kim, Mcmaster university, Canada

Dr. Phoebe Koundouri, Athens University of Economics and Business, Greece

Dr. Danuta Leszczynska, Jackson State University, USA

Dr. Jianbing Li, University of Northern British Columbia, Canada

Dr. Youyu Lu, Bedford Institute of Oceanography, Canada

Dr. Chavalit Ratanatamskul, Chulalongkorn University, Thailand

Dr. Qiuyan Yuan, University of Manitoba, Canada

8th Latin-American Congress of Photocatalysis, Photochemistry and Photobiology – LACP3 2023

The Organizing Committee of the 8th Latin-American Congress of Photocatalysis, Photochemistry and Photobiology – LACP3 2023 would like to thank the following members for accepting to contribute to the conference.

Scientific Committee Members:

Dr. Ana Patricia Rozo Balcero, Universidad Central, Colombia

Dr. Carolina Belver, Universidad Autónoma de Madrid, Spain

Dr. EDGAR QUIÑONES BOLAÑOS, Universidad de Cartagena, Colombia

Dr. Erik Díaz-Cervantes, Universidad de Guanajuato, Mexico

Dr. Beatriz E. Jaramillo Colorado, Universidad de Cartagena, Colombia

Dr. Andres Felipe Suarez Escobar, Universidad de Bogota, Colombia

Dr. Vicente Rodríguez-González, Institute for Scientific and Technological Research of San Luis Potosi (IPICyT), Mexico

Dr. Sergio Obregon, Universidad Autónoma de Nuevo León, Mexico

Dr. Sudhagar Pitchaimuthu, Heriot-Watt University, UK

Dr. Eduardo F. Pino, Universidad de Santiago de Chile, Chile

Dr. Chiaki Terashima, Tokyo University of Science, Japan

8th International Conference on Civil, Structural and Transportation Engineering (ICCSTE'23)

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

Scientific Committee Members:

Dr. Mizan Ahmed, Curtin University, Australia

Dr. Firas Al-Mahmoud, University of Lorraine, France

Dr. Aref Abadel, King Saud University, KSA

Dr. Francis Au, University of Hong Kong, Hong Kong

Dr. Michele (Mike) Barbato, University of California, USA

Dr. Bruno Briseghella, Fuzhou University, China

Dr. Johann Facciorusso, University of Florence, Italy

Dr. Massimo Fragiacomo, University of L'Aquila, Italy

Dr. Rajeshwar Goodary, Université des Mascareignes, Mauritius

Dr. Ahmed Hamoda, Kafrelsheikh University, Egypt

Dr. Mostafa Fahmi Hassanien, Tanta University, Egypt

Dr. Hosein Naderpour, Semnan University, Iran

Dr. Maatouk Khoukhi, United Arab Emirates University, UAE

Dr. Elżbieta Macioszek, Silesian University of Technology, Poland

Dr. Iraj H.P. Mamaghani, University of North Dakota, USA

Dr. Antonio Miglio, Hydraulic and Pipeline Consultant Engineer, Italy

Dr. Ayman M. OKEIL, Louisiana State University, USA

Dr. Luigi Di Sarno, University of Liverpool, UK

Dr. Grzegorz Sierpiński, Silesian University of Technology, Poland

Dr. Maged A. Youssef, University of Western Ontario, Canada

Table of Content

SUNDAY, JUNE 04, 2023

MONDAY, JUNE 05, 2023

Table of Content

TUESDAY, JUNE 06, 2023

Table of Content

TUESDAY, JUNE 06, 2023

09:00 AM - 10:00 AM **REGISTRATION**

AFTERNOON VIRTUAL PARALLEL SESSIONS I

01:00 PM - 02:15 PM

Transportation & Traffic Engineering I

SESSION CHAIR: Dr. Sameh Al-Shihabi, University of Sharjah, UAE

ICCSTE 111

01:00 - 01:15

Optimal Location Estimation and Anomaly Quantification for a Mobile Information Carrier: Prior Feeds for Deep Learning

Nicholas V. Scott, Riverside Research Institute, Open Innovation Center, Dayton Research Center, USA

Authors: Nicholas V. Scott and Virgil O. Barnard

ICCSTE 182

01:15 - 01:30

Comparing Traffic Laws and Impacts in Bangladesh and Developed Countries: Insights and Recommendations for Improving Road Safety

Talha Jubair, Bangladesh University of Engineering and Technology, Bangladesh

Authors: Talha Jubair, Ashkar Rahman Aquib

ICCSTE 192

01:30 - 01:45

Impact of Accidents Involving Autonomous Vehicles on the Perceived Benefits and Concerns

Kareem Othman, University of Toronto, Canada & Cairo University, Egypt

Authors: Kareem Othman

ICCSTE 203

01:45 - 02:00

Proposal of New Star Rating Bands for iRAP on Two-lane Rural Roads in Ecuador

Yasmany Damián García Ramírez, Universidad Técnica Particular de Loja, Ecuador

Authors: Yasmany García-Ramírez

ICCSTE 190

02:00 - 02:15

Public Perception and Acceptance of Autonomous Vehicles in the UK & UAE, Emirate of Dubai

Abdul Raouf Sakhizada, University of Roehampton, UK

Authors: Abdul Raouf Sakhizada

01:00 PM - 03:00 PM

Water Resources, Pollution, and Treament

SESSION CHAIR: Dr. Zhi Chen, Concordia University, Canada

RTESE 137

01:00 - 01:15

A Study On The TDS Concentration Difference And Characteristics Of Desorption Using MCDI Process And Circulation Process

Changseog Oh, Korea Institute of Civil Engineering and Building Technology, South Korea

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

RTSES 161

01:15 - 01:30

A Study on Artificial Intelligence-Based Sand Filtration Backwash Cycle Determination Method for Improving Sand Filtration Process Maintenance Performance

Seungjae Yeon, Korea Institute of Civil Engineering and Building Technology, South Korea

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

RTSES 165

01:30 - 01:45

Chlorine Demand In Bicarbonated And Ferruginous Hot Springs In The Cundinamarca Region, Colombia

Yuly Andrea Sanchez Londoño, Julio Garavito University, Colombia

Authors: Yuly Sánchez, Mehrab Mehrvar, Lynda McCarthy, Edgar Quiñones Bolaños , Luis Cheu, Alexander Reuβ, Jairo Romero

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RTESE 171

01:45 - 02:00

Macrolitter: Riverine Plastic Pollution at the Mouth of Ishëm River (Albania)

Laura Gjyli, Aleksander Moisiu University of Durres, Albania

Authors: Laura Gjyli, Jerina Kolitari, Fundime Miri

ICCSTE 177

02:00 - 02:15

Analysing Changes in Land Use and Land Cover (LULC) For C81 Catchment of the Free State, South Africa

Dineo Mollo, Central University of Technology, South Africa

Authors: Dineo Mollo, George Ndlhovu, Samuel Tetsoane

RTESE 172
02:15 - 02:30

Removal of Pharmaceuticals from High-Strength Wastewater by Adsorption on Commercial Granular Activated Carbon: Study of the Operating Conditions

Mina Asheghmoalla, Toronto Metropolitan University, canada
Authors: Mina Asheghmoalla, Mehrab Mehrvar

ICCSTE 110
02:30 - 02:45

Bayesian Belief Network and Optimal Learning Analysis of Historical Flood Level Data for the Mississippi Watershed Under Data Paucity Conditions

Nicholas V. Scott, Riverside Research, Open Innovation Center, Dayton Research Center, USA
Authors: Nicholas V. Scott and Dietrick Lawrence

RTESE 128
02:45 - 03:00

Coagulation and Filtration Combined to Treat Paint Factory Wastewater: Empirical Insights from Uganda

Gloria Linda Ndagire, ZadeCAD Limited, Uganda
Authors: Gloria Linda Ndagire, Roice Bwambale Kalengyo

AFTERNOON VIRTUAL PARALLEL SESSIONS II

02:15 PM - 03:30 PM

New Technology in Civil Engineering I

SESSION CHAIR: Dr. Francesco Calvetti, Politecnico di Milano, Italy

ICCSTE 174
02:15 - 02:30

Utility Industry as a Complex Adaptive System: A Strategic Analysis

Amit Kumar, TRIPC, Indian Institute of Technology, Delhi, India
Authors: Amit Kumar, Kumar Neeraj Jha, Geetam Tiwari

ICCSTE 175
02:30 - 02:45

Performance of FRP-Steel Joints and FRP-Steel Beams Fastened by FRP Anchors

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

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ICCSTE 204
02:45 - 03:00

Schedule Optimization for Cash Flow Management of Owner Portfolios

Sameh Al-Shihabi, University of Sharjah, UAE
Authors: Ali Fares , Ashraf Elazouni, Sameh Al-Shihabi, Mubarak Al-Alawi

ICCSTE 206 03:00 - 03:15	**Development of Digital Twin Concept for Real-Time Detection of Abnormal Changes in Structural Behaviour** ***Shady Adib, Newcastle University, UK*** ***Authors:*** Shady Adib, Vladimir Vinogradov, Peter Gosling
ICCSTE 226 03:15 - 03:30	**Experimental Load Carrying Capacity of Fiber-Reinforced Concrete (FRC) TL-5 Concrete Barriers Subjected to Equivalent Vehicle Impact Loading at End Location** ***Mortaza Fadaeem, Toronto Metropolitan University, Canada*** ***Authors:*** Morteza Fadaee, Khaled Sennah

03:00 PM - 05:45 PM Environmental Protection I

SESSION CHAIR: Dr. Zhi Chen, Concordia University, Canada

RTESE 151 03:00 - 03:15	**COBMA Impact on CO2 Concentrations in the Mitigation of Air Pollution-Anthropogenic Climate Change from Mobile Sources Emissions** ***Raul Guerrero Torres, Universidad de Cartagena , Colombia*** ***Authors:*** Raul Guerrero Torres, Mehrab Mehrvar
RTESE 160 03:15 - 03:30	**Variations Of Co2 Concentration Rates In The Abatement Of Air Pollutants From Mobile Sources Using A Meb Minimizer** ***Raul Guerrero Torres, Universidad de Cartagena , Colombia*** ***Authors:*** Raul Guerrero Torres, Mehrab Mehrvar
LACP3 107 03:30 - 03:45	**Microstructure And Electrochemical Behaviour Of Mg Or Sr Doped Ilmenite (Fetio3) For Artificial Photo-synthesis** ***Diana Marcela Cañas Martínez, Universidad Industrial de Santander, Colombia*** ***Authors:*** Wendy Vargas-Palencia, Diana Vergel-Gordillo, Diana Marcela Cañas Martínez, Juvencio Vázquez-Samperio, José Henao-Martínez, Julio Pedraza-Avella
LACP3 106 03:45 - 04:00	**Enhancement of a Bench Scale Parallel Plate Photoelectrochemical Reactor for Hydrogen Production from Sulphured Water** ***Julio Andrés Pedraza Avella, Universidad Industrial de Santander, Colombia*** ***Authors:*** María I. Carreño-Lizcano, Andrés D López-Contreras, Jeferson O. Ruiz-Lizarazo, Julio A. Pedraza-Avella, Martha E. Niño-Gómez
RTESE 144 04:00 - 04:15	**Digital Mapping Of Invasive Acacia Mangium Willd. Trees Along Telisai-Lumut Highway Along The Andulau Forest Reserve** ***Daphne Lai Teck Ching, University of Brunei Darussalam, Brunei Darussalam*** ***Authors:*** Izzah Amal, Afroz A Shah, Moad Idrissi, A Taufiq Asyhari, Muhd Firdaus Zaini, Muhd Afnan Alizan, Daphne Lai and Ferry Slik

LACP3 101

04:15 - 04:30

Titania nanotubes modified with plasmonic gold nanorods for photocatalytic degradation of organic compound. Kinetics Parameters and Intermediate Products Study

Eduardo Pino, Universidad de Santiago de Chile, Chile

Authors: Eduardo Francisco Pino, Gloria Cardenas, Pablo Barrias, Jaime Pizarro

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LACP3 102

04:30 - 04:45

Highly Efficient Silver Modified Srtio3 Photocatalyst: Synergistic Effect of Ag Doping and Ag Decoration

Marcela Frías Ordóñez, University of Milan, Italy

Authors: Marcela Frías Ordóñez, Carolina Peverelli, Ermelinda Falletta, Claudia L. Bianchi

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LACP3 103

04:45 - 05:00

Strontium Titanate photocatalyst: Life Cycle Assessment on different Synthetic Routes

Marcela Frías Ordóñez, University of Milan, Italy

Authors: Marcela Frías Ordóñez, Ermelinda Falletta, Claudia L. Bianchi

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RTESE 119

05:00 - 05:15

Efficient and Sustainable Room-Temperature CO2 Conversion by Plasmonic Two-Dimensional Metal-Oxide Hybrid Nano-Interfaces

Mohammad Karbalaei Akbari, Ghent University, South Korea

Authors: Mohammad Karbalaei Akbari, Nasrin Siraj Lopa, Serge Zhuiykov

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LACP3 117

05:15 - 05:30

Kinetic modelling of a Tubular Photoelectrochemical Reactor for Oxidation of Anionic Surfactant present in Synthetic Oilfield-Produced Wastewater

María I. Jaramillo Gutiérrez, Julio A. Pedraza Avella, Universidad Industrial de Santander, Colombia

Authors: María I. Jaramillo Gutiérrez, Julio A. Pedraza Avella, Eligio. Pastor Rivero, Martín. Rogelio Cruz Díaz

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RTESE 109

05:30 - 05:45

Spatial And Statistical Analysis Of Pm2.5 And No Concentration In Air Of Karachi From Pre To Post Covid-19 Lockdown.

Falak Naeem, Institute of Environmental Studies, University of Karachi, Pakistan

Authors: Falak Naeem, Lubna Ghazal

03:30 PM - 03:35 PM	**SESSION BREAK**
	AFTERNOON VIRTUAL SESSION III
03:35 PM - 05:35 PM	**Geotechnical Engineering & Construction Management** **SESSION CHAIR:** Dr. Kareem Othman, University of Toronto, Canada
ICCSTE 181 03:35 - 03:50	**Enhancing Fire Resistance of Piloti Structures using Insulated CFRP-Reinforced RC Column** ***Sung-Mo Choi, University of Seoul, South Korea*** ***Authors:*** Hansol Lee, Jinwon Shin, Min Jeong-ki , In-Rak Choi, Sung-Mo Choi
ICCSTE 176 03:50 - 04:05	**Optimization of CWP-BFS Blended Geopolymer Concrete Using BWM-based Taguchi Method** ***Abdulkader El-Mir, United Arab Emirates University, UAE & University of Balamand, Lebanon*** ***Authors:*** Ponalagappan Chokkalingam, Abdulkader El-Mir, Hilal El-Hassan, Amr El-Dieb
ICCSTE 165 04:05 - 04:20	**Chloride Diffusion In Concrete Under Temperature Gradient Condition In Arid Climates** ***Remilekun Abduladi Shittu, Khalifa University of Science and Technology, UAE*** ***Authors:*** Remilekun Shittu, Akram AlFantazi, Tae-Yeon Kim
ICCSTE 135 04:20 - 04:35	**Insulation Properties of Rice-Based Materials in Hot and Moderate Climates** ***Maatouk Khoukhi, United Arab Emirates University, UAE*** ***Authors:*** Maatouk Khoukhi, Abeer Dar Saleh
ICCSTE 212 04:35 - 04:50	**DEM Modelling Of Rock Masses Affected By Permafrost Degradation** ***Francesco Calvetti, Politecnico di Milano, Italy*** ***Authors:*** William Boffelli, Francesco Calvetti
ICCSTE 214 04:50 - 05:05	**Coconut Shell as Substitute of Natural Aggregate in Concrete for Developing Regions – A Short Review.** ***Marco Antonio Maldonado-Garcia, Tecnologico Nacional de México, Instituto Tecnológico de Oaxaca, México*** ***Authors:*** Gildardo Gómez-Hernández, Marco Antonio Sánchez Medina, Marco Antonio Maldonado-García
ICCSTE 207 05:05 - 05:20	**Toward Enhancing Program Risk Management to Deliver Mega Construction Projects** ***Roozbeh Panahi, Jacobs Solutions Inc., Canada*** ***Authors:*** Roozbeh Panahi, Katia Rizkallah, Ahmed Abbas
ICCSTE 217 05:20 - 05:35	**Examining the Assessment of Facility Management (FM) In Educational Buildings** ***Abobakr Al-Sakkaf, Concordia University, Canada*** ***Authors:*** Ghasan Alfalah and Abobakr Al-Sakkaf

8:00 AM - 9:00 AM **Registration**

8:30 AM - 8:45 AM

Official Opening

Dr. Mehrab Mehrvar, Toronto Metropolitan University, Canada, RTESE'23 & LACP'23, Chair

Dr. Khaled Sennah, Toronto Metropolitan University, Canada, ICCSTE'23, Chair

ICCSTE'23 KEYNOTE LECTURE - PHYSICAL

9:15 AM - 10:00 AM

Keynote Lecture - ROOM 1

SESSION CHAIR: Dr. Khaled Sennah, Toronto Metropolitan University, Canada

Assessment of Existing RC Bridges with Spatially-Variable Pitting Corrosion Subjected To Increasing Traffic Demand

Dr. Luigi Di Sarno,
University of Liverpool, UK

Dr. Di Sarno holds a PhD in Structural Engineering, MSc in Earthquake Engineering and Structural Design and MSc in Structural Steel Design. Dr. Di Sarno is Visiting Professor at the Mid-America Earthquake Center, headquartered at University of Illinois, Urbana-Champaign, USA, since 2002. He is Honorary Member Staff at the College of Engineering, University of Bristol, UK, since 2011 and Adjunct Professor in Seismic Engineering at INTEC, Dominican Republic. Dr. Di Sarno's research interests include: (i) analysis, design and retrofitting of critical structures and infrastructure, (ii) use of innovative low-carbon materials for sustainable and resilient infrastructure (iii) engineering solutions for climate change adaptation and (iv) advanced experimental testing and numerical simulations, including digital twins for asset management. Dr. Di Sarno has authored about 250 research publications, including refereed journals, conference papers, research reports, book chapters and field investigation reports. He has co-authored with Professor A.S. Elnashai the book: Fundamentals of Earthquake Engineering, edited by Wiley & Sons. He is also Associate Editor of prestigious international journals by Elsevier and Springer. Dr. Di Sarno is member of American Society of Civil Engineers (ASCE) Performance Based Design for Structures Committee and also Seismic Effects on Structures Committee.

RTESE'23 KEYNOTE LECTURE - VIRTUAL

9:15 AM - 10:05 AM

Keynote Lecture - ROOM 2

SESSION CHAIR: Dr. Mehrab Mehrvar, Toronto Metropolitan University, Canada

On The Importance of Airborne Nano-Size Particles: Air Quality, Health, Sustainability, and Climate Change

Dr. Parisa A. Ariya,

McGill University, Canada

Professor Ariya is James McGill Chair in Chemistry, Atmospheric and Oceanic Sciences. Her physical-analytical chemistry laboratories explore particles, bridging chemical, physical and biological-health processes in air, and interfaces with water/snow, soil, and building surfaces. This lab currently designs novel analytical chemistry technologies at McGill University to track individual single and clusters of particles, including airborne virus droplets and aerosols, without needing particle trapping in milliseconds. They also develop ultra-trace chemical detection capabilities and remote-sensed (AI) recyclable nano-sensors. This lab contributes to solving the pollution enigma by developing sustainable remediation-recycling methods and technologies for pollutants (gaseous and particles, including bioaerosols such as airborne viruses, and emerging contaminants) with zero-net energy. It allows understanding of feedback mechanisms between atmospheric, biogeochemical and microphysical processes. Dr. Ariya has published >150 internationally peer-reviewed publications, four patents, a book, and > 300 proceedings. She has presented >140 invited lectures on four continents. Several of her research contributions have been distinguished internationally. She has had the privilege of mentoring over 180 bright, highly qualified personnel in her laboratories who all follow their career of choice; many have become global leaders in academia (26 faculty members), governments, industries (4 CEO), or start-ups. Dr. Ariya has served in several leadership positions, e.g., the principal investigator of major grant applications, leading or acting as a member of grant agencies in Canada, the U.S., the EU, Asia and South America, notably serving as the chairperson of the Joint European Union Panel on Arctic Climate Change. She has served as an Editor and on the Editorial Boards of several international journals, including Analytical Chemistry (ACS), Cambridge Press and the Royal Society for Chemistry- CSR (U.K.). Dr. Ariya has also served as the chairperson of McGill's Department of Atmospheric and Oceanic Sciences. Professor Ariya has served as the lead author of two United Nations Environmental Protection (UN-EP) chapters on metal transformation in the environment.

ICCSTE'23 KEYNOTE LECTURE - PHYSICAL

10:00 AM - 10:45 AM

Keynote Lecture - ROOM 1

SESSION CHAIR: Dr. Khaled Sennah, Toronto Metropolitan University (formerly Ryerson University), Canada

Rock-Support Interaction for Transportation Tunnels in Squeezing Ground

Dr. Marte Gutierrez,
Colorado School of Mines, USA

Dr. Marte Gutierrez is the James R. Paden Distinguished Professor at the Department of Civil and Environmental Engineering and Director of the US DOT Tier 1 Center for Underground Transportation Infrastructure (CUTI) at Colorado School of Mines. Formerly, he was Post-Doctoral Fellow, Senior Engineer, and Program Leader at the Norwegian Geotechnical Institute (NGI), and Associate Professor/Professor at Virginia Tech. He was Founding Chair of the Department of Civil and Environmental Engineering at Khalifa University in Abu Dhabi, UAE. He has also held visiting professorship and researcher positions in China, Chile, France, Japan, and South Korea. He has published more than 360 papers in book chapters, journals, and conference proceedings, and has given keynote and invited lectures at several conferences. He has been involved in several landmark and groundbreaking Civil Engineering projects while working in Norway. He is an Associate Editor of three international journals and is an Editorial Board Member of four other international journals. He is the recipient of the Geotechnical Research Medal from UK's Institute of Civil Engineers, the Peter A. Cundall Honorable Mention Award, the Applied Rock Mechanics Research Award from the American Rock Mechanics Association, the 18th Advanced Powder Technology Distinguished Paper Award from the Society of Powder Technology Japan, and the Kwanghua Visiting Professorship from Tongji University. Dr. Gutierrez has been a Fulbright Schol-

LACP3'23 KEYNOTE LECTURE - PHYSICAL

10:05 AM - 10:50 AM

Keynote Lecture - ROOM 2

SESSION CHAIR: Dr. Mehrab Mehrvar, Toronto Metropolitan University, Canada

Photocatalytic Materials Immobilized On Recycled Supports as Alternative In the Degradation of Water Contaminants

Dr. Vicente Rodríguez-González,

Institute for Scientific and Technological Research of San Luis Potosi, Mexico

Dr. Vicente is Senior Researcher at IPICyT (Instituto Potosino de Investigación Científica y Tecnológica A.C,). He has published more than 135 papers, cited 2631 times H index 31 scopus (cited 3115 times H index 34 google scholar). Research Interests: New nanostructures for green chemistry: heterogeneous catalysis, AOPs for water treatment; renewable energy and environment; Photocatalysis; nanomaterials for inactivation of pathogens and agricultural applications. He is a member of the editorial board of the Chemical Engineering Journal and was guest editor for journals such as Catalysis Today, Topics in Catalysis, and the Journal of Hazardous Materials.

10:45 AM - 11:05 AM **COFFEE BREAK**

ICCSTE'23 PLENARY LECTURE - VIRTUAL

Plenary Lecture - ROOM 1

11:05 AM - 11:55 AM

SESSION CHAIR: Dr. Khaled Sennah, Toronto Metropolitan University, Canada

Strategies for Enhancing Resiliency of Modern Concrete Structures under Fire Hazard

Dr. Venkatesh Kodur,

Michigan State University, USA

Dr. Venkatesh Kodur, is a University Distinguished Professor and Director of the Centre on Structural Fire Engineering and Diagnostics at Michigan State University. He is an an internationally recognized scholar for his contributions in structural, material and fire engineering fields. His research interests include Fire resistance analysis and design of structural systems, material performance at elevated temperatures and Building collapse investigations. Dr. Kodur has published more than 500 peer-reviewed papers in journals and conferences, and has given numerous plenary and key-note presentations at major international conferences. As per Google Scholar, he has more than 17,300 citations with an "h" index of 72.

Dr. Kodur's contributions to the Civil Engineering and Fire Protection Engineering professions have been recognized by peers through prestigious honors and awards. He has been elected as Fellow of six Institutes/Academies: Canadian Academy of Engineering, American Society of Civil Engineers, Indian National Academy of Engineering, Structural Engineering Institute, American Concrete Institute, and the Society of Fire Protection Engineers. He is a professional engineer, Associate Editor of Journal of Structural Engineering, and Journal of Structural Fire Engineering, editorial board member of five leading journals, Chairman of ASCE(SEI)-SFPE 29 (Fire) Standards Committee, and a member of UK-EPSRC College of Reviewers. He has won many awards and prestigious appointments, including Michigan State University "University Distinguished Professor" Award; American Institute of Steel Construction Faculty Fellowship Award; MSU Distinguished Faculty Award; NRCC (Government of Canada) Outstanding Achievement Award; Fulbright Scholar award; "INFOSYS Visiting Chair Professor" appointment at the Indian Institute of Science, Bangalore, India; Government of India "VAJRA Faculty Award for Collaborative Research" at the Indian Institute of Technology-Delhi; and NATO Award for collaborative research. Most notably, Dr. Kodur was part of the Federal Emergency Management Agency and American Society of Civil Engineers/Society of Fire Protection Engineers high profile "Experts Team" that investigated the collapse of the World Trade Center buildings as a result of September 11 attacks.

LACP3'23 KEYNOTE LECTURE - PHYSICAL

11:10 AM - 11:55 AM

Keynote Lecture -ROOM 2

SESSION CHAIR: Dr. Mehrab Mehrvar, Toronto Metropolitan University, Canada

Photocatalysis A Sustainable and Versatile Technique for Indoor Air Purification

Dr. Iliana Medina-Ramírez,

Universidad Autonoma de Aguascalientes, Mexico

Iliana E. Medina-Ramírez got her Ph.D. in chemistry (organometallic and materials chemistry) from Tulane University in 2005. She has more than 10 years of research experience in the field of nanostructured materials (metallic, metal oxides, and metal-chalcogenides), with a particular interest in photocatalytic materials for environmental remediation and biomedical applications. She has published 56 papers in international peer-review journals, 4 book chapters, and is the co-editor of the book "Photocatalytic Semiconductors. Synthesis, characterization, and environmental applications" Springer (Ed), She has participated in more than 40 international conferences. She has supervised 100 BSc students, 10 MSc students, and 6 doctorate students. She was awarded the best junior researcher prize (2007), advanced researcher award (2nd place, 2011) and consolidated researcher award (2019) at her current academic institution. She is a member of the System of National Researchers (Mexico) and co-organizer of the Mexico-China Workshop on Renewable Energy and Environment Remediation.

MORNING PARALLEL SESSIONS

Building Material I - ROOM 1

11:55 AM - 01:10 PM

SESSION CHAIR: Dr. Khaled Sennah, Toronto Metropolitan University (formerly Ryerson University), Canada

ICCSTE 113

11:55 - 12:10

Performance of Hybrid Glass Fiber-Reinforced Slag-Fly ash Blended Geopolymer Concrete

Hilal El-Hassan, United Arab Emirates University, UAE

Authors: Mohammad Zuaiter, Hilal El-Hassan, Tamer El-Maaddawy1, Bilal El-Ariss

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ICCSTE 114

12:10 - 12:25

Tensile Strength of High Performance Concrete

Andrés Restrepo, Universidad Nacional de Colombia, Colombia
Authors: Sofia Rodriguez, María Guarín, Andrés Restrepo, César Echavarría

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ICCSTE 115

12:25 - 12:40

Effect of Type of Sand on the Flowability and Compressive Strength of Slag-Fly Ash Blended Geopolymer Mortar

Hilal El-Hassan, United Arab Emirates University, UAE

Authors: Joud Hwalla, Hilal El-Hassan, Joseph J. Assaad, Tamer El-Maaddawy, Jad Bawab

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ICCSTE 116

12:40 - 12:55

Use of Taguchi Method to Optimize the Mix Design of Pervious Geopolymer Concrete

Hilal El-Hassan, United Arab Emirates University, UAE

Authors: Faiz Habib Anwar, Abdulkader El-Mir, Hilal El-Hassan, Mohamed Hamouda, Kim Hung Mo

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ICCSTE 224

12:55 - 01:10

Effects Of Environmental Temperature Extremes On FRP-To-Concrete Bonded Connection: A State-Of-Practice Review

Husham Almansour, National Research Council of Canada, canada
Authors: Gilbert Bélec, Husham Almansour

Water & Waste Water Management & Treatment I - ROOM 2

11:55 PM - 12:55 PM

SESSION CHAIR: Dr. Mehrab Mehrvar, Toronto Metropolitan University, Canada & Dr. Mohamed Hamouda, UAE University, UAE

RTESE 121

11:55 - 12:10

Mathematical Analysis of Sub-Atmospheric Vapor Pipeline (SAVP) Transmission for Seawater Desalination

Mona Shojaei, Islamic Azad University, Iran
Authors: Mona Shojaei, Mohsen Nosrati, Reza Attarnejad

RTESE 124

12:10 - 12:25

Methylene Blue Sensitization by Enriched Oxygen Vacancy ZnO

Alireza Ranjbari, Center for Environmental and Energy Research, South Korea & Ghent University, Belgium
Authors: Alireza Ranjbari, Ju Ho Kim, Jiyun Kim, Jihee Yu, Philippe M. Heynderickx

ICCSTE 112

12:25 - 12:40

Quantitative Hydrological Analysis Of West Banas River Basin, India

Rohit Goyal, Malaviya National Institute of Technology Jaipur, India
Authors: Gyaniram Kumawat, Rohit Goyal, Sumit Khandelwal

LACP3 108

12:40 - 12:55

Comparison of Photocatalytic Treatment of Domestic and Slaughterhouse Wastewater

Enrique Vega, Universidad Autónoma de Guadalajara, Mexico
Authors: Carlos Javier Escudero Santiago, Jorge Alexis Hurtado Martin, Enrique Vega Sánchez

1:10 PM - 1:15 PM **GROUP PHOTO**

1:15 PM - 2:15 PM **LUNCH BREAK**

AFTERNOON PARALLEL SESSION

AFTERNOON PARALLEL SESSION I

Building Material II - ROOM 1

02:15 PM - 3:15 PM

SESSION CHAIR: Dr. Khaled Sennah, Toronto Metropolitan University, Canada & Dr. Narinder Singh, University of Salerno, Italy

ICCSTE 144

02:15 - 02:30

Investigation of the Permeability of Fibre-Modified Water Permeable Asphalt with Methods of Asphalt Petrology

Leandro Harries, Technical University of Darmstadt, Germany
Authors: Leandro Harries, Maximilian Schütz, David Kempf, Jia Liu

ICCSTE 169

02:30 - 02:45

Insulated Wood Walls Using Coconut Fiber

César Echavarría, Universidad Nacional de Colombia, Colombia
Authors: Andrés Restrepo, César Echavarría

ICCSTE 149

02:45 - 03:00

Compressed Recycled Asphalt Blocks As An Alternative To Capillary Moisture

Hernan Dario Cañola, Institución Universitaria Colegio Mayor de Antioquia, Colombia
Authors: Hernan Dario Cañola, Andres Fernando Urrego

ICCSTE 141

03:00 - 03:15

Sustainability Cement Block Selection Based On Interval-Valued Hesitant Fuzzy Group Analysis For Construction Industry Problems

Arash Behzadipour, University of Beira Interior, Covilhã, Portugal
Authors: Hernan Dario Cañola, Andres Fernando Urrego

2:15 PM - 3:15 PM

Water & Waste Water Management & Treatment II - ROOM 2

SESSION CHAIR: Dr. Mehrab Mehrvar, Toronto Metropolitan University , Canada

RTESE 133

02:15 - 02:30

An Investigation into the Effects of Water Quality on Coal Flotation Performance

Willie Nheta, University of Johannesburg, South Africa

Authors: Nompumelelo Nkosi, Willie Nheta

RTESE 134

02:30 - 02:45

The Impact Of Residual Flocculant On Flotation Performance Of Platinum Group Metal Ores

Willie Nheta, University of Johannesburg, South Africa
Authors: Lucky Tloubatla, Willie Nheta, Michel Kalenga

RTESE 159

02:45 - 03:00

Study Of Hematite Ore As A Source Of Iron For The Degradation Of Ether Amines Contained In Mining Wastewaters By The Fenton Reaction

Isabela Falconi Brandolis Alv, University of Sao Paulo , Brazil
Authors: Isabela Falconi Brandolis Alv, Marcela Baltazar, Jorge Tenório

RTESE 142

03:00 - 03:15

Characterization and Field Application Assessment Of Prosopis Cineraria (L.) For Fluoride Sequestration: A Preliminary Investigation

Rajiv Gupta, Birla Institute of Technology and Science, India
Authors: Soumya Kar, Rajiv Gupta, Zhi Chen

ICCSTE'23 KEYNOTE LECTURE - VIRTUAL

3:15 PM - 4:00 PM

Keynote Lecture - ROOM 1

SESSION CHAIR: Dr. Khaled Sennah, Toronto Metropolitan University, Canada

The Role of Soil in Seismic Response of Bridges

Dr. Nawawi Chouw,
Concordia University, Canada

Dr Nawawi CHOUW is an Associate Professor and was Director of the University of Auckland Centre for Earthquake Engineering Research. Before joining the University of Auckland, he worked at universities in Germany, Japan and Australia. He received his doctorate in Civil Engineering from the Ruhr University Bochum in Germany. He has twice been awarded the Gledden Fellowship of the University of Western Australia, the Fritz-Peter-Mueller Prize of the Technical University of Karlsruhe, Germany, the Best Research Award of Chugoku Denryoku Research Foundation, Japan, and received two recognitions for excellence in research supervision from Chinese Scholarship Council. He has been invited by the Chinese Ministry of Education, the New Zealand Ministry of Business, Innovation and Employment, the Qatar Science Foundation, the SA National Research Foundation, the German Academic Exchange Service and other European Research Institutions to assess applications and international standing of peers. He has published more than 400 publications including 138 international journal papers. He was invited to teach at several universities in Europe, China and Japan. He was guest editor of several journals, e.g., Protective Structures, Soil Dynamics and Earthquake Engineering. He is associate editor of Materials, Shock and Vibration and Frontiers in Build Environment – Earthquake Engineering and serves on the editorial board of several international journals. He was visiting and guest professor at several universities in China, Germany, Canada, Australia, Serbia, Macedonia and Japan.

04:00 PM - 04:20 PM **COFFEE BREAK**

AFTERNOON SESSION II

Air Pollution and Treatment - Room 2

03:15 PM - 04:00 PM

SESSION CHAIR: Dr. Willie Nheta, UNIVERSITY OF JOHANNESBURG, South Africa

RTESE 120
03:15 - 03:30

On the Design of Atmospheric and Water Pollution Sensors for Deployment over Unmanned Vehicles

Luis Eduardo Garza Castañón, Aixware Technologies SAS de CV, México

Authors: Lydia A. Garza-Coello, Luis A. Garza-Elizondo, Luis E. Garza-Elizondo, Edisson A. Naula-Duchi, Alfa Budiman3, Luis E. Garza-Castañón, Pierre Payeur, José I. Martínez-López

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RTESE 122
03:30 - 03:45

Dynamic Sensor Nodes Distribution with Coordinated Autonomous Vehicles for Environment Pollution Monitoring and Modeling

Alfa Budiman, University of Ottawa, Canada

Authors: Alfa Budiman, Wenbo Wu, Edisson A. Naula-Duchi, Patricia Portillo Jiménez, Hanifeh Imanian, Pierre Payeur, Luis E. Garza-Castañón, Abdolmajid Mohammadian, Eric Lanteigne

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RTESE 163
03:45 - 04:00

Climate Change Impacts on Global Food Security

Charles Lee, Newcastle Australia Institute of Higher Education, Singapore

Authors: Charles Lee

04:15 PM - 04:35 PM **COFFEE BREAK**

ICCSTE 203
03:25 - 03:40

Data Driven Appraisal for One-way and Two-way Shear Design of Lightweight Concrete and FRP-reinforced Concrete Elements

Ahmed Farouk Deifalla, Future University, Egypt

Author: Ahmed Farouk Deifalla

AFTERNOON SESSION III

Bridge Engineering - Room 1

04:20 PM - 05:35 PM

SESSION CHAIR: Dr. Khaled Sennah, Toronto Metropolitan University (formerly Ryerson University), Canada & Dr. Pan Lu, North Dakota State University, USA

ICCSTE 164
4:20 - 04:35

Development of Accurate Bridge Structure Strain Response Function Due to Temperature Changes Effect

Mohammed El-Diasty, Sultan Qaboos University, Oman

Authors: Mohammed El-Diasty, Maryam Al Mazrouai, Mosbeh Kaloop

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ICCSTE 184
04:35 - 05:50

Evidencing the Need for Consistency in Long Term Investment to Secure the Safety of Road Bridges

Nicola-Ann Stevens, Queen's University Belfast, UK
Authors: Nicola-Ann Stevens, Myra Lydon, Adele H Marshall

ICCSTE 195
04:50 - 05:05

Aging Concrete Slab on Steel Girder Bridges in Changing Climate

Istemi F. Ozkan, National Research Council Canada, Canada

Authors: Istemi F. Ozkan, Husham Almansour, and Shahroz W. Shaikh

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ICCSTE 179
05:05 - 05:20

Temperature Effects on Concrete Slab on Steel Girder Bridges with Malfunctioning Expansion Joints

Istemi F. Ozkan, National Research Council Canada, Canada
Authors: Istemi F. Ozkan and Husham Almansour

ICCSTE 223
05:20 - 05:35

Design Of Punching Shear Of R.C. Footings Using American And European Codes: A Comparative Study

Ahmed Deifalla, Future University, Egypt
Authors: Amr El-said, Ahmed F. Deifalla, Nehal M. Ayash and Maged Tawfik

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ICCSTE'23 PLENARY LECTURE - PHYSICAL

Plenary Lecture - ROOM 1

9:00 AM - 09:50 AM **SESSION CHAIR:** Dr. Husham Almansour, National Research Council Canada (NRC), Canada

Recent Developments in Structural Health Monitoring

Dr. Tribikram Kundu,
The University of Arizona, USA

Professor Kundu's major research area is nondestructive testing and structural health monitoring. On this topic he has published 9 books and 386 technical papers – 202 of those in peer reviewed scientific journals with about 9000 citations according to Google Scholar with an h-index of 50 (Google Scholar), 43 (Scopus) and 37 (Web of Science). He received Humboldt Research Prize (Senior Scientist Award) in 2003 and Humboldt Fellowship award in 1989 and 1996, from Germany. He was also recognized through 2012 NDE Life Time Achievement Award from SPIE (the International Society for Optics and Photonics), 2015 Research Award for Sustained Excellence from ASNT (the American Society for Nondestructive Testing), 2017 Founders Award from Nondestructive evaluation, Diagnostics and Prognostics Division (NDPD) of ASME (the American Society of Mechanical Engineers), 2015 Lifetime Achievement Award and 2008 Person of the Year Award from the Structural Health Monitoring Journal, Satish Dhawan Chair Professorship from the Indian Institute of Science, Bangalore and a number of Invited & Honorary Professorships from France, Germany, Sweden, Switzerland, Spain, Italy, South Korea, Poland, Singapore, India, China and Japan. He is a Fellow or a Distinguished Fellow of six professional societies (ASME, ASCE, SPIE, ASNT, ASA & IIAV) and the Founding Editor-in-Chief of the ASME Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems (JNDE). He has served as the Associate Editor of four other journals.

ICCSTE'23 KEYNOTE LECTURE - PHYSICAL

Keynote Lecture - ROOM 1

09:50 AM - 10:35 AM

SESSION CHAIR: Dr. Husham Almansour, National Research Council Canada (NRC), Canada

Multi-Level Modelling Strategies for Accurate Assessment of Masonry Arch Bridges

Dr. Lorenzo Macorini,
Imperial College London, UK

Dr Lorenzo Macorini is a Reader in Structural Engineering with a particular interest in computational structural mechanics and the response of masonry structures. He joined the Department of Civil and Environmental Engineering at Imperial College London as a Marie Curie Research Fellow in 2008. Since then, he has been developing within the Computational Structural Mechanics (CSM) group at Imperial advanced modelling approaches for brick/block-masonry components at different scales of representation with robust strategies for the calibration of model material parameters. He led different research projects funded by research councils and industry, where the developed models were used for accurate simulations of masonry components and systems gaining an improved understanding of the complex behaviour under serviceability and ultimate loading conditions including dynamic actions induced by earthquakes.

11:05 AM - 12:35 PM **Coffee Break & Posters Presentation**

10:35 AM - 10:55 PM

Posters Session

SESSION CHAIR: Dr. Husham Almansour, National Research Council Canada (NRC), Canada

RTESE 141

Fine Particulate Matter Data Fusion Including Misaligned IoT Measurements

ShengLi Tzeng, National Sun Yat-sen University, Taiwan

Authors: ShengLi Tzeng, Hsin-Cheng Huang

RTESE 169

A Model Bank for Water Quality Prediction in Water Treatment Process: An Ensemble Approach with a Small-Scale Pilot Plant

Hyeongrak Cho, Kookmin University, South Korea

Authors: Hyeongrak Cho, Yongjun Choi, Sangho Lee

LACP3 104

Synthesis And Characterization Of Cu:Tio_2 Photocatalysts With Suitable Optical Properties

Ariadna A. Morales-Pérez, Universidad Autónoma Metropolitana-Iztapalapa, México

Authors: Ariadna A. Morales-Pérez, Daniela D. Suárez-Quiroz, Hugo J. Ávila-Paredes

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ICCSTE'23 KEYNOTE LECTURE - PHYSICAL

Keynote Lecture - ROOM 1

10:55 AM - 11:40 AM

SESSION CHAIR: Dr. Lorenzo Macorini, Imperial College London, UK

Resilience-Enhancement of Bridge Infrastructure in Changing Climate

Dr. Husham Almansour,
National Research Council Canada (NRC), Canada

Husham Almansour, Ph.D., P.Eng. is a Senior Research Officer in the Sustainable Resilient Infrastructures and Communities Research Unit, the Construction Research Centre, National Research Council Canada, and an Adjunct Professor in the area of Structural Engineering, Department of Civil Engineering, the University of Ottawa, and Department of Civil & Mineral Engineering, University of Toronto. Dr. Almansour's expertise is in the area of structural mechanics with a focus on the performance, protection, and rehabilitation of aging structures and infrastructure against extreme loads and innovative structural systems using advanced materials. He is leading the NRC research teams in the area of climate-resilient bridge infrastructure and the area of innovative high-performance structural systems using advanced materials. Dr. Almansour supervised more than twenty Ph.D. and M.A.Sc research theses. Dr. Almansour is a member of many national and international committees, including NBCC, CSA committees S6, S 850, S806, ASCE Blast and impact loads on structures, and TAC Structure Standing Committee.

MORNING PARALLEL SESSIONS

Geotechnical & Strutural Engineering I - ROOM 1

11:40 AM - 12:55 PM

SESSION CHAIR: Dr. Ying Huang, North Dakota State University, USA & Dr. Rohit Goyal, Malaviya National Institute of Technology Jaipur, India

ICCSTE 109

11:40 - 11:55

Seismic Behavior of Rigid Inclusion Foundation System

Yaseen Shayah, Budapest University of Technology and Economics, Hungary

Authors: Yaseen Shayah

ICCSTE 126

11:55 - 12:10

The Position of Bitumen Emulsions on Different Bases

Moritz Middendorf, Technical University of Darmstadt, Germany

Authors: Moritz Middendorf, Cristin Umbach, Stefan Böhm, Jia Liu, Bernhard Middendorf

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ICCSTE 159

12:10 - 12:25

Novel Dissipative Technologies for Earthquake Resistance of Structures with Tensegrity Structure and Super Elastic Characteristics

Moritz Narinder Singh, University of Salerno, Italy

Authors: Narinder Singh, Ada Amendola

ICCSTE 191

12:25 - 12:40

Multi-objective Performance Based Control of Building Frames during Wind and Earthquake Events for Multi-Hazard Mitigation using a New Hybrid Passive Energy Dissipation Device

Alok Madan, Indian Institute of Technology, India

Authors: Suresh Bhalla, Alok Madan, Mahesh B. Adala

ICCSTE 194

12:40 - 12:55

Comparative Study on Design Results of a Multi-storied Building using SAP2000 and ETABS

Ashfaq Khan, University of Engineering & Technology Peshawar Pakistan

Authors: Ashfaq Khan, Amjad Ali, Taimur Malik, Adil Khan, Amjad Khan

Environmental Protection II - ROOM 2

11:40 AM - 12:40 PM

SESSION CHAIR: Dr. Mehrab Mehrvar, Toronto Metropolitan University, Canada

RTESE 132

11:40 - 11:55

Sustainable and Optimized Black Start in Microgrids

Dimitrios Rakopoulos, Centre for Research and Technology Hellas (CERTH), Greece

Authors: Maria Fotopoulou and Dimitrios Rakopoulos

RTESE 143

11:55 - 12:10

A Single-Step Synthesis of Defective Graphitic Carbines from Melamine and Urea for Photocatalytic Applications

Mohamed A. Hamouda, United Arab Emirates University, UAE

Authors: Beenish Tahir, Mohamed A. Hamouda, Ashraf Aly Hassanr

RTESE 135

12:10 - 12:25

The Recovery Of Pgms From The UG2 Silicate Stream By Fine Grinding And Froth Flotation

Willie Nheta, University of Johannesburg, South Africa

Authors: Duncan Goqwane, Willie Nheta, Derek Hugh Rose

RTESE 150

12:25 - 12:40

Rhizoremediation and Phytoremediation Action in the Bioremediation of PCB-contaminated Soil

Ugochukwu Dominion Eze, University of South Africa, South Africa

Authors: Raymond Oriebe Anyasi; Harrison Ifeanyichuku Atagana; Zulu, Andile Wiseman; Eze, Ugochukwu Dominion; Isiofia, Didacus Chinedu; Akporokah, Andrew

12:40 PM - 01:25 PM **LUNCH BREAK**

AFTERNOON SESSION I

Transportation & Traffic Engineering II - ROOM 1

01:55 PM - 03:40 PM

SESSION CHAIR: Dr. Rohit Goyal, Malaviya National Institute of Technology Jaipur, India & Dr. Satyendra Mittal, IIT ROORKEE, India

ICCSTE 150

01:55 - 02:10

Safety Impacts of Converting Stop-Controlled Intersections in Ottawa to Roundabouts

Milad Abolhassani, Carleton University, Canada

Authors: Milad Abolhassani, Yasser Hassan, Ali Kassim

ICCSTE 151

02:10 - 02:25

Impact of Red-Light Cameras on Traffic Collisions in the City of Ottawa

Sorousha Saffarzadeh, Carleton University, Ottawa

Authors: Sorousha Saffarzadeh, Yasser Hassan, Ali Kassim

ICCSTE 162

02:25 - 02:40

Weather Impact On Pipeline Temperature Distribution

Ying Huang, North Dakota State University, USA

Authors: Ying Huang, Xingyu Wang, Shuomang Shi, and Nita Yodo

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ICCSTE 163

02:40 - 02:55

Investigating the Influence of Temperature on the Weight-In-Motion Measurements Using In-Pavement Strain Sensors

Pan Lu, North Dakota State University, USA

Authors: Xinyi Yang, Ying Huang, Pan Lu

ICCSTE 173

02:55 - 03:10

Dynamics and Outcomes of Accidents along the Triangle of Death in Cameroon

Nnecdem Padison, University of Yaounde, Cameroon

Authors: Nnecdem Padison

ICCSTE 209 03:10 - 03:25	**Enhancing the Performance of Railway Trackbed with Vibro Stone Column Technique** ***Koohyar Faizi, Nottingham Trent University, UK*** ***Authors:*** Koohyar Faizi, John Allsop, Paul Beetham, and Rolands Kromanis
ICCSTE 172 03:25 - 03:40	**A Vulnerability Assessment Approach For Internet Of Things Enabled Transportation Networks Subjected To Cyber-Physical Attacks** ***Konstantinos Ntafloukas, University College of Dublin, Ireland*** ***Authors:*** Konstantinos Ntafloukas, Liliana Pasquale, Beatriz Martinez-Pastor, Daniel P. McCrum
03:40 - 04:00	**Coffee Break**

RTESE'23 KEYNOTE LECTURE - VIRTUAL

01:25 PM - 02:10 PM

Keynote Lecture - ROOM 2

SESSION CHAIR: Dr. Mehrab Mehrvar, Toronto Metropolitan University , Canada

Hurricane Hazards and Risk in a Changing Climate

Dr. Ning Lin,
Princeton University, USA

Ning Lin is an Associate Professor of Civil and Environmental Engineering at Princeton University. Lin's research areas include natural hazards and risk analysis, climate change impact and adaptation, wind engineering, and coastal engineering. Her current primary focus is hurricane risk analysis. She integrates science, engineering, and policy to study hurricane-related weather extremes, how they change with changing climate, and how their impact on society can be better mitigated. She has published in high-impact journals including Science, Nature Climate Change, and PNAS on these topics. Lin is a recipient of CAREER award from National Science Foundation (NSF), Natural Hazards Early Career Award and Global Environmental Change Early Career Award from American Geophysical Union (AGU), and and Huber Research Prize from American Society of Civil Engineers (ASCE). Lin received her Ph.D. in Civil and Environmental Engineering from Princeton University in 2010. She also received a certificate in Science, Technology and Environmental Policy in 2010 from Princeton. Before rejoining Princeton as an assistant professor in 2012, she conducted research in the Department of Earth, Atmospheric and Planetary Sciences at MIT as a NOAA Climate and Global Change Postdoctoral Fellow.

RTESE'23 KEYNOTE LECTURE - VIRTUAL

02:10 PM - 02:45 PM

Keynote Lecture - ROOM 2

SESSION CHAIR: Session Chair: Dr. Mehrab Mehrvar, Toronto Metropolitan University, Canada

Integrated Water Management & Development of Yangtze River Simulator

Dr. Jun Xia,
Wuhan University, China

Dr. Jun Xia is an Academician of Chinese Academy of Sciences (CAS), and Chair Professor & Director, The Research Institute for Water Security (RIWS), Wuhan University. He has ample experiences on hydrology, water resources management in China and international since 1987, severed as the President of International Water Resources Association (IWRA, 2009-2012), Co-Chair, InterAcademy Council for Water Programme (2004-2010), Bureau Member of International Union of Geodesy and Geophysics (IUGG, 2019-2023) etc. He was awarded "International Hydrological Prize -Volker Medal", given jointly by IAHS, UNESCO and WMO in 2014, the 2017's State Natural Science Award in China, 2019's IUGG Elected Fellow and 2022's ICWRER Lifetime Achievement Award.

AFTERNOON SESSION II

Environmental Protection III - ROOM 2

02:45 AM - 03:15 PM

SESSION CHAIR: Dr. Dimitrios Rakopoulos, Centre for Research and Technology Hellas (CERTH), Greece

LACP3 105

02:45 - 03:00

ZnS(En)0.5 Nanostructured Materials Timelife

Lorena Cerezo, Universidad Nacional Autónoma de México, México
Authors: Lorena Cerezo, Agileo Hernández-Gordillo, Sandra E. Rodil

LACP3 116

03:00 - 03:15

Biodegradability Improvement of Water-Soluble-Polymers in Wastewater in a Continuous UV/H_2O_2 Photoreactor

Zahra Parsa, Toronto Metropolitan University, Canada
Authors: Zahra Parsa, Ramdhane Dhib, Mehrab Mehrvar

3:15 - 3:30 **Coffee Break**

AFTERNOON SESSION III

04:00 PM - 05:00 PM

Geotechnical & Strutural Engineering II- ROOM 1

SESSION CHAIR: Dr. Narinder Singh, University of Salerno, Italy

ICCSTE 186

04:00 - 04:15

Non-loading Test of FRP Panel Reinforced Piloti Column exposed to Standard Fire after 1 hour

Seulgi Han, University of Seoul, South Korea
Authors: Seulgi Han, Dashdemberel Norovbadam, Junyoung Gwak, Jinwon Shin2, Sungmo Choi

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ICCSTE 198

04:15 - 04:30

Damages Identification Methodology of Unseen Reinforced Concrete Foundations Using Error Analysis of Transfer Resistance

Ronald Stephan Alvarez Reyes, Tohoku University, Japan
Authors: Ronald Alvarez and Shigeki Unjoh

ICCSTE 185

04:30 - 04:45

Compartment Fire Test on Steel Columns with Various Fire-Resistant Methods

In-Rak Choi, Hoseo University, South Korea
Authors: In-Rak Choi, Ji-Hye Park, Jun-Kyu Kim, Jin-Won Shin, Sung-Mo Choi

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ICCSTE 227

04:45 - 05:00

Hill Slope Erosion due to River Meandering and its Retrofitting- A Case Study

Satyendra Mittal, IIT ROORKEE, India
Authors: Satyendra Mittal, Sonam Ladol, Nehul Tyagi, Sangeeta Singh

07:00 PM - 9:00 PM **GALA DINNER - CARLETON UNIVERSITY**

The 8th International Conference of Recent Trends in Environmental Science and Engineering (RTESE'24)

&

The 9th International Conference on Civil, Structural and Transportation Engineering (ICCSTE'24)

JUNE, 2024 | Canada

Next year, the conferences will be held on JUNE, 2024 in Canada.

Please visit the websites provided below for regular updates:

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For inquiries and to obtain further information on the congress please email us at:
info@rtese.com
info@iccste.com

or call us at:
+1-613-834-9999

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JOURNAL PUBLICATION

Selected articles from these conferences are welcomed to submit for publication in one of the following journals after a secondary review process:

- International Journal of Environmental Pollution and Remediation (IJEPR)
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