



# CSEE

CONGRESS

## 5<sup>TH</sup> WORLD CONGRESS ON CIVIL, STRUCTURAL, AND ENVIRONMENTAL ENGINEERING (CSEE'20)

October 18 - 20, 2020 | ~~Lisbon, Portugal~~ | Virtual Conference

THE CSEE'20 CONGRESS IS COMPOSED OF 3 CONFERENCES

**ICGRE**  
2020

**ICSECT**  
2020

**ICEPTP**  
2020

OCTOBER 18

OCTOBER 19

OCTOBER 20

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

# OCTOBER 18

10:00 AM – 12:00 PM Registrations

## CSEE'20 Scientific Committee Chair



### **Prof. Hany El Naggar**

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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# OCTOBER 19

<b>8:00 AM - 9:00 AM</b>	<b>Registrations</b>
<b>9:00 AM - 9:15 AM</b>	<b>Official Opening</b>
	<b>Dr. Hany El Naggar, Dalhousie University, Canada</b>
<b>9:15 AM - 10:15 AM</b>	<b>PLENARY LECTURE</b>
	<b><u>Bifurcation and Post Localization Behavior of Granular Soils</u></b> <b>Dr. Marte Gutierrez, Colorado School of Mines, USA</b>
<b>10:15 AM - 11:00 AM</b>	<b>KEYNOTE LECTURE</b>
	<b><u>Nonlinear Solitary Waves for the Nondestructive Evaluation of Concrete</u></b> <b>Dr. Piervincenzo Rizzo, University of Pittsburgh, USA</b>
<b>11:00 AM - 11:10 AM</b>	<b>Break</b>

# OCTOBER 19

## Parallel Sessions

Room 1		Room 2	
11:10 AM - 12:45 PM	SESSION <u>Geotechnical Infrastructure</u>	11:10 AM - 12:40 PM	SESSION <u>Environmental Risk Management and Other Related Topics</u>
12:45 PM - 01:05 PM	Lunch Break	12:40 PM - 1:00 PM	Lunch Break
1:05 PM - 1:35 PM	SESSION <u>Geoenvironmental Related Topics</u>	1:00 PM - 2:35 PM	SESSION <u>Concrete Products and Specifications I</u>
1:35 PM - 2:15 PM	SESSION <u>Transportation Geotechnics, Engineering and Technology</u>		
2:15 PM - 2:20 PM	Break	2:35 PM - 2:40 PM	Break
02:20 PM - 03:25 PM	SESSION <u>Geotechnical Design and Modelling</u>	02:40 PM - 03:50 PM	SESSION <u>Pollution and Treatment</u>

# PLENARY LECTURE

OCTOBER 19 | 9:15 AM - 10:15 AM | SESSION CHAIR: DR. HANY EL NAGGAR, DALHOUSIE UNIVERSITY, CANADA



**Titles:** Bifurcation and Post Localization Behavior of Granular Soils

[Dr. Marte Gutierrez, Colorado School of Mines, USA](#)

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Dr. Marte Gutierrez is the James R. Paden Distinguished Professor at the Department of Civil and Environmental Engineering and Director of the DOT Tier 1 University Transportation Center for Underground Transportation Infrastructure (UTC-UTI) at Colorado School of Mines. Formerly, he was Post-Doctoral Fellow, Senior Engineer and Program Leader at the Norwegian Geotechnical Institute, 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 300 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 a member of the Editorial Board of five 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, and the Kwanghua Visiting Professorship from Tongji University. Dr. Gutierrez's main research interests are in Geomechanics, and Energy and Environmental Sustainability.

# KEYNOTE LECTURE

OCTOBER 19 | 10:15 AM - 11:00 AM | SESSION CHAIR: DR. HANY EL NAGGAR, DALHOUSIE UNIVERSITY, CANADA



**Titles:** Nonlinear Solitary Waves For The Nondestructive Evaluation Of Concrete  
Dr. Piervincenzo Rizzo, University of Pittsburgh, USA

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Dr. Piervincenzo Rizzo received his Laurea (M.S. equivalent) in Aeronautical Engineering at the University of Palermo, Italy in 1998. After serving in the Italian Army Corps of Engineering, Dr. Rizzo moved to the U.S.A. where he received a Master (2002) and a Ph.D. (2004) in Structural Engineering at the University of California, San Diego. In September 2006 he became assistant professor at the Department of Civil and Environmental Engineering at the University of Pittsburgh. He was promoted to Associate Professor with tenure in 2012, and to Full Professor in 2018.

Dr. Rizzo's research interests are in the area of nondestructive evaluation and structural health monitoring using methods such as ultrasound, acoustic emission, solitary waves, infrared thermography, and electromechanical impedance. His research has been supported by the Pennsylvania Department of Transportation, the National Science Foundation, the Federal Railroad Administration, the U.S. National Academy of Sciences, and the American Society for Nondestructive Testing (ASNT).

From the ASNT, Dr. Rizzo received the 2002 Fellowship Award, the 2007 Faculty Grant Award, the 2009, 2015, and 2019 Fellowship Research Award, and the Outstanding Paper Award in 2013 and 2017. Dr. Rizzo is the first person worldwide who has received both the Achenbach Medal (in 2012) and the SHM Person of the Year Award (in 2015). The Medal recognizes one young individual who has made an outstanding contribution to the advancement of the field of SHM. The Award recognizes accomplishments within the past year or the past few years. Both honors are selected by the editors and associate editors of Structural Health Monitoring: An International Journal, the top academic journal on the subject. He is also the recipient of the 2016 University of Pittsburgh Chancellor's Distinguished Research Junior Scholar Award. The award includes faculty across the whole University, within 12 years from their Ph.D., who have demonstrated great potential and have achieved international standing. Recently, Dr. Rizzo was awarded with the 2020 A.J. Durelli Award, that recognizes younger members of the Society for Experimental Mechanics (SEM) for contributions made early in their career. Dr. Rizzo published 101 referred papers, 8 book chapters, over 160 conference proceedings and reports, and 2 patents. For more information, visit Dr. Rizzo's home page: <http://www.pitt.edu/~pir3/>

## SESSION

### GEOTECHNICAL INFRASTRUCTURE

OCTOBER 19 | 11:10 AM - 12:45 PM | ROOM 1 | DR. RAJESHWAR GOODARY, UNIVERSITE DES MASCAREIGNES, MAURITIUS

**Titles:** Dynamic Deformation Properties of Geotextile-Reinforced Sands

**ICGRE 144**

**Time:** 11:10 - 11:25

**Presenter:** Ali Shafiee, Cal Poly Pomona, USA

**Authors:** Ali Shafiee, Javad Jalili

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**Titles:** Efficiency of Sprayed Bentonite for Sealing of Fishpond Dams - Experimental Testing

**ICGRE 137**

**Time:** 11:25 - 11:40

**Presenter:** Vaclav David, Czech Technical University in Prague, Czech Republic

**Authors:** Vaclav David, Katerina Cernochova, Jiri Stastka

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**Titles:** Numerical investigation on the performance of Piled Raft Foundation in Soft Clayey Soils

**ICGRE 148**

**Time:** 11:40 - 11:55

**Presenter:** Tahar Ayadat, Prince Mohammad Bin Fahd University, Saudi Arabia

**Authors:** Tahar Ayadat, Siti Noor Linda bt Taib, Danish Ahmed, Alsidqi Hasan

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## SESSION

### GEOTECHNICAL INFRASTRUCTURE

OCTOBER 19 | 11:10 AM - 12:45 PM | ROOM 1 | DR. RAJESHWAR GOODARY, UNIVERSITE DES MASCAREIGNES, MAURITIUS

**Titles:** Model Test and Corresponding Simulation on Compressive Characteristics of Soilbags

**ICGRE 159**

**Time:** 11:55 - 12:10

**Presenter:** Tatsuya Doi Railway Technical Research Institute Japan

**Authors:** Tatsuya Doi, Yoshitaka Murono, Ho Cho

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**Titles:** Determination of Elastic Parameters due a Dynamic Hertzian Contact

**ICGRE 134**

**Time:** 12:10 - 12:15

**Presenter:** Joel Sebastian Puebla Revelo, Universidad San Francisco de Quito, Ecuador

**Authors:** Joel Sebastian Puebla Revelo, Juan Villacreses, Bernardo Caicedo, Fabricio Yepez, Silvia Caro

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**Titles:** Investigation of Significant Slide in the Embankment of an Old Dam

**ICGRE 178**

**Time:** 12:15 - 12:30

**Presenter:** Sukhmander Singh, Santa Clara University, USA

**Authors:** Sukhmander Singh

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**Titles:** Effect of Alkali Activator Type on the Local UAE Sand Treated with Alkali Activated Binders

**ICGRE 189**

**Time:** 12:30 - 12:45

**Presenter:** Bara Ayman Amin Jarah, University of Sharjah , United Arab Emirates

**Authors:** Bara Jarah, Mohamed G. Arab, Talha Junaid, Maher Omar

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## SESSION

### ENVIRONMENTAL RISK MANAGEMENT AND OTHER RELATED TOPICS

OCTOBER 19 | 11:10 AM- 12:40 PM | ROOM 2 | SESSION CHAIR: DR. CARLOSAMA MEJIA LISSETH, ENVIRONMENTAL SCIENCE RESEARCH GROUP (GRICAM) / SALESIAN UNIVERSITY, ECUADOR

**Titles:** Applying Bioassays For Investigation Of Soils From Suburban Green Sites

**ICEPTP 108**

**Time:** 11:10 - 11:15

**Presenter:** Dávid Mónok, Szent István, University Hungary

**Authors:** Dávid Mónok, Levente Kardos, Sándor Attila Pabar, Zsolt Kotroczó

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**Titles:** Phenol as Waste Water Constituent in Petroleum Refining

**ICEPTP 113**

**Time:** 11:15 - 11:30

**Presenter:** Raphael Ngochindo, University of Port Harcourt, Nigeria

**Authors:** Raphael Ngochindo

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**Titles:** Analysis of Global CO2 Emissions: China's Impacts by Two Stage Least Squares and Threshold Model of 146 Countries & Regions in 2003-2016

**ICEPTP 125**

**Time:** 11:30 - 11:45

**Presenter:** Zhiguang Song, Sophia University, Japan

**Authors:** Zhiguang Song

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**Titles:** Health Risk Assessment of Mercury Contaminated Forest Mushrooms from the Czech and Slovak Republics

**ICEPTP 132**

**Time:** 11:45 - 11:50

**Presenter:** Andrea Ridoskova Mendel, University in Brno, Czech Republic

**Authors:** Andrea Ridoskova, Klaudia Dudášová, Pavlína Pelcová, Jana Hrachovinová

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## SESSION

### ENVIRONMENTAL RISK MANAGEMENT AND OTHER RELATED TOPICS

OCTOBER 19 | 11:10 AM- 12:40 PM | ROOM 2 | SESSION CHAIR: DR. CARLOSAMA MEJIA LISSETH, ENVIRONMENTAL SCIENCE RESEARCH GROUP (GRICAM) / SALESIAN UNIVERSITY, ECUADOR

**Titles:** Microbiological Risk Assessment In Water Treatment Plants Based On A Combination Of Event Analysis. Failure Trees And Predictive Modeling

**ICEPTP 142**

**Time:** 11:50 - 11:55

**Presenter:** G. Odilon Mendel Kombo Mpindou, Universitat Politècnica de València, Spain

**Authors:** G. Odilon Mendel Kombo Mpindou ,Estela Chordá Ramon, Martorell Alsina Sebastián Salvador

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**Titles:** Physiological response of Pseudomonas fluorescens to the Dodecyldimethylamine Oxide in the Presence of a Washing Formulation

**ICEPTP 157**

**Time:** 11:55 - 12:00

**Presenter:** Laura Zorza, University of Latvia, Latvia

**Authors:** Laura Zorza, Mārtiņš Kalniņš, Laura Žorža, Alise Sieriņa, Alvis Epnars and Olga Muter

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**Titles:** Environmental Behavior among Higher Education Students

**ICEPTP 155**

**Time:** 12:00 - 12:15

**Presenter:** Sara Sousa, Coimbra Business School, Portugal

**Authors:** Sara Sousa, Elisabete Correia, Joana Leite, Clara Viseu

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## SESSION

### ENVIRONMENTAL RISK MANAGEMENT AND OTHER RELATED TOPICS

OCTOBER 19 | 11:10 AM- 12:40 PM | ROOM 2 | SESSION CHAIR: DR. CARLOSAMA MEJIA LISSETH, ENVIRONMENTAL SCIENCE RESEARCH GROUP (GRICAM) / SALESIAN UNIVERSITY, ECUADOR

**Titles:** Biorefinery Of Wastes Of Meat Processing For Agricultural Applications

**ICEPTP 138**

**Time:** 12:15 - 12:20

**Presenter:** Katalin Perei, University of Szeged, Hungary

**Authors:** Katalin Perei, Viktória Markó, Csilla Juhász, Anett Széll, Attila Bodor, Gábor Rákhely

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**Titles:** Ecohydrology: New Challenger For The Evaluation Of Safety Of The Environment And Human Health Through Quality Control Tools In Water

**ICEPTP 109**

**Time:** 12:20 - 12:25

**Presenter:** Elena Alvareda, Universidad de la República, Uruguay

**Authors:** Elena Alvareda, Jimena Alvarez, Franco Teixeira de Mello, Paola Russo, Christine Lucas, Pablo Gamazo, Adriana Piperno

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**Titles:** Courtyard Design in Schools and its Influence on Students' Satisfaction

**ICGRE 197**

**Time:** 12:25 - 12:40

**Presenter:** Muna Salameh, Ajman University, United Arab Emirates

**Authors:** Muna Salameh, Basim Touqan, May Salameh

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## SESSION

### GEOENVIRONMENTAL RELATED TOPICS

OCTOBER 19 | 1:05 PM - 1:35 PM | ROOM 1 | SESSION CHAIR: DR. WALEED ABDELAZIZ ZEIADA, UNIVERSITY OF SHARJAH, UAE

**Titles:** Characterization of Ancient Cob Wall of Madagascar for Potential Sustainable Construction

**ICGRE 154**

**Time:** 1:05 - 1:20

**Presenter:** Rajeshwar Goodary, Universite des Mascareignes, Mauritius

**Authors:** Rajeshwar Goodary, Mauritius

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**Titles:** Tropical Dendroclimatology in Ecuadorian Amazon with *Cedrela odorata*

**ICGRE 164**

**Time:** 1:20 - 1:35

**Presenter:** Carlosama Mejia Lisseth, Environmental Science Research Group (GRICAM) / Salesian University, Ecuador

**Authors:** Carlosama Mejia Lisseth, Sheila Serrano, Madison Herrera

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## SESSION

# CONCRETE PRODUCTS AND SPECIFICATIONS I

OCTOBER 19 | 1:00 PM - 2:35 PM | ROOM 2 | SESSION CHAIR: DR. MUNA SALAMEH,  
AJMAN UNIVERSITY, UAE

**Titles:** Potential use of Fly Ash as Partial Replacement of Cement in Concrete

**ICSECT 129**

**Time:** 1:00 - 1:15

**Presenter:** Rajeshwar Goodary, Universite des Mascareignes, Mauritius

**Authors:** Rajeshwar Goodary, Mahen Conhyea

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**Titles:** Validation of the AASHTO LRFD Live Load Distribution Provisions for Integral Abutment Bridges

**ICSECT 145**

**Time:** 1:15 - 1:30

**Presenter:** Sami W. Tabsh, American University of Sharjah, UAE

**Authors:** Sami W. Tabsh, Shehab El Din Mourad

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**Titles:** Mineral Slag used as an Alternative of Cement in Concrete

**ICSECT 166**

**Time:** 1:30 - 1:45

**Presenter:** Eskinder Desta Shumuye, Zhengzhou University, China

**Authors:** Eskinder Desta Shumuye, Jun Zhao, Zike Wang

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**Titles:** A Hybrid Force/displacement Performance-based Seismic Design Procedure for RC Frames

**ICSECT 141**

**Time:** 1:45 - 2:00

**Presenter:** Soha Hassan Nashaat El-Kassas, The American University in Cairo, Egypt

**Authors:** Soha Hassan Nashaat El-Kassas, Ezzeldin Sayed-Ahmed, Ezzat Fahmy

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## SESSION

# CONCRETE PRODUCTS AND SPECIFICATIONS I

OCTOBER 19 | 1:00 PM - 2:35 PM | ROOM 2 | SESSION CHAIR: DR. MUNA SALAMEH,  
AJMAN UNIVERSITY, UAE

**Titles:** Bending Tests Of Connection Structure Of Precast Concrete Slabs Using Perfobond Strip

**ICSECT 118**

**Time:** 2:00 - 2:15

**Presenter:** Nguyen Minh Hai, Utsunomiya University, Japan

**Authors:** Nguyen Minh Hai, Ryoma Obata, Satoshi Fujiwara, Akinori Nakajima, Shuichi Fujikura

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**Titles:** Reliability-Based Design for the Flexural Capacity of Fiber Reinforced Concrete Slabs on Ground

**ICSECT 155**

**Time:** 2:15 - 2:20

**Presenter:** Raghad Ahmad Awad, University of Sharjah, UAE

**Authors:** Raghad Ahmad Awad, Samer Barakat, Salah Altoubat, Moussa Leblouba

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**Titles:** The behavior of Concrete Cylinders confined by JFRP composites: Effect of KOH solution

**ICSECT 163**

**Time:** 2:20 - 2:35

**Presenter:** Yasmina ED-DARIY, Mohammed V University of Rabat, Morocco

**Authors:** Yasmina ED-DARIY, Nouzha LAMDOUAR, Toufik CHERRADI, Ancuta ROTARU, Marinela BARBUTA, Petru MIHAI, Loredana JUDELE

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## SESSION

# TRANSPORTATION GEOTECHNICS, ENGINEERING AND TECHNOLOGY

OCTOBER 19 | 1:35 PM - 2:15 PM | ROOM 1 | SESSION CHAIR: DR. ALI SHAFIEE, CAL POLY POMONA, USA

**Titles:** Alternative Road Improvements to Enhance the Sustainability and Resilience of A83 – “Rest and Be Thankful” in Scotland

**ICGRE 136**

**Time:** 1:35 - 1:50

**Presenter:** Christopher Weir, Amey Consulting, United Kingdom

**Authors:** Christopher Weir, Slobodan Mickovski

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**Titles:** Mechanistic and Cost-Effectiveness Analysis of Cement Treated Bases in Flexible Pavement

**ICGRE 157**

**Time:** 1:50 - 1:55

**Presenter:** Waleed Abdelaziz Zeiada, University of Sharjah, UAE

**Authors:** Waleed Abdelaziz, Zeiada Nitish Bastola, Mena Souliman

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**Titles:** Dynamic Response of a Timoshenko Beam Subjected to a Moving Load on a Foundation with Hysteretic Damping

**ICGRE 177**

**Time:** 1:55 - 2:10

**Presenter:** Desmond Adair, Nazarbayev University, Kazakhstan

**Authors:** Desmond Adair, Aigul Nagimova, Martin Jaeger

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**Titles:** Stiffness and Rutting Assessment of Asphalt Mixtures Using Steel Slag Aggregates

**ICGRE 145**

**Time:** 2:10 - 2:15

**Presenter:** Waleed Abdelaziz Zeiada, University of Sharjah, UAE

**Authors:** Waleed Abdelaziz Zeiada, Myasar Abulkhair, Ghazi Al-Khateeb, Abdallah Shanableh, Saleh Abu Dabous

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## SESSION

# GEOTECHNICAL DESIGN AND MODELLING

OCTOBER 19 | 2:20 PM - 3:25 PM | ROOM 1 | SESSION CHAIR: DR. HASAN TOSUM,  
ESKISEHIR OSMANGAZI UNIVERSITY, TURKEY

**Titles:** Empirical Approach To Predict Static Capacity Of Drilled Shafts Based On High Strain Dynamic Pile Test Results

**ICGRE 146**

**Time:** 2:20 - 2:35

**Presenter:** Ahmed Mahmoud Elgamal, Mansoura Higher Institute of Engineering and Technology, Egypt

**Authors:** Ahmed Mahmoud Elgamal

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**Titles:** Simulate the Failure of Embankment Due to High-speed Train Moving Load

**ICGRE 147**

**Time:** 2:35 - 2:50

**Presenter:** Ahmed Mahmoud Elgamal, Mansoura Higher Institute of Engineering and Technology, Egypt

**Authors:** Ahmed Mahmoud Elgamal

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**Titles:** Verification against Failure by Piping on Retaining Structures Applying the Network Method

**ICGRE 158**

**Time:** 2:50 - 3:05

**Presenter:** Encarnación Martínez Moreno, Technical University of Cartagena, Spain

**Authors:** Encarnación Martínez Moreno, Iván Alhama Manteca, Gonzalo García Ros

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## SESSION

### GEOTECHNICAL DESIGN AND MODELLING

OCTOBER 19 | 2:20 PM - 3:25 PM | ROOM 1 | SESSION CHAIR: DR. HASAN TOSUM,  
ESKISEHIR OSMANGAZI UNIVERSITY, TURKEY

**Titles:** Regional Flow and Vertical Heat Transport in Groundwater. Numerical Solution for the Study of Temperature Profiles

**ICGRE 161**

**Time:** 3:05 - 3:25

**Presenter:** José Antonio Jiménez Valera, Universidad Politécnica de Cartagena, Spain

**Authors:** José Antonio Jiménez Valera, Gonzalo García-Ros, Iván Alhama, Gonzalo García-Ros

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**Titles:** Probabilistic analysis of slope stability in Soils and Soft Rocks

**ICGRE 183**

**Time:** 3:20 - 3:25

**Presenter:** Domingo E. Delgado Martínez, Universidad Latina de Costa Rica, Costa Rica

**Authors:** Domingo E. Delgado Martínez, José R. Mena Carmona, Geillyn V. Castro Mora

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## SESSION

# POLLUTION AND TREATMENT

OCTOBER 19 | 2:40 PM - 3:50 PM | ROOM 2 | SESSION CHAIR: DR. RAPHAEL NGOCHINDO,  
UNIVERSITY OF PORT HARCOURT, NIGERIA

**Titles:** A Hubbert analysis on natural gas production of the top producers.  
How the carbon budget is affected under unconstrained extraction

**ICEPTP 154**

**Time:** 2:40 - 2:55

**Presenter:** Panagiotis Karvounis, Politecnico di Milano, Italy

**Authors:** Panagiotis Karvounis, Karvounis Panagiotis, Martin J. Blunt

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**Titles:** Abundance and Enzyme Activity of Airborne Microorganisms in the  
Experimental Green Wall System

**ICEPTP 156**

**Time:** 2:55 - 3:10

**Presenter:** Laura Zorza, University of Latvia, Institute of Microbiology &  
Biotechnology, Latvia

**Authors:** Mārtiņš Kalniņš, Laura Žorža, Alise Sieriņa, Alvis Epnors and Olga Muter

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**Titles:** Monitoring of Mercury and Arsenic in Water Samples from Aquatic  
Ecosystem Situated in Close Proximity to Abandoned Cinnabar Mine

**ICEPTP 122**

**Time:** 3:10 - 3:15

**Presenter:** Pavlína Pelcová, Mendel University in Brno, Czech Republic

**Authors:** Pavlína Pelcová, Vendula Smolíková, Andrea Ridošková, Jana Hrachovinová,  
Jan Grmela

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## SESSION

# POLLUTION AND TREATMENT

OCTOBER 19 | 2:40 PM - 3:50 PM | ROOM 2 | SESSION CHAIR: DR. RAPHAEL NGOCHINDO,  
UNIVERSITY OF PORT HARCOURT, NIGERIA

**Titles:** Calibration of the Wastewater Treatment Plant Model Based on the Activated Sludge Model No. 2d - Case Study of a Municipal WWTP

**ICEPTP 128**

**Time:** 3:15 - 3:30

**Presenter:** Melinda Simon-Várhelyi, Babeş-Bolyai University, Romania

**Authors:** Melinda Simon-Várhelyi, Alexandra Veronica Luca, Marius Adrian Brehar, Vasile Mircea Cristea

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**Titles:** Identification and Instance Segmentation of Oil Spills Using Deep Neural Networks

**ICEPTP 140**

**Time:** 3:30 - 3:45

**Presenter:** Amir Behzadan, Texas A&M University, USA

**Authors:** Amir Behzadan, Zahra Ghorbani

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**Titles:** Methanogenesis Coupled Bioremediation of Hydrocarbon Contaminated Soil and Groundwater

**ICEPTP 137**

**Time:** 3:45 - 3:50

**Presenter:** Gábor Rákhely, University of Szeged, Hungary

**Authors:** Krisztián Laczi, Jacob Manyiwa Shume, Attila Bodor, Naila Boundedjoun, György Erik Vincze, Katalin Perei, Tamás Kovács, Gábor Rákhely

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# OCTOBER 20

**8:00 AM - 8:45 AM** ICSECT'20 KEYNOTE LECTURE

Behaviour of Bridges Under Spatially Non-uniform Earthquake Motion

Dr. Nawawi Chouw, University of Auckland, New Zealand

**8:45 AM - 9:30 AM** ICGRE'20 KEYNOTE LECTURE

Urban Oil Spill Management

Dr. James Li, Ryerson University, Canada

**9:30 AM - 9:35 AM** BREAK

**9:35 AM - 10:20 AM** ICGRE'20 KEYNOTE LECTURE

Recent Advances in Physical Modeling & Field Monitoring of Civil Infrastructure Systems

Dr. Tarek Abdoun, Rensselaer Polytechnic Institute, USA

**10:20 AM - 11:05 AM** ICGRE KEYNOTE LECTURE

Performance Of Stone Columns In Cohesive Soil

Dr. Adel Hanna, Concordia University, Canada

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

**11:10 AM - 1:00 PM** SESSION

Concrete Products And Specifications II

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# OCTOBER 20

**01:00 PM - 01:20 PM    LUNCH**

**01:20 PM - 02:05 PM    SESSION**  
**Modelling And Simulation**

**02:05 PM – 02:40 PM    SESSION**  
**Dams And Tunnelling**

**02:40 PM - 03:25 PM    SESSION**  
**Soil And Rock Mechanics And Characterization**

**03:25 PM - 03:30 PM    BREAK**

**03:30 PM - 04:20 PM    SESSION**  
**New Technologies In Structural Design And Construction**

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# KEYNOTE LECTURE

OCTOBER 20 | 8:00 AM - 8:45 AM | SESSION CHAIR: DR. JOAQUIM BARROS, UNIVERSITY OF MINHO, PORTUGAL



**Titles:** Behaviour of Bridges Under Spatially Non-uniform Earthquake Motion

[Dr. Nawawi Chouw, University of Auckland, New Zealand](#)

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Dr. Nawawi Chouw is an Associate Professor and was Director of the University of Auckland Centre for Earthquake Engineering Research (2011-2017). Prior to joining the University of Auckland he worked at universities in Germany, Japan and Australia. He gained his diploma in Civil Engineering from the Ruhr University Bochum in Germany. After working in a group of consulting engineers in Germany he returned to the Research Centre on Structural Dynamics at the Ruhr University Bochum, and he was awarded his doctorate. He has been awarded twice the Gledden Fellowship of the University of Western Australia, Fritz-Peter-Mueller Prize of the Technical University of Karlsruhe, Germany, the Best Research Award of Chugoku Denryoku Research Foundation, Japan, and received twice recognition for excellence in research supervision from Chinese Scholarship Council. He was invited by China Ministry of Education, NZ Ministry of Business, Innovation and Employment, Qatar Science Foundation, SA National Research Foundation, German Academic Exchange Service and by other European Research Institutions to assess applications. He was also invited to teach at several universities in Europe, China and Japan. He was Guest Editor of a number of journals, e.g. Protective Structures, Soil Dynamics and Earthquake Engineering. He is editor of the international journal of Materials, Shock and Vibration and an associate editor of Frontiers in Build Environment – Earthquake Engineering and is an editorial board member of a number of international journals. He was a visiting and guest professor at a number of universities in China, Germany, Canada, Australia, Serbia, Macedonia and Japan.

# KEYNOTE LECTURE

OCTOBER 20 | 8:45 AM - 9:30 AM | SESSION CHAIR: DR. JOAQUIM BARROS, UNIVERSITY OF MINHO, PORTUGAL



**Titles:** Urban Oil Spill Management  
[Dr. James Li, Ryerson University, Canada](#)

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Prof. James Li graduated with a BAsC in Civil Engineering and a MASc in Hydraulic Engineering at the University of Windsor, and a PhD in Environmental Engineering at the University of Toronto in Canada. Prof. Li is a tenured environmental engineering full professor at Ryerson University in Canada, Lecture Professor of Nankai University's College of Environmental Science and Engineering, a founding member and senior advisor of China Canada Joint Research and Development Centre on Water and Environmental Safety in Tianjin, China, Canadian Water Network's International Stormwater Experts, 2016-2018 Ontario Stakeholder Committee member of the Ontario Low Impact Development Guidelines, the 2016 11th Sino-American Technology and Engineering Conference's Invited Foreign Expert on Sponge City Technology, a licensed professional engineer in Canada, and the Diplomate of American Water Resource Engineers Academy in USA. His current research focuses on urban stormwater management, eco-hydrology and eco-hydraulics, water pollution control planning, environmental benefits of green roofs, municipal spill management, and Enzyme-Linked Immunosorbent Assay technique for dioxin in environmental matrices. For the past 28 years, Prof. Li has provided technical services and advices to Canadian federal, provincial, and municipal governments and collaborated with Nankai University, Harbin Institute of Technology, Hong Kong Polytechnic University, University of Hong Kong, and City of Tianjin in Asia.

# KEYNOTE LECTURE

OCTOBER 20 | 9:35 AM - 10:20 AM | SESSION CHAIR: DR. JOAQUIM BARROS, UNIVERSITY OF MINHO, PORTUGAL



**Titles:** Recent Advances in Physical Modeling & Field Monitoring of Civil Infrastructure Systems

[Dr. Tarek Abdoun, Rensselaer Polytechnic Institute, USA](#)

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Professor Abdoun is the Thomas Iovino Chair Professor and Director, of Rensselaer Polytechnic Institute (RPI) Geo-Centrifuge Center. He received several awards from professional societies, including the American Society of Civil Engineers (ASCE) “Walter L. Huber Civil Engineering Excellence in Research Prize”, the US Army “Commander’s Award for Public Service with accompanying medal”, and “Shamsher Prakash International Research Award” for young engineers, scientists and researchers. He is also the recipient of several educational societies, including the American Society of Engineering Education (ASEE) north region “Outstanding Teaching Award”, the “Wharton QS-Stars Reimagine Education Bronze Award”, and Chi Epsilon National Civil Engineering Honor Society “Excellence in Teaching Award”; for the successful development & implementation of web-based education tools and mixed reality educational games in the undergraduate engineering education at several USA campuses. He authored or co-authored over 200 technical publications. His research interests cover geotechnical engineering, Advanced Field Monitoring, Centrifuge & Full-scale Testing, Soil-Structure Interaction, Soil Dynamics and Earthquake Engineering, Satellite Based InSAR Remote sensing, Modeling of Blast loading & Hurricane loading, and offshore systems. He served as chair or member of national and international professional committees of major projects associated with tunnels, dams, levees, and pipelines.

# KEYNOTE LECTURE

OCTOBER 20 | 10:20 AM - 11:05 AM | SESSION CHAIR: DR. JOAQUIM BARROS, UNIVERSITY OF MINHO, PORTUGAL



**Titles:** Performance of Stone Columns in Cohesive Soil

[Dr. Adel Hanna, Concordia University, Canada](#)

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Recipient of the Geoffrey Meyerhof Award for contributions to the art and science of Foundation Engineering. A Fellow of the American Society of Civil Engineering, Editor of the ASCE Manuals of Engineering Practice, Associate Editor for the International Journal for Housing Science, Published over 200 papers in the field of foundation engineering, Participated in preparing design manuals in Canada and USA.

## SESSION

# CONCRETE PRODUCTS AND SPECIFICATIONS II

OCTOBER 20 | 11:10 AM - 1:00 PM | SESSION CHAIR: DR. SAMI W. TABSH, AMERICAN UNIVERSITY OF SHARJAH, UAE

**Titles:** Modelling bond-slip for reinforced concrete member considering transverse stress: theory, test and numerical implementation

**ICSECT Invited Speaker**

**Time:** 11:10 - 11:30

**Presenter:** Xue Zhang, Dalian University of Technology, China

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**Titles:** Rheological Properties Of Self-compacting Concrete With 3-dimensional Fibres

**ICSECT 123**

**Time:** 11:30 - 11:45

**Presenter:** Jeffri Ramli, Northumbria University, United Kingdom

**Authors:** Jeffri Ramli, Brabha Nagaratnam, Keerthan Poologanathan, Wai Ming Cheung, Thadshajini Suntharalingham, Alan Richardson

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**Titles:** Seismic Performance Of Existing Buildings Concrete Shear Wall

**ICSECT 126**

**Time:** 11:45 - 12:00

**Presenter:** Sk Amjad Hossain, Concordia University, Canada

**Authors:** Sk Amjad Hossain, Ashutosh Bagchi

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**Titles:** Extended application of the Equivalent Mortar Volume mix design method for recycled aggregate concrete

**ICSECT 132**

**Time:** 12:00 - 12:15

**Presenter:** Emmanuel Anike, Coventry University, UK

**Authors:** Emmanuel Anike, Messaoud Saidani, Adegoke Olubanwo, Mark Tyrer

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## SESSION

# CONCRETE PRODUCTS AND SPECIFICATIONS II

OCTOBER 20 | 11:10 AM - 1:00 PM | SESSION CHAIR: DR. SAMI W. TABSH, AMERICAN UNIVERSITY OF SHARJAH, UAE

**Titles:** Electrical and Thermal Properties as an Indicator for Setting Time of Concrete

**ICSECT 139**

**Time:** 12:15 - 12:30

**Presenter:** Beatriz Martin Perez, University of Ottawa, Ottawa

**Authors:** Beatriz Martin Perez, Ahmad Shahroodi, Beatriz Martín-Pérez, Aali Alizadeh

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**Titles:** Effect of Silica Fume on High-strength Concrete Performance

**ICSECT 162**

**Time:** 12:30 - 12:45

**Presenter:** Ovidijus Šernas, Vilnius Tech Road Research Institute, Lithuania

**Authors:** Ovidijus Šernas, Judita Gražulytė, Audrius Vaitkus, Ovidijus Šernas, Donatas Čygas

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**Titles:** Experimental Investigation of the Effects of Naoh and KOH Solution on the Behavior of Concrete Square Columns Reinforced By JFRP Composites

**ICSECT 167**

**Time:** 12:45 - 1:00

**Presenter:** Yasmina ED-DARIY, Mohammed V University of Rabat, Morocco

**Authors:** Yasmina ED-DARIY, Nouzha LAMDOUAR, Toufik CHERRADI, Ancuta ROTARU, Marinela BARBUTA, Petru MIHAI, Loredana JUDELE

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## SESSION

# MODELLING AND SIMULATION

OCTOBER 20 | 1:20 PM - 2:05 PM | SESSION CHAIR: DR. CARLOSAMA MEJIA LISSETH,  
ENVIRONMENTAL SCIENCE RESEARCH GROUP (GRICAM) / SALESIAN UNIVERSITY, ECUADOR

**Titles:** Production Planning Of Free-form Concrete Panels Using 3D  
Plastering Technology

**ICSECT 133**

**Time:** 1:20 - 1:25

**Presenter:** Sunkuk Kim, Kyung Hee University, South Korea

**Authors:** Sunkuk Kim, Seunghyun Son, Jinhyuk Oh, Kwangheon Park

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**Titles:** Effective Moment of Inertia of Beam-Slab Section under Lateral Load

**ICSECT 135**

**Time:** 1:25 - 1:30

**Presenter:** Mustafa Mamedtaib Khattab, University of Technology, Iraq

**Authors:** Mustafa Mamedtaib Khattab, Yasir Abduljaleel, Adnan Ali

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**Titles:** Comparative Analysis on Buckling Behavior of Steel Cylindrical Tanks  
by Consideration of More Realistic Numerical Models

**ICSECT 159**

**Time:** 1:30 - 1:45

**Presenter:** Amir Reza Shokrzadeh, Eng. Department of Iranian Oil Pipelines and  
Telecommunication Co., Iran

**Authors:** A. R. Shokrzadeh, F. Mansuri, M. Asadi, M. R. Sohrabi

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## SESSION

# MODELLING AND SIMULATION

OCTOBER 20 | 1:20 PM - 2:05 PM | SESSION CHAIR: DR. CARLOSAMA MEJIA LISSETH,  
ENVIRONMENTAL SCIENCE RESEARCH GROUP (GRICAM) / SALESIAN UNIVERSITY, ECUADOR

**Titles:** HBIM Application to Historical Steel Structures: the Case Study of Lapela Bridge

**ICSECT 160**

**Time:** 1:45 - 2:00

**Presenter:** Manuel Cabaleiro Nuñez, University of Vigo, Spain

**Authors:** Manuel Cabaleiro Nuñez, Ignacio del Rio, Manuel Cabaleiro, Borja Conde, Belén Riveiro, José C Caamaño

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**Titles:** Predicting the Bond Strength of thin Steel Rebars in Concrete by Means of Artificial Neural Networks

**ICSECT 165**

**Time:** 2:00 - 2:05

**Presenter:** Priscila Flavia Souza da Silva, Mathematical and Computational Postgraduation Program, CEFET-MG, Brazil

**Authors:** Priscila F. S. Silva, Gray F. Moita, Eliene P. Carvalho

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## SESSION

### DAMS AND TUNNELLING

OCTOBER 20 | 2:05 PM - 2:40 PM | SESSION CHAIR: DR. RAJESHWAR GOODARY,  
UNIVERSITE DES MASCAREIGNES, MAURITIUS

**Titles:** A Study on the Agricultural Reservoir Behavior through Numerical Analysis and the Centrifuge Model Test in Earthquakes

**ICGRE 184**

**Time:** 2:05 - 2:10

**Presenter:** Sangok Jeon, Rural Research Institute / Korea Rural Community Corporation, South Korea

**Authors:** Joon Heo, Taeho Bong, Sangok Jeon, Yongseong Kim

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**Titles:** Hazard and Total Risk Analyses of Large Dams under Threat of the North Anatolian Fault Zone in Mid-Anatolia, Turkey

**ICGRE 191**

**Time:** 2:10 - 2:25

**Presenter:** Hasan Tosun, Eskisehir Osmangazi University, Turkey

**Authors:** Hasan Tosun

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**Titles:** Re-evaluation of Large Dams in Van Inner Basin, Turkey

**ICGRE 192**

**Time:** 2:25 - 2:40

**Presenter:** Hasan Tosun, Eskisehir Osmangazi University, Turkey

**Authors:** Hasan Tosun

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## SESSION

# SOIL AND ROCK MECHANICS AND CHARACTERIZATION

OCTOBER 20 | 2:40 PM - 3:25 PM | SESSION CHAIR: DR. HASAN TOSUM, ESKISEHIR  
OSMANGAZI UNIVERSITY, TURKEY

**Titles:** Nonlinear Soil Response Via Harmonic Modal Hybrid Approach

**ICGRE 128**

**Time:** 2:40 - 2:45

**Presenter:** Claudia Germoso, INTEC, Dominican Republic

**Authors:** Claudia Germoso

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**Titles:** A comparison between Shear Modulus Degradation Curves

**ICGRE 131**

**Time:** 2:45 - 2:50

**Presenter:** Juan Pablo Villacreses, Universidad San Francisco de Quito USFQ, Ecuador

**Authors:** Juan Pablo Villacreses, Bernardo Caicedo, Silvia Caro, Fabricio Yopez, Lucia Lopez

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**Titles:** Optimization of Enzyme Induced Carbonate precipitation (EICP) cementing solution using Design of Experiments

**ICGRE 140**

**Time:** 2:50 - 3:05

**Presenter:** Ramy Jehad, Sharjah Research Academy, UAE

**Authors:** Ramy Jehad, Mohamad Arab, Abdallah Shanablah

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## SESSION

# SOIL AND ROCK MECHANICS AND CHARACTERIZATION

OCTOBER 20 | 2:40 PM - 3:25 PM | SESSION CHAIR: DR. HASAN TOSUM, ESKISEHIR  
OSMANGAZI UNIVERSITY, TURKEY

**Titles:** Effects of the Spatial Variability of Soil Properties on the Liquefaction Vulnerability Indicators

**ICGRE 181**

**Time:** 3:05 - 3:10

**Presenter:** Joon Heo, Rural Research Institute / Korea Rural Community Corporation, South Korea

**Authors:** Joon Heo, Taeho Bong, Joon Heo, Sung-Ryul Kim, Byeong-Soo Yoo

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**Titles:** Layer Stiffness Moduli Measured by Light Weight Deflectometer Tests and Predicted by Backcalculation Process for Sandy

**ICGRE 195**

**Time:** 3:10 - 3:25

**Presenter:** Dina Kuttah, Senior researcher at VTI, Sweden

**Authors:** Dina Kuttah

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## SESSION

# NEW TECHNOLOGIES IN STRUCTURAL DESIGN AND CONSTRUCTION

OCTOBER 20 | 3:30 PM - 4:20 PM | SESSION CHAIR: DR. RAPHAEL NGOCHINDO,  
UNIVERSITY OF PORT HARCOURT, NIGERIA

**Titles:** Simplified Procedures for a Peruvian Standard of Analysis and Design of Buildings with Energy Dissipation Systems

**ICSECT 112**

**Time:** 3:30 - 3:45

**Presenter:** Juan Carlos Fuentes Sadowski, Pontificia Universidad Católica del Perú, Peru

**Authors:** Juan Carlos Fuentes Sadowski Authors: Xue Zhang

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**Titles:** Superelastic Cyclic Properties Of Cu-al-mn And Ni-ti Shape Memory Alloys For Seismic Mitigation

**ICSECT 117**

**Time:** 3:45 - 4:00

**Presenter:** Burak Duran, Dokuz Eylul University, Turkey

**Authors:** Burak Duran, Kadri Can Atli, Özgür Avşar

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**Titles:** Simplified Fiber Beam-column Element Considering Local Shear Effect

**ICSECT 127**

**Time:** 4:00 - 4:15

**Presenter:** Zhu Ziping, Dalian University of Technology, China

**Authors:** Zhu Ziping, Xue Zhang

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**Titles:** Social Housing And Its Pathological Manifestations: A Case Study In Piumhi, Brazil

**ICSECT 148**

**Time:** 4:15 - 4:20

**Presenter:** Fernando da Costa Barros, Instituto Federal de Minas Gerais Campus Avançado Piumhi, Brazil

**Authors:** Fernando da Costa Barros, Tobias Ferreira, Humberto Melo, Stella Tomé

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