



**CSEE**  
CONGRESS

**PROCEEDINGS OF THE 5TH WORLD  
CONGRESS ON CIVIL, STRUCTURAL, AND  
ENVIRONMENTAL ENGINEERING (CSEE'20)**

**OCTOBER 18 - 20, 2020 | ~~LISBON, PORTUGAL~~ | VIRTUAL CONFERENCE**

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# WELCOME MESSAGE FROM THE CONFERENCE CHAIR

**On behalf of the International Academy of Science, Engineering and Technology (International ASET Inc.), the organizing committee would like to welcome you to the 5<sup>th</sup> World Congress on Civil, Structural, and Environmental Engineering (CSEE'20).**

Due to COVID-19 the World Congress on Civil, Structural, and Environmental Engineering (CSEE'20) which was supposed to be held in Lisbon, Portugal will be held **virtually** instead on **October 18 - 20, 2020**.

CSEE is aimed to become one of the leading international annual congresses in the fields of civil, structural, and environmental engineering. This congress will provide excellent opportunities to scientists, researchers, industrial experts, and university students to present their research achievements and to develop new collaborations and partnerships with experts in the field.

While each conference consists of an individual and separate theme, the 3 conferences share considerable overlap, which prompted the organization of this congress. The goal of this undertaking is to bring together experts in each of the specialized fields, and at the same time allow for cross pollinations and sharing of ideas from the other closely related research areas.

We thank you for your participation and contribution to the 5<sup>th</sup> World Congress on Civil, Structural, and Environmental Engineering (CSEE'20). We wish you a very successful and enjoyable experience.

**Dr. Hany El Naggar**

*Congress Chair and Proceedings Editor  
CSEE'20*

**Dr. Joaquim Barros**

*Congress Co-Chair and Proceedings Editor  
CSEE'20*

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# ABOUT CSEE'20

**CSEE is aimed to become one of the leading international annual congresses in the fields of civil, structural, and environmental engineering.** This congress will provide excellent opportunities to the scientists, researchers, industrial engineers, and university students to present their research achievements and to develop new collaborations and partnerships with experts in the field.

There are 3 conferences included in the CSEE Congress:

[ICGRE'20](#) - 5<sup>th</sup> International Conference on Geotechnical Research and Engineering

[ICSECT'20](#) - 5<sup>th</sup> International conference on Structural Engineering and Concrete Technology

[ICEPTP'20](#) - 5<sup>th</sup> International Conference on Environmental Pollution, Treatment and Protection

While each conference consists of an individual and separate theme, the 3 conferences share considerable overlap, which prompted the organization of this congress. The goal of this undertaking is to bring together experts in each of the specialized fields, and at the same time allow for cross pollinations and sharing of ideas from the other closely related research areas.

**CSEE** is an acronym for **Civil, Structural, and Environmental Engineering**.

The proceedings is published in Ottawa, Canada.

All papers were peer-reviewed

The congress proceedings is published under an ISSN and ISBN number

Each paper is assigned a unique DOI number by [Crossref](#)

The conference proceedings is indexed by [Scopus](#) and [Google Scholar](#)

The proceedings is permanently archived in [Portico](#) (one of the largest community-supported digital archives in the world)

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[!\[\]\(899d8b7697d64725bf017d3296cfcf1b\_img.jpg\)](#)

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# SCIENTIFIC COMMITTEE

We would like to thank the following for accepting to act as a member of the Scientific Committee for the CSEE'20 Congress:

## Scientific Committee Members for ICGRE'20

- **Dr. Tarek Abdoun**, Rensselaer Polytechnic Institute, USA
- **Dr. Sayed Ahmed**, Ain Shams University, Egypt
- **Dr. Mohamed Arab**, University of Sharjah, UAE
- **Dr. Rafaela Cardoso**, Lisbon Technical University, Portugal
- **Dr. Johan Clausen**, Aalborg University, Denmark
- **Dr. Johann Facciorusso**, University of Florence, Italy
- **Dr. Ahmed Fahmy**, 30 Forensic Engineering, Canada
- **Dr. Rajeshwar Goodary**, Université des Mascareignes, Mauritius
- **Dr. Russell A. Green**, Virginia Tech, USA
- **Dr. Marte Gutierrez**, Colorado School of Mines, USA
- **Dr. Adel M. Hanna**, Concordia University, Canada
- **Dr. Ian Jefferson**, University of Birmingham, UK
- **Dr. Fei Jin**, University of Glasgow Singapore, Singapore
- **Dr. Stefan Jung**, HTW Saar, Saarbruecken, University of Applied Sciences, Germany
- **Dr. Victor Kaliakin**, University of Delaware, USA
- **Dr. Antonio Miglio**, Hydraulic and Pipeline Consultant Engineer, Italy
- **Dr. Ondra Sracek**, Palacky University in Olomouc, Czech Republic
- **Dr. Nunziante Squeglia**, University of Pisa, Italy
- **Dr. Roger Tilley**, University of California Santa Cruz, USA

# SCIENTIFIC COMMITTEE

## Scientific Committee Members for ICSECT'20

- **Dr. Michele Barbato**, University of California, Davis, USA
- **Dr. Chia-Ming Chang**, National Taiwan University, Taiwan
- **Dr. Arnaud Castel**, University of Technology Sydney, Australia
- **Dr. Nawawi Chouw**, University of Auckland, New Zealand
- **Dr. Markus Dann**, University of Calgary, Canada
- **Dr. Behzad Esmaeili**, George Mason University, USA
- **Dr. Bassam A. Izzuddin**, Imperial College London, UK
- **Dr. Ali Karrech**, University of Western Australia, Australia
- **Dr. Thomas Keller**, Ecole Polytechnique Federale de Lausanne, Switzerland
- **Dr. Venkatesh Kodur**, Michigan State University, USA
- **Dr. Tribikram Kundu**, University of Arizona, USA
- **Dr. Beatriz Martin-Perez**, University of Ottawa, Canada
- **Dr. M. Shamim Miah**, International University of Business Agriculture and Technology (IUBAT), Bangladesh
- **Dr. J.N. Reddy**, Texas A&M University, USA
- **Dr. Piervincenzo Rizzo**, University of Pittsburgh, USA
- **Dr. Sami Tabsh**, American University of Sharjah, UAE
- **Dr. Kejin Wang**, Iowa State University, USA
- **Dr. Xue Zhang**, Dalian University of Technology, China
- **Dr. Wenxing Zhou**, University of Western Ontario, Canada

# SCIENTIFIC COMMITTEE

## Scientific Committee Members for ICEPTP'20

- **Dr. James Ball**, University of Technology Sydney, Australia
- **Dr. Valentina Busini**, Politecnico di Milano, Italy
- **Dr. Bing Chen**, Memorial University of Newfoundland, Canada
- **Dr. Mervat El-Hoz**, University of Balamand, Lebanon
- **Dr. Fatma Esen**, Uludag University, Turkey
- **Dr. Alireza Eslamian**, ESS Engineering Software Steyr GmbH, Austria
- **Dr. Davide Astiaso Garcia**, Sapienza University, Italy
- **Dr. Eda Goz**, Ankara University, Turkey
- **Dr. Mohamed Hamouda**, United Arab Emirates University, UAE
- **Dr. Gordon Huang**, University of Regina, Canada
- **Dr. Stuart Khan**, University of New South Wales, Australia
- **Dr. Woo Hyoung Lee**, University of Central Florida, USA
- **Dr. Yi-Pin Lin**, National Taiwan University, Taiwan
- **Dr. Elena Maria Alvareda Migliaro**, Universidad de la Republica, Uruguay
- **Dr. Maxim Muravyov**, Research Center of Biotechnology of the Russian Academy of Sciences Winogradsky Institute of Microbiology, Russia
- **Dr. Andrea Szabó Nagy**, Széchenyi István University, Hungary
- **Dr. Meysam Majidi Nezhad**, Sapienza University of Rome, Italy
- **Dr. R.I. Ngochindo**, University of Port Harcourt, Nigeria
- **Dr. Grzegorz Sierpiński**, Silesian University of Technology, Poland
- **Dr. Wai Yuen Szeto**, University of Hong Kong, Hong Kong
- **Dr. Szabolcs Szilveszter**, Sapientia University, Romania
- **Dr. Chuyang Y. Tang**, University of Hong Kong, Hong Kong
- **Dr. Pavel Tlustoš**, Czech University of Life Sciences Prague, Czech Republic
- **Dr. Yi-Tin Wang**, University of Kentucky, USA
- **Dr. Keisuke Watanabe**, Tokai University, Japan

# KEYNOTE SPEAKERS

The keynote information for the 5<sup>th</sup> World Congress on Civil, Structural, and Environmental Engineering (CSEE'20) is as follows:



**Dr. Marte Gutierrez**  
Concordia University, Canada  
ICGRE'20 Plenary Speaker



**Dr. Adel Hanna**  
Concordia University, Canada  
ICGRE'20 Keynote Speaker



**Dr. Tarek Abdoun**  
Rensselaer Polytechnic  
Institute, USA  
ICGRE'20 Keynote Speaker



**Dr. Nawawi Chow**  
University of Auckland, New  
Zealand  
ICSECT'20 Keynote Speaker



**Dr. Piervincenzo Rizzo**  
University of Pittsburgh, USA  
ICSECT'20 Keynote Speaker



**Dr. James Li**  
Ryerson University, Canada  
ICEPTP'20 Keynote Speaker

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## Invited Speaker



**Dr. Xue Zhang**  
Dalian University of  
Technology, China  
ICSECT'20 Invited Speaker

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## ICGRE'20 PLENARY SPEAKER



**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.

# ICGRE'20 KEYNOTE SPEAKER



**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.

# ICGRE'20 KEYNOTE SPEAKER



**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.

## ICSECT'20 KEYNOTE SPEAKER



**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.

# ICSECT'20 KEYNOTE SPEAKER



**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/>

## ICSECT'20 INVITED SPEAKER



**Titles:** Modelling Bond-slip For Reinforced Concrete Member Considering Transverse Stress: Theory, Test And Numerical Implementation

[Dr. Xue Zhang, Dalian University of Technology, China](#)

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Dr. Zhang held his B.Sc. and Ph.D. from Tianjin University and Dalian University of Technology (DUT) in 2007 and 2015, respectively. Since that he has been on the faculty of School of Civil Engineering at DUT. Meanwhile, he has a postdoctoral research experience majoring in Engineering Mechanics from 2015 to 2018. Dr. Zhang's research interests are primarily in the area of structural engineering, such as retrofitting of existing reinforced concrete (RC) structures and structural nonlinear analysis technologies/models. In the last five years, he had granted over ten research projects with a total budget exceeding 2 million CNY (290,000 USD). Based on the research findings, Dr. Zhang has published more than 30 journal and conference papers, most of which were published on ASCE-Journal of Structural Engineering, ASCE-Journal of Materials in Civil Engineering, Engineering Fracture Mechanics, Materials and Structures, etc. Dr. Zhang is now serving as a member of the Scientific Committee for the 5th International Conference on Structural Engineering and Concrete Technology (ICSECT'20).

# ICEPTP'20 KEYNOTE SPEAKER



**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 Diplomat 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.

# LIST OF PAPERS

The following papers were presented at the 5th World Congress on Civil, Structural, and Environmental Engineering (CSEE'20)

## Geotechnical Infrastructure

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

**Authors:** Ali Shafiee, Javad Jalili

[View Paper](#)

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

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

[View Paper](#)

**Title:** Numerical Investigation on the Performance of Piled Raft Foundation In Soft Clayey Soils

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

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

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

[View Paper](#)

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

**Authors:** Juan Pablo Villacreses, Bernardo Caicedo, Silvia Caro, Fabricio Yopez, Joel Sebastián Puebla

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# LIST OF PAPERS

The following papers were presented at the 5th World Congress on Civil, Structural, and Environmental Engineering (CSEE'20)

## Geotechnical Infrastructure

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

**Authors:** Sukhmander Singh

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

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

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**Title:** Calculation Of Seepage Surface And Water Flow On Pumping Wells For unconfined Aquifers Employing The Network Method

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

[View Paper](#)

**Title:** Influence of Groundwater Velocity and Surface Temperature on Heat Flow in Aquifers

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

[View Paper](#)

**Title:** Simulation Of Salt Intrusion At The Recreation Lake Of Industrial City

**Authors:** Nazarenko Oleksiy, Nazarenko Iryna, Ryabenko Olexandr2; Donenko Iryna

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## Environmental Risk Management And Other Related Topics

**Title:** Applying Bioassays for Investigation of Soils from Suburban Green Sites

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

[View Paper](#)

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

**Authors:** Raphael Ngochindo

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**Title:** Analysis of Global CO<sub>2</sub> Emissions: China's Impacts by Two Stage Least Squares and Threshold Model

**Authors:** Zhiguang Song

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

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

[View Paper](#)

**Title:** Microbiological Risk Assessment in Water Treatment Plants Based on a Combination of Event Analysis, Failure Trees and Predictive Modelling

**Authors:** Gilver Odilon Mendel Kombo Mpindou, E.Chordá Ramón, Eva Garcia

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# LIST OF PAPERS

## Environmental Risk Management And Other Related Topics

**Title:** Physiological Response of Pseudomonas Fluorescens to the Dodecyldimethylamine Oxide in the Presence of a Washing Formulation

**Authors:** Madars Davids, Laura Zorza, Dagnija Vecstaudza, Reinis Rutkis, Turs Selga, Olga Muter

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

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

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**Title:** Biorefinery of Wastes of Meat Processing for Agricultural Applications

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

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**Title:** Ecohydrology: New Challenges for the Evaluation of Safety of the Environment and Human Health through Water Quality Monitoring

**Authors:** Elena Alvareda, Christine Lucas, Jimena Alvarez2, Franco Teixeira de Mello, Pablo Gamazo, Pablo Sierra, Adriana Piperno

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## Concrete Products and Specifications

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

**Authors:** Conhyea M, Goodary R

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

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

[View Paper](#)

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

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

[View Paper](#)

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

**Authors:** Soha Elkassas, Ezzeldin Sayed-Ahmed, Ezzat Fahmy

[View Paper](#)

**Title:** Bending Tests of Connection Structure of Precast Concrete Slabs using Perfobond Strip

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

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## Concrete Products and Specifications

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

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

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**Title:** The Behavior of Concrete Cylinders Confined by JFRP Composites: Effect of KOH Solution

**Authors:** Yasmina Ed-Dariy, Nouzha Lamdouar, Toufik Cherradi, Ancuta Rotaru, Marinela Barbuta, Petru Mihai, Loredana Judele

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**Title:** Rheological Properties of Self-Compacting Concrete with 3-Dimensional Fibres

**Authors:** J. Ramli, B. Nagaratnam, K. Poologanathan, W. M. Cheung, T. Suntharalingam, A. Richardson

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## Concrete Products and Specifications

**Title:** Seismic Performance of Existing Buildings Concrete Shear Wall

**Authors:** S. A. Hossain, A. Bagchi

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**Title:** Extended Application of the Equivalent Mortar Volume Mix Design Method for Recycled Aggregate Concrete

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

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

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

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

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

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

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

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## Geoenvironmental Related Topics

**Title:** Characterization of Ancient Cob Wall of Madagascar for Potential Green and Economical Construction

**Authors:** Andriamalala Anjaramanantenaso Nirina Miraniaina, Ratoarivelo Manitrinala, Goodary Rajeshwar, Andriamahefa Augustin

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**Title:** Tropical Dendroclimatology in the Ecuadorian Amazon with *Cedrela odorata*

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

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

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

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## Transportation Geotechnics, Engineering and Technology

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

**Authors:** Christopher Weir, Slobodan B. Mickovski

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

**Authors:** Mena I. Souliman, Nitish R. Bastola, Waleed A. Zeiada

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

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

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

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

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## Geotechnical Design and Modelling

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

**Authors:** Ahmed Elgamal

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

**Authors:** Ahmed Elgamal

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

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

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

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

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**Title:** Probabilistic Analysis of Slope Stability in Soils and Soft Rocks

**Authors:** Domingo E. Delgado Martínez, PhD1, José R. Mena Carmona , Geillyn V. Castro Mora

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