

PROCEEDINGS OF THE 8th WORLD CONGRESS ON CIVIL, STRUCTURAL, AND ENVIRONMENTAL ENGINEERING (CSEE'23)

MARCH 29 - 31, 2023 |LISBON, PORTUGAL

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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 8th World Congress on Civil, Structural, and Environmental Engineering (CSEE 2023).

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.

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

We thank you for your participation and contribution to the 8th World Congress on Civil, Structural, and Environmental Engineering (CSEE 2023). We wish you a very successful and enjoyable experience.

Dr. Hany El Naggar *Congress Chair and Proceedings Editor CSEE 2023*

Dr. Joaquim Barros *Congress Co-Chair and Proceedings Editor CSEE 2023*

Dr. Paulo Cachim *Congress local Committee Member CSEE 2023*

ABOUT CSEE'23

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'23 - 8th International Conference on Geotechnical Research and Engineering ICSECT'23 - 8th International conference on Structural Engineering and Concrete Technology

ICEPTP'23 - 8th 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

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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 <u>Portico</u> (one of the largest community-supported digital archives in the world)



SCIENTIFIC COMMITTEE

We would like to thank the following for accepting to act as a member of the Scientific Committee for the CSEE'23 Congress:

Scientific Committee Members for ICGRE'23

- Dr. Anil Cherian, Strainstall, UAE
- Dr. Susanga Costa, Deakin University, Australia
- Dr. Johan Clausen, Aarhus University, Denmark
- Dr. Ahmed Fahmy, 30 Forensic Engineering, Canada
- Dr. Johann Facciorusso, University of Florence, Italy
- Dr. Russell A. Green, Virginia Tech, USA
- Dr. Marte Gutierrez, Colorado School of Mines, UK
- Dr. Rajeshwar Goodary, Université des Mascareignes, Mauritius
- Dr. Victor Kaliakin, University of Delaware, USA
- Dr. Majidreza Nazem, RMIT University, Australia
- Dr. Antonio Miglio, Consulting Engineer, Italy
- Dr. Nunziante Squeglia, University of Pisa, Italy
- Dr. Ondra Sracek, Palacky University in Olomouc, Czech Republic
- Dr. Roger Tilley, University of California Santa Cruz, USA
- Dr. Farshid Vahedifard, Mississippi State University, USA
- Dr. Hsin-Fu Yeh, National Cheng Kung University, Taiwan

SCIENTIFIC COMMITTEE

Scientific Committee Members for ICSECT'23

- Dr. Federico Accornero, Politecnico di Torino, Italy
- Dr. Fahid Aslam, Prince Sattam bin Abdulaziz University, KSA
- Dr. Firas AL MAHMOUD, University of Lorraine, France
- Dr. Michele Barbato, University of California, USA
- Dr. Chia-Ming Chang, National Taiwan University, Taiwan
- Dr. Nawawi Chouw, University of Auckland, New Zealand
- Dr. Bassam A. Izzuddin, Imperial College London, UK
- Dr. Tribikram Kundu, University of Arizona, USA
- Dr. Venkatesh Kodur, Michigan State University, USA
- Dr. Beatriz Martin-Perez, University of Ottawa, Canada
- Dr. Vangelis Marinakis, National Technical University of Athens, Greece
- Dr. Saber Moradi, Toronto Metropolitan University, Canada
- Dr. J.N Reddy, Texas A&M University, USA
- Dr. M. Shamim Miah, Graz University of Technology (TU Graz), Austria
- Dr. Kejin Wang, Iowa State University, USA

SCIENTIFIC COMMITTEE

Scientific Committee Members for ICEPTP'23

- Dr. Shahid Azam, University of Regina, Canada
- Dr. Elena Alvareda, University of the Republic of Uruguay, Uruguay
- Dr. Valentina Busini, Politecnico di Milano, Italy
- Dr. Fatma Esen, Uludag University, Turkey
- Dr. Emma Hellawell, University of Surrey, UK
- Dr. Jennifer Gubitosa, Università degli Studi di Bari Aldo Moro, Italy
- Dr. Gordon Huang, University of Regina, Canada
- Dr. Mervat El-Hoz, CEO, Environmental Engineering Consultin, Australia
- Dr. Stuart Khan, University of New South Wales, Australia
- Dr. Meysam Majidi Nezhad, Sapienza University of Rome, Italy
- Dr. Vito Rizzi, Università degli Studi di Bari Aldo Moro, Italy
- Dr. Grzegorz Sierpiński, Silesian University of Technology, Poland
- Dr. Wai Yuen Szeto, University of Hong Kong, Hong Kong
- Dr. Keisuke Watanabe, Tokai University, Japan
- Dr. Shunde Yin, University of Waterloo, Canada
- Dr. Chuyang Y. Tang, University of Hong Kong, Hong Kong

PLENARY/KEYNOTE SPEAKERS

The keynote information for the 8th World Congress on Civil, Structural, and Environmental Engineering (CSEE'23) is as follows:

Plenary Speakers



Dr. Bruce E. Rittmann Arizona State University, USA ICEPTP'23 Plenary Speaker



Dr. Surendra P. Shah University of Texas at Arlington; Northwestern University, USA ICSECT'23 Plenary Speaker

Keynotes Speakers



Dr. Arul Arulrajah Swinburne University of Technology, Australia ICGRE'23 Keynote Speaker



Dr. Leon Higley University of Nebraska-Lincoln, USA ICEPTP'23 Keynote Speaker



Dr. Mamadou Fall University of Ottawa, Canada ICGRE'23 Keynote Speaker



Dr. Ayman Mosallam University of California, USA ICSECT'23 Keynote Speaker



Dr. Margarida J Quina University of Coimbra, Portugal ICEPTP'23 Keynote Speaker

<u>Dr. Zahari Zlatev</u>



Dr. Khaled Sennah Toronto Metropolitan University (formerly Ryerson University), Canada ICSECT'23 Keynote Speaker



Dr. Zahari Zlatev Aarhus University, Denmark ICEPTP'23 Keynote Speaker

PLENARY SPEAKER



Titles: Destroying PFAS by Combining Nanoparticle and Microbial Catalysis <u>Dr. Bruce E. Rittmann, Arizona State University,</u> <u>USA</u>

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

PLENARY SPEAKER



Titles: Climate Change and Innovations in Concrete Technology <u>Dr. Surendra P. Shah, University of Texas at</u> <u>Arlington; Northwestern University, USA</u>

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



Titles: Innovative Usage of Recycled Waste Materials in Roads <u>Dr. Arul Arulrajah, Swinburne University of</u> <u>Technology, Australia</u>

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



Titles: Gas Generation and Migration in Deep Geological Radioactive Waste Repositories **Dr. Mamadou Fall, University of Ottawa, Canada**

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



Titles: Reducing Environmental Pollution from Pesticides through Increasing Environmental Resistance and Reducing Use <u>Dr. Leon Higley, University of Nebraska-Lincoln,</u> <u>USA</u>

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



Titles: Durable Pultruded Composites: A Myth or Reality? **Dr. Ayman Mosallam, University of California, USA**

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



Titles: Classification of Waste: Assessment of HP 14 Ecotoxicity <u>Dr. Margarida J Quina, University of Coimbra,</u> <u>Portugal</u>

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



Titles: Advances in the Canadian Highway Bridge Design Code for Analysis and Design of Bridge Superstructure <u>Dr. Khaled Sennah, Toronto Metropolitan</u> <u>University (formerly Ryerson University), Canada</u>

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



Titles: Applying Digitalization of the Transport of Air Pollution Pollutants Over Europe in the Efforts to Study More Efficiently Some Dangerous Effects <u>Dr. Zahari Zlatev, Aarhus University, Denmark</u>

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Zahari Zlatev received his MSc from the Sofia University and his PhD from the Sct. Petersburg University. He is now emeritus senior scientist at the Department of Environmental Science of Aarhus University, Denmark, where he worked during many years. He spent a sabbatical year at the University of Illinois at Urbana-Champaign.

Zahari Zlatev developed, together with several of his co-workers, the Unified Danish Eulerian Model (UNI-DEM), which is used by scientists from several European countries in many environmental and climate change studies. He participated in many international scientific projects.

Main areas of research: Scientific Computing, Applied Mathematics and Air Pollution Modelling (including here studying the influence of climatic changes on high pollution levels). Zahari Zlatev published seven monographs. He has been editor of many proceedings volumes and twenty special issues of international journals, has published 182 papers in international journals, 233 papers in proceedings of international conferences and more than 200 institutional reports.Zahari Zlatev has been involved in training young specialists; including graduated students and PhD students. Zahari Zlatev organized five international conferences. Moreover, Zahari Zlatev was one of organizers of sixteen minisymposia at international conferences. He has been an invited speaker at 53 international conferences and many times a member of the organizing committee of international workshops and conferences.

The following papers were presented at the 8th World Congress on Civil, Structural, and Environmental Engineering.

Soil and Rock Mechanics and Characterization

A Preliminary Insight into the Effects of Tailing Wastes Addition on Metakaolinbased Geopolymers

Authors: Fernando Lameiras, Carolina Freire, Gianluca Bella

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

Authors: Gianluca Bella and Guido Musso

Mechanical Response of Tailings under Monotonic Triaxial Tests in Unsaturated and Nearly Saturated Conditions Authors: Gianluca Bella

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

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

Interpretation of Cone Penetration Tests to Characterize Tropical Residual Soils Using Machine Learning Authors: Jeniffer Viegas, António Gallardo, Lucas Bottaro, Rodrigo Marinaro

Influence of Hammer Energy Correction on SPT Correlations and Interpretation Authors: Ayush Kumar, Anbazhagan Panjamani, Yadhunandan ME

Application of Full-Waveform Acoustic Borehole Logging to Detect and Characterize Rock Mass Fracture

Authors: Tartoussi Nourhan, Lataste Jean-François, Rivard Patrice, Barbosa Nicolás

Soil and Rock Mechanics and Characterization

Application of Full-Waveform Acoustic Borehole Logging to Detect and Characterize Rock Mass Fracture

Authors: Tartoussi Nourhan, Lataste Jean-François, Rivard Patrice, Barbosa Nicolás D.

<u>Grain-Based Modeling Of The Macro-Mechanical Behavior Of Crystalline Rock</u> <u>Considering The Heterogeneity Of Grain Boundary Contacts</u> Authors: Xiongyu Hu, Marte Gutierrez, Zhiwei Yan

Estimating Particle Size Distribution of Mine Dump Materials using CenterMask <u>Neural Network</u> Authors: Shubham Shrivastava, Debasis Deb

Analysis of a High Railway Slope Formed by Highly Jointed Rock Mass Authors: Asli Can, Yasin Yasin, Candan Gökçeoğlu



Geoenvironmental Related Topics

Numerical Modelling and Intervention Measures for Snow Avalanche Protection of the Blattbach Railway Tunnel

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

Effect of Soil Type on Efficiency of Recycled Jute Fibre as Natural Reinforcing Material

Authors: : Aditya Parihar, Kailash Attri, Babita Saini

Forecast Rainfall Density by Utilizing Machine Learning Models Authors: Sung-Chi Hsu, Alok Kumar Sharma

<u>Analysis of the Load Displacement Behaviour of Bored Pile using Different Soil</u> Constitutive Models for Chittagong Soil

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

Deformation Behaviour Analysis Using Finite Element Method during Deep Excavation in Dhaka City Authors: Sultan Al Shafian, Md Nafis Imtiyaz, Mostafiz Emtiaz

Stress-Displacement Distribution during Subway Station Construction Using CAPS Method

Authors: Ehsan Taherabadi, Amir Aminnia

The Effect of Granulate Waste Tires on the Geotechnical Properties of Clays Authors: Fauzi H. Jarushi, Abdullah Talibullah

Geoenvironmental Related Topics

Hydrogeochemical Analysis as a Tool to Verify Seepage Flow Paths in an Earth Dam

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

<u>Performance of Three-Tiered Geogrid Reinforced Soil Wall with Modular Concrete</u> Facing Block: A Case Study

Authors: Siamak Yoosefi Sigari, Hadi Barghemadi, Amir Akbari Garakani, Christopher L. Meehan

An Experimental Investigation of Environmentally Friendly Concrete Reinforced With Graphene Nanoplatelets Authors: Leidys Johana Jaramillo, Robin Kalfat

<u>Suitability of Laboratory Compaction Procedure for Secondary Materials</u> Authors: Deepesh Bansal, Debaprakash Parida, G V Ramana, Manoj Datta

Field Investigation on Complete Replacement of Granular Subbase with Flyash and Blast Furnace Slag in Flexible Pavement Authors: M. D. Bakare, J. T. Shahu, S. Patel

Sustainable Biodiesel Production from Waste Cooking Oil and Waste Animal Fats Authors: Sahar Al Mawaali1, Khadija Al Balushi, Yasmine Souissi

<u>Tied-Back Sheet Pile Wall Collapse – A Case Study</u> Authors: Ahmed Fahmy, Vito Schifano

Sustainable Development of the Engineering Geological Environment of Urban Areas: Transition from Theory to Practical Solutions Authors: Viacheslav Iegupov, Gennadii Strizhelchik, Rajeshwar Goodary

Design and Modelling

Shear Strength and Bearing Capacity of FibreReinforced Sand Authors: Magdi El-Emam, Ashraf Amin

Correlation of SPT-N & CPT Parameters of Dhaka Soil

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

Interpretation of Static Load Tests on the Burj Khalifa's Foundation Piles Authors: Anil Cherian

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

Authors: Jorge Los Santos, Esteban Fraile, Javier Ferreiro

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

Authors: Carlos González, Jorge Los-Santos, Javier Ferreiro, Esteban Fraile

Implementing Variations on Geotechnical Measurements into FEM Soil Material Parameters

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

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

Authors: Osama ElSahly, Mohamed AlQahtani, Akmal Abdelfatta

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

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

Design and Modelling

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

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

On the Numerical Modelling of Steel Beams Strengthened by Purely Fastened FRP Sheets

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

<u>Testing and Analysis of Tapered Pile Response under Vertical Loading in Loose and</u> <u>Dense Cohesionless Material</u>

Authors: Chinju Vijayan, Ramanathan Ayothiraman

Optimising Design of Temporary Working Platforms Made From Hydraulically Bound Materials Authors: Sandra Misiarz, Paul Beetham

From Scaled-Down to Full-Scale Rockfill Dams with Dry-Stone Pitching: A Numerical Study Authors: Ali Haidar, Eric Vincens, Fabian Dedecker, Roland Plassart

Electrical and Thermal Properties of Wollastonitebased Inorganic Phosphate Cement Modified with Fibres and Recycled Rubber Aggregates Authors: Chinedu A. Ajoku, Anaclet Turatsinze, Ariane Abou-Chakra

Assessment of the Theoretical Methodology Used in the Canadian Foundation Engineering Manual for Piles Design in Sand Authors: I. M. Ezz, H. El Naggar

Environmental Protection

Gold Nanoparticles from Grape Pomace Wastes: Cosmetic and Biomedical Applications

Authors: Vito Rizzi, Jennifer Gubitosa, Anna Laurenzana, Francesca Scavone, Elena Frediani, Gabriella Fibbi, Paola Fini, Pinalysa Cosma

Entrapment of Nickel in Ferrochrome Ash by Native Lysinibacilus sp Bacteria Authors: Mahindra Kothuri, Devatha CP

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

Authors: Jennifer Gubitosa, Vito Rizzi, Filippo Maggi, Giovanni Caprioli, Ahmed M Mustafa, Nicoletta De Vietro, Antonella Aresta, Paola Fini, Pinalysa Cosma

<u>Preliminary Screening for Heavy Metals in Sediments of Urban Streams from</u> <u>Uruguay</u>

Authors: Elena Alvareda, Jimena Alvarez, Sofía Da Rocha, Adriana Piperno, Matías Salvo, Pablo Gamazo, Valery Bühl, Bárbara Suarez, Rafael Navas and Franco Teixeira de Mello

Reducing Environmental Impact of Drilling Operations through the Implementation of Organic Waste Additives for Environmental Protection Authors: Biltayib Misbah, Rana N. Malhas, Rida Elgaddafi

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

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

Environmental Protection

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

Authors: Rafic Ayass, Samir Mustapha, Darine Salam

Electrokinetic Remediation for Heterogeneous Soils Authors: Ikrema Hassan, Eltayeb Mohamedelhassan

Quantitative Assessment with Watershed Model on Drinking Water Protection Areas, The Taiwanese Case Authors: Chi-Feng Chen, Shyh-Fang Kang, Jen-Yang Lin

<u>Precision Application of Manure and Promising Pollutant Mitigation</u> <u>Options</u> Authors: Asgedom H., Schoenau J., Hlus Q., Soolanayakanahally R.,

Akhter F., Derdall E., Svendsen E.

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

Rapid Classification of Microplastics by Using the Application of a Convolutional Neural Network Authors: Pensiri Akkajit, Arsanchai Sukkuea

Modelling and Simulation

Investigation of the Separation Distance for Preventing Seismic Effects on Reinforced Concrete Buildings

Authors: Tolunay Ibrahimagaoglu, Arcan Yanik

Effect of Reinforcement Corrosion on Axial and Flexural Performance of R.C. Columns

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

Influence of Load Pattern on the Shear Strength of Hollow Core Slabs in Uncracked Sections

Authors: Marco Breccolotti, Marco Pecetti, Costanza Vittoria Fiorini

Determination of Zones at Risk of Flooding During A Breakage of an "El Abiod Ghardaia" Dam Authors: Sarah Kreri, KEBIR Lahsen Wahib, Abd El Fetah Azzouz

Performance Analysis of the Ituango Dam, Based On Geotechnical Instrumentation and Models Authors: Zorany S. Zapata, María C. Sierra, Joshua Naranjo

<u>Sensitivity of Raft Foundation's Structural Behaviour to Changes in Geometry and</u> <u>Materials</u> Authors: Sami W. Tabsh, Magdi Elemam

Air, Water and Wastewater Pollution and Treatment

Selective Removal and Degradation of Ciprofloxacin Bearing Wastewater by HKUST-1

Authors: Divya Dixit, Sudipta Sarkar

<u>Air Quality and Bioclimatic Conditions in the Touristic City Centre of Rhodes from</u> June to November 2022

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

<u>Riverine Macro-litter: Plastic Pollution in Different Tributaries of the Ishëm River</u> (<u>Albania</u>)

Authors: Laura Gjyli, Jerina Kolitari, Fundime Miri

<u>Nutrient Removal Efficiency of a Fibrous Polypropylene Biofilm Reactor in Pilot</u> <u>Scale</u>

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

<u>The Toxic Effect of Drug Residues on the Germination of Cultivated Plants</u> Authors: Szilárd Székely, Eszter Rápó, Katalin Mihályfalvi, Szende Tonk

<u>Comparing the Efficiency between Living and NonLiving Macroalgal Biomass for</u> <u>Removing Classical and Emerging Contaminants from Complex Mixtures</u> Authors: Jéssica Jacinto, Bruno Henriques, Thainara Viana, Nicole Ferreira, João Pinto, Daniela Tavares, Eduarda Pereira

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