

PROCEEDINGS OF THE 6TH WORLD CONGRESS ON CIVIL, STRUCTURAL, AND ENVIRONMENTAL ENGINEERING (CSEE'22)

JUNE 21 - 23, 2021 | LISBON, PORTUGAL | VIRTUAL CONFERENCE

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TABLE OF CONTENTS

Welcome Message from the Conference Chair	3
About CSEE'21	4
Scientific Committee	5
Keynote Speakers	
List of Papers	14
Sponsors	21
Journal Publication	22
CSEE'22	23
Ethics & Malpractice	
Contact Us	29

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 6th World Congress on Civil, Structural, and Environmental Engineering (CSEE 2021).

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 6th World Congress on Civil, Structural, and Environmental Engineering (CSEE 2021). We wish you a very successful and enjoyable experience.

Dr. Hany El Naggar

Congress Chair and Proceedings Editor CSEE 2021

Dr. Joaquim Barros *Congress Co-Chair and Proceedings Editor CSEE 2021*

Dr. Paulo Cachim *Congress local Committee Member CSEE 2021*

ABOUT CSEE'21

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'21 - 6th International Conference on Geotechnical Research and Engineering **ICSECT'21** - 6th International conference on Structural Engineering and Concrete Technology

ICEPTP'21 - 6th 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 <u>Portico</u> (one of the largest communitysupported 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'21 Congress:

Scientific Committee Members for ICGRE'21

- Dr. Tarek Abdoun, Rensselaer Polytechnic Institute, USA
- Dr. Mohamed Arab, University of Sharjah, UAE
- 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. 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. Nunziante Squeglia, University of Pisa, Italy
- Dr. Roger Tilley, University of California Santa Cruz, USA
- Dr. Helen Mitrani, Newcastle University, UK
- Dr. Rathje, Ellen, University of Texas at Austin, USA
- Dr. Dante Fratta, University of Wisconsin-Madison, USA

SCIENTIFIC COMMITTEE

Scientific Committee Members for ICSECT'21

- Dr. Michele Barbato, University of California, Davis, USA
- Dr. Nawawi Chouw, University of Auckland, New Zealand
- Dr. Markus Dann, University of Calgary, Canada
- 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. Beatriz Martin-Perez, University of Ottawa, Canada
- Dr. M. Shamim Miah, International University of Business Agriculture and Technology (IUBAT), Bangladesh
- Dr. Sami Tabsh, American University of Sharjah, UAE
- Dr. Kejin Wang, Iowa State University, USA
- Dr. Saber Moradi, Ryerson University, Canada
- Dr. Brian Uy, University of Sydney, Australia
- Dr. Nawawi Chouw, University of Auckland, New Zealand
- Dr. Jianqiao Ye, Lancaster University, UK
- Dr. Qingli Dai, Michigan Technological University, USA

SCIENTIFIC COMMITTEE

Scientific Committee Members for ICEPTP'21

- Dr. James Ball, University of Technology Sydney, Australia
- Dr. Valentina Busini, Politecnico di Milano, Italy
- Dr. Mervat El-Hoz, University of Balamand, Lebanon
- Dr. Stuart Khan, University of New South Wales, Australia
- 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. Meysam Majidi Nezhad, Sapienza University of Rome, Italy
- Dr. Grzegorz Sierpiński, Silesian University of Technology, Poland
- Dr. Wai Yuen Szeto, University of Hong Kong, Hong Kong
- Dr. Chuyang Y. Tang, University of Hong Kong, Hong Kong
- Dr. Pavel Tlustoš, Czech University of Life Sciences Prague, Czech Republic
- Dr. Keisuke Watanabe, Tokai University, Japan
- Dr. Gordon Huang, University of Regina, Canada
- Dr. Jalil Shadbahr, National Research Council of Canada, Canada
- Dr. Martin Romantschuk, University of Helsinki, Finland
- Dr. Zongbo Shi, University of Birmingham, UK

PLENARY AND KEYNOTE SPEAKERS

The keynote information for the 6th World Congress on Civil, Structural, and Environmental Engineering (CSEE 2021) is as follows:



Dr. Chul B. Park Concordia University, Canada ICEPTP 2021 Plenary Speaker



Dr. Dante Fratta University of Wisconsin-Madison, USA ICGRE 2021 Keynote Speaker



Dr. Ellen Rathje University of Texas at Austin, USA ICGRE 2021 Keynote Speaker



Dr. Zongbo Shi University of Birmingham, UK ICEPTP 2021 Keynote Speaker



Dr. Richard J. Bathurst Royal Military College of Canada, Canada ICGRE 2021 Keynote Speaker



Dr. Martin Romantschuk University of Helsinki, Finland ICEPTP 2021 Keynote Speaker



Michigan Technological University, USA ICSECT 2021 Keynote Speaker

Dr. Qingli Dai

Dr. Nawawi Chouw University of Auckland, New Zealand ICSECT 2021 Keynote Speaker

PLENARY SPEAKERS



Titles: Superhydrophobic and Oleophilic Polymeric Open Cellular Foams for Efficient Oil/Water Separation <u>Dr. Chul B. Park, Colorado School of Mines, USA</u>

View Abstract

Return to Top

Prof Chul Park received his PhD from MIT in 1993. He is Distinguished Professor of Microcellular Engineered Plastics at University of Toronto. He is also the NSERC Senior Industrial Research Chair in Multi-Functional Graphene-Based Polymer Nanocomposites and Foams. He has an international recognition in polymer foam area. He has published more than 1400 papers, including over 400 journal papers and four books with 75 Scopus H-index. Prof Park serves as Editor-in-Chief for Journal of Cellular Plastics. He has been inducted into 5 academies as an Academician Fellow. He is also a fellow of 5 other professional societies including Society of Plastics Engineers.

Dr. Yifeng Huang (Co-author and Co-speaker)

Dr. Huang received his Ph.D. in Chemical Engineering from the University of Waterloo in 2016. He is a Postdoctoral Fellow working in the Microcellular Plastics Manufacturing Laboratory at the University of Toronto. His research interests focus on designing and fabricating composite membranes and multifunctional polymer porous materials for various applications in chemical/environmental engineering, especially the chemical separation, water and wastewater treatment, and environmental remediation. He has published 26 journal papers with 11 Scopus H-index. Dr. Huang serves as Guest Editor for Processes.



Titles: Seismic Risk Assessment for Earth Slopes and Dams <u>Dr. Ellen Rathje, Ryerson University, Canada</u>

View Abstract

Return to Top

Dr. Ellen M. Rathje is the Janet S. Cockrell Centennial Chair in Engineering in the Department of Civil, Architectural, and Environmental Engineering at the University of Texas at Austin (UT), and Senior Research Scientist at the UT Bureau of Economic Geology. She has expertise in the areas of geotechnical earthquake engineering, engineering seismology, induced seismicity, field reconnaissance after earthquakes, and remote sensing. Dr. Rathje is the Principal Investigator for the DesignSafe-ci.org cyberinfrastructure for the NSF-funded Natural Hazards Engineering Research Infrastructure (NHERI). She has been honored with various research awards, including the 2018 William B. Joyner Lecture Award from the Seismological Society of America and the 2010 Huber Research Prize from the American Society of Civil Engineers. She was elected Fellow of the American Society of Civil Engineers in 2016.



Titles: Engineering Applications of Distributed Fiber Optic Sensing Arrays <u>Dr. Dante Fratta, University of Wisconsin-Madison,</u> <u>USA</u>

View Abstract

Return to Top

Dante Fratta graduated with a Ph.D. from Georgia Tech in 1999. He is currently a faculty member in Geological Engineering and Civil & Environmental Engineering at the University of Wisconsin-Madison, where he teaches Soil Mechanics, Applied Geophysics, and advanced courses in Wave Propagation in Geomaterials and Engineering Behavior of Soils. Dante's research interests include Near Surface Geophysics and Experimental Geotechnical Engineering. For the last ten years, Dante has been collecting, analyzing, and interpreting distributed optic sensing data to monitor the near subsurface.



Titles: From Physical Measurements to Design Codes for MSE Walls <u>Dr. Richard J. Bathurst, Royal Military College of</u> <u>Canada, Canada</u>

View Abstract

Return to Top

Dr. Bathurst (P. Eng., Ph.D., FRSC, FEIC, FCAE) is Professor Emeritus of Civil Engineering at the Royal Military College of Canada where he has taught since 1980. He is a Past-President of the Engineering Institute of Canada, the Canadian Geotechnical Society (CGS) and the International Geosynthetics Society. Dr. Bathurst has authored or co-authored more than 450 papers in referred journals, conference proceedings and research monographs. He has made contributions in the areas of micromechanics of granular soils, railway ballast and track dynamics, pavements, unsaturated soil-geotextile behaviour, constitutive modelling of geosynthetic soil reinforcement materials and systems, new test methods and the development of transparent granular soil surrogates for geotechnical laboratory-scale testing. For more information Please visit:

http://avestia.com/CSEE2021_Proceedings/files/speakers.html



Titles: Smaller Than Expected Benefit of COVID-19 Lockdown on Urban Air Quality <u>Dr. Zongbo Shi, University of Birmingham, UK</u>

View Abstract

Return to Top

Zongbo Shi received his PhD from China University of Mining and Technology (Beijing). He worked in Tsinghua University, Prefectural University and University of Leeds as a research fellow before joining the University of Birmingham. He is currently a profess of Atmospheric Biogeochemistry. His group focuses on Sources and emissions of chemical substances to the atmosphere, physical and chemical transformation of aerosol particles and their constituents in the atmosphere, and the interaction of atmospheric chemistry with biogeochemistry of ecosystems.



Titles: In Situ Bioremediation of Contaminated Soil and Ground Water; Lab Optimization Leads to Functional Combinations at Field Sites <u>Dr. Martin Romantschuk, University of Helsinki,</u> <u>Finland</u>

View Abstract

Return to Top

Prof. Martin Romantschuk received his PhD at the University of Helsinki in 1987. He is Professor of Environmental Biotechnology at University of Helsinki and now leads a research group of 8 scientists. The research deals with both basic and applied aspects of environmental biotechnology. One main research topic is soil bioremediation with particular emphasis on technology used in situ. He has supervised 26 PhD theses and published over 130 scientific articles in international scientific periodicals and a number of other scientific publications and book chapters. His WoS H-index is 36. He is a member of the Finnish Society of Sciences and Letters.



Titles: Characterization and Mechanism Analysis of Alkali-Silica Reaction in Cementitious Materials <u>Dr. Qingli Dai, Michigan Technological University</u>, <u>USA</u>

View Abstract

Return to Top

Dr. Qingli Dai is a professor in the Department of Civil and Environmental Engineering at Michigan Tech. Dr. Dai's primary professional and scholarly contributions have dealt with material design, characterization, test and analysis for sustainable civil infrastructure applications. She has published over 160 technical papers including about 100 journal articles and other 60+ conference papers. Dr. Dai has been a Principle Investigator of several research projects funded by US National Science Foundation and Michigan Department of Environmental Quality. Other sponsors of her research program include State Department of Transportation and Michigan Space Grant Consortium. Dr. Dai received 2017 Best Paper Award for the ASCE Journal of Aerospace Engineering. Dr. Dai is an associate editor for ASCE Journal of Materials in Civil Engineering since November 2011. She is a member of ASCE granular material committee, bitumen committee, pavement committee, and geophysics committee. She is also a member of ACI committee 201,236 and 555.



Titles: The Behaviour of a Structure within a Cluster of Structures in Earthquakes <u>Dr. Nawawi Chouw, University of Auckland, New</u> <u>Zealand</u>

View Abstract

Return to Top

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 PhD in Civil Engineering from the Ruhr University Bochum in Germany. 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.

For more information Please visit:

http://avestia.com/CSEE2021_Proceedings/files/speakers.html

The following papers were presented at the 6th World Congress on Civil, Structural, and Environmental Engineering.

GEOTECHNICAL INFRASTRUCTURE

Title: Effect of Stage Compressive load on Single Pile Subjected to Time Effect: A Numerical Investigation

Authors: Kajal Tarenia, Nihar Ranjan Patra, Rajesh Sathiyamoorthy, Apurba Monda

View Paper

Title: Evolution of Transient Saturated Zones and Stability Analysis of High Liquid Limit Red Clay Slope under Rainfall Conditions **Authors:** Xiang Qiu

View Paper

Title: Numerical Prediction of the Drying-Wetting Process in a River Levee and Floodplain

Authors: Chiara Rossignoli, Donatella Sterpi

View Paper

Title: Study of the Influence of Sheet Pile Location under Dams on Groundwater Flow and Pore Pressure with Network Method **Authors:** Encarnación Martínez-Moreno, Gonzalo García-Ros, Iván Alhama

View Paper

Title: Effect of Deep Excavations on Adjacent Structures and Importance of Deep Excavation Support

Authors: Nagham Ghamraoui, Diala Tabbal

View Paper

GEOTECHNICAL INFRASTRUCTURE

Title: A Study of the Influence of Water Content Profile on the Dynamic Behavior of Rammed Earth Structures

Authors: Juan P. Villacreses, Bernardo Caicedo, Felipe Poveda, Fabricio Yepez, Laura Ibagón, Julián Buriticá

View Paper

Title: Validation of Correlation Factor between Es and Qc Using Load Tests

Authors: Omar El Khaled, Emmanouil Spyropoulos, Abdulrahman Alnaim

View Paper

GEOENVIRONMENTAL RESEARCH

Title: Geotechnical Risks through the use of Geographic Information System in the Urbanized Area of the Upper City of Antananarivo Madagascar **Authors:** Andriamalala Anjaramanantenasoa Nirina Miraniaina, Goodary Rajeshwar, Ratoarivelo Manitriniala

View Paper

Title: Temperature Profiles in a Typical River-Aquifer Interaction Scenario **Authors:** José Antonio Jiménez-Valera, Francisco Alhama

View Paper

Title: Utilisation of Pervious Concrete for Removal of Heavy Metals in Contaminated Waters: Opportunities and Challenges **Authors:** Ayanda N. Shabalala

View Paper

BIOTECHNOLOGY AND ENVIRONMENT

Title: Combined Heat and Drought Tolerance of Tomato Plants when Treated with different Arbuscular Mycorrhizal Fungi **Authors:** Imane Haddidi, Bence Gajdics, Nguyen Hong Duc, Katalin Posta

View Paper

Title: Biotechnological Recovery of Zinc from Low-Grade Sulfide Concentrate during Two-Step Processing **Authors:** Maxim Muravyov

View Paper

COMPOSITES AND CONSTRUCTION

Title: Prioritizing Delay Causes in the Egyptian Building Construction Projects

Authors: Nehal Elshaboury, Hassan Alaa, Abobakr Al-Sakkaf, Ghasan Alfalah, Eslam Mohammed Abdelkader

View Paper

Title: On the Implementation of Machine Learning Models for Emulating Daily Electricity Consumption in Hotel Facilities

Authors: Eslam Mohammed Abdelkader, Abobakr Al-Sakkaf, Nehal Elshaboury and Ghasan Alfalah

View Paper

Title: Use of Artificial Neural Networks for Prediction of Properties of Self-Sensing Concrete **Authors:** Sofija Kekez

View Paper

Title: A Comparative Study of Al2O3, ZnO and Bentonite Effect on Structural Grade Mortar

Authors: Suvash Chandra Paul, Adewumi John Babafemi, Md Jihad Miah

SOIL POLLUTION AND TREATMENT

Title: Applications of Electrokinetic Remediation in Environmental Restoration

Authors: Ikrema Hassan

View Paper

Title: Use of Plant Bioassays for Assessing Mine Tailings Rehabilitation Strategies

Authors: Mariagrazia Proto, Ronan Courtney

View Paper

AIR POLLUTION AND TREATMENT

Title: Evaluating Predicting Aerosol PM10 Concentrations with the WRF-Chem Model, in Lima, in February 2018 **Authors:** Odón Sánchez-Ccoyllo, Alan Llacza, Paula Castesana

View Paper

Title: From Heavy Fuel Oil to Liquified Natural Gas: Electricity Generation Transition in Malta **Authors:** Nirvana Avellino, Juan José Bonello

SOIL AND ROCK MECHANICS AND CHARACTERIZATION

Title: Geo-electrical Evaluation of Compacted Sand-Bentonite Mix Characteristics

Authors: Vaishali Wayal, T.G. Sitharam, Gali Madhavi Latha

View Paper

Title: Material Modelling of Pare rock mass by Finite Element Back Calculation Technique

Authors: Pawan Kumar Singh, Diganta Goswami, Ranjeet Bahadur Singh, Pragati Goswami, Sylvia Kashyap

View Paper

Title: Effect of Grain Size Distribution on Drained Shear Behavior of Poorly Graded Sand **Authors:** Tong Yu, Hanène Souli, Yoan Péchaud, Jean-Marie Fleureau

View Paper

Title: Improving the Properties of Soft Soils using Nano-silica, Slag, and Cement

Authors: A. Eissa, A. Ghazy, M. T. Bassuoni, and M. Alfaro

View Paper

Title: An Experimental Approach of a Driven Pile in Transparent Soils **Authors:** Laura Ibagón, Bernardo Caicedo

MODELLING AND SIMULATION

Title: Numerical Progressive Collapse Analysis of RC Framed Structures **Authors:** Ahmad Shehada, Said Elkholy, Bilal El-Ariss

View Paper

Title: Effect of Beam Design on Progressive Collapse Resistance of RC Framed Structures

Authors: Said Elkholy, Ahmad Shehada, Bilal El-Ariss

View Paper

Title: Geometric Constraints and Dynamic Behavior of a Deployable Footbridge

Authors: Mariano Molina Iniesta, Fernando del Ama Gonzalo, M. Isabel Castilla Heredia, F. Hernando Mansilla, Dolores Gómez Pulido, J. Carlos Sancho Arellano, Covadonga Lorenzo Cueva, Juan García Millan

SPONSORS

International ASET Inc. would like to thank the following sponsors for their support of CSEE 2021:





JOURNAL PUBLICATION

Selected articles from the congress will be published in one of the following journals after a secondary review process:

IJCI - International Journal of Civil Infrastructureg IJEPR - Journal of Environmental Pollution and Remediation

The publication fee will be waived for papers that win the best paper award. Other attendees will receive a 25% discount towards the publication fee of the journal.

These journals have adopted to the open-access model, meaning all free access to the journal's articles and content with no need for subscription. This ensures larger audience and therefore higher citations.

Users are allowed to read, download, copy, distribute, print, search, or link to the full texts of the articles in this journal without asking prior permission from the publisher or the author. This is in accordance with the BOAI definition of open access.

All published papers of IJCI and IJEPR will be submitted to Google Scholar, Microsoft Academic Search, Open J-Gate, Mendeley, Index Copernicus International, Academic Index, Mendeley, Primo Central, and Genomics JournalSeek for possible indexing. Additionally, they will be permanently archived in Portico (one of the largest communitysupported digital archives in the world) and will be assigned unique DOIs.

CSEE'22

The 8th World Congress on Civil, Structural, and Environmental Engineering (CSEE 2022) will be held on April 13 - 15, 2022 in Lisbon, Portugal.



For inquiries and to obtain further information on the congress, please visit the <u>website</u>

You can also email <u>info@cseecongress.com</u> or call us

at: +1-613-834-9999

Publication Ethics and Publication Malpractice Statement

The following statement is mainly based on the <u>Code of Conduct and Best-</u> <u>Practice Guidelines for Journal Editors</u> (Committee on Publication Ethics, 2011).

Scientific Committee

Scientific Committee

Scientific committees consisting of experts in the fields are established. The committees oversee the peer-review and publication process. To see the scientific committee members, please follow the link below. Scientific Committee

Equality and Decisions

One or more reviewer, scientific committee member, or chair, (internal or external), are responsible for evaluating the relevance of the submitted manuscripts to the proceedings, technical and scientific merit, originally, and impact. These evaluations are to be carried out regardless of ethnicity, religion, gender, sexual orientation, political beliefs, and institutions. Successive to peer-review, the Chair has full authority and is solely responsible for the published content and the process thereof.

Confidentiality

Scientific committee member(s) and publishing staff may not disclose manuscripts or their content, directly or indirectly, to anyone other than individuals invited to review the manuscript (whether they accept or not), other reviewers of the same publications, and publishing staff.

Conflicts of Interest

Scientific committee member(s) and publishing staff may not utilize the contents of submitted manuscripts whether accepted or rejected, directly or indirectly for their own research purposes without prior written consent by the authors.

Reviewers

Contribution to Decisions

In order for final decisions to be made regarding acceptance or rejection of papers, we rely on peer-review. Peer-review is the process of experts in the field reading, understanding, and objectively commenting on submitted papers. Through peer-review, scholars give back to the academic and scientific community by helping the chair(s) make decisions regarding manuscripts.

Promptness

Reviewers should promptly notify the chair(s) if they are unable or unqualified to carry out their reviewing duties. Reviewers should do their best to provide the reviews to the chair(s) as promptly as possible, and within the designated time-frame.

Confidentiality

Reviewers must not share the contents of the manuscripts they receive for review, regardless of their decision to review or contents of the review, directly or indirectly, with anyone other than the person who has assigned the review.

Fairness

Reviewers should review manuscripts fairly and objectively, with supporting evidence or arguments, regardless of personal feelings or biases.

Thoroughness

Reviewers should thoroughly read, understand, and provide constructive feedback with the aim of improving the manuscript. Reviewers should aim to identify and report technical issues, irregularities, mistakes, missing citations, and similarity to other published work.

Conflicts of Interest

Invited reviewers should immediately inform the chair(s) in case of a conflict of interest based on competitive, collaborative, personal, family, and other relationships with the authors or people involved in the work.

Authors

Authorship

Only persons who have significantly contributed to the work and the manuscript can be named authors on a paper. These contributions include the idea/concept, design, experiments, evaluation, analysis, drafting or revision of the manuscript, and others. Authors must all have agreed to be named as such and for the manuscript to be submitted. Anyone who has contributed based on the above, but the level of contribution is not significant, may appear in the acknowledgement section of the manuscript.

Accuracy, Originality, and Plagiarism

Authors should describe their work and the results of their work accurately and in full. The level of provided accuracy and detail should be such that a reader can replicate the work independently. Inaccurate, incomplete, fraudulent, and misleading statements are considered unacceptable and unethical. Direct or indirect use of other people's work is not allowed, unless properly cited. Previous works that have influenced the current work should also be cited. Presenting someone else's work as one's own is strictly prohibited and is considered plagiarism.

Data and Material

Authors are encouraged to share their data, software, or other sharable material online, provided copyright and ownership laws surrounding that particular project permit. Authors may also be asked to share such material with the chair(s), and/or reviewers, and must be willing to do so if asked.

Dual Submissions

Submitting a manuscript to more than one venue (conference, journal, etc) simultaneously is not allowed. Presenting previously published work to be considered as a new submission, without a significant new interpretation or analysis, is prohibited.

Conflicts of Interest

Authors must notify the chair(s) at the time of submission, if any factor outside the scope of the research has influenced any step of the work and manuscript writing. Examples of such factors include but are not limited to funding, grants, advisory and consultancy, stock ownership, current or past employment, and memberships, among others. All funding sources should be disclosed in the manuscript.

Animal and Human Subjects

Works involving human and/or animal subjects must ensure that the work has abided by institutional guidelines, and pre-approved by required bodies. Moreover, consent must be acquired from participants, and privacy of subjects must be ensured. All of the above must be specified with clear statements in the manuscript.

Hazardous Material

It should clearly be identified in the manuscripts if the works have involved hazardous chemicals and material, or devices that can be harmful.

Reporting of Mistakes, Errata, and Retractions

If an author identifies a major error in a published paper, he/she must immediately identify the publisher. Regardless of whether a significant error is reported by the authors of the work or other readers, authors are obligated to take the necessary steps to correct the issue. It is decided on a case-by-case basis whether an erratum will be submitted to notify future readers of the error and correction, or whether the paper will be retracted.

Unethical/plagiarism issues mostly result in a retraction, while unintended mistakes will mostly result in the publication of an erratum.

Publisher

Errata and Retractions

The publisher takes the necessary steps to prevent mistakes, academic and scientific misconduct, and unethical behavior, both intended and unintended. When mistakes are reported, the publisher works with chair(s) and authors to publish an erratum clarifying the issue. In cases where the mistakes are severe and significant, the paper might be retracted. If unethical behavior, plagiarism, academic and scientific misconduct, or other such activities are proven to have taken place by an author or authors, the publisher will retract the paper.

Content and Archiving

The publisher preserves and stores all content digitally on their own servers, as well as through partnering with Portico (Digital Preservation and Electronic Archiving Service).

Copyright and Access

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Users are allowed to read, download, copy, distribute, print, search, or link to the full texts of the articles in this proceedings without asking prior permission from the publisher or the author. This is in accordance with the BOAI definition of open access.

Ownership and Management

This conference-proceedings is managed and operated by the International ASET (International Academy of Science, Engineering, and Technology) and Avestia Publishing (the publishing arm of ASET).

Schedule

This conference proceeding accompanies the conference, meaning a new proceedings will be published every year for the corresponding annual conference of this series.

CONTACT US The 6th World Congr viro 🔨 Eng s c Civil, Structral, and _ ering 115 (CSEE 2021) consist 3 culferences. Yu can cont t e h cor ren using the information beld 6th International Conference on Geotechnical ICGRE **Research and Emineering** 2021 Email: info@icgre. Website: https://lig_on_021.icc_e.org 6th International Unference on Souctur Engineeri ICSECT and Concrete chnology 2021 Email: info@icsect.com Website: https://lisbon2021.icsect.com 6th International Conference on Environmental ICEPTP **Pollution, Treatment and Protection** 2021 Email: info@iceptp.com Website: https://lisbon2021.iceptp.com

For inquiries and to obtain further information on the congress, please visit the <u>website</u>

You can also email info@cseecongress.com or call us

at: +1-613-834-9999