The 3rd International Conference on Advances in Civil and Ecological Engineering Research (ACEER 2021)

July 27th-30th, 2021

ONLINE via MS Teams

Conference Program

Co-organizer

I-Shou University
Dept. Civil and Ecological Engineering

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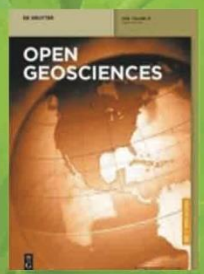

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15:00-16:00	MS Teams Online Conference Testing and Ice Breaking

Wednesday, July 28, 2021 ***MS Teams Link: http://www.academicconf.com/teamslink?confname=aceer2021***	
09:00-09:10	**WELCOME SPEECH** *Prof. Chih-Huang Weng, I-Shou University*
09:10-09:55	**Keynote Speech 1:** Remote Sensing for Ecosystem Services and Urban Sustainability *Prof. John Trinder, The University of New South Wales, Australia*
09:55-10:40	**Keynote Speech 2:** Biochar as A Sustainable Building Material – Lessons and the Way Ahead *Prof. Harn Wei Kua, National University of Singapore, Singapore*
10:40-10:55	**BREAK**
10:55-11:55	**Oral Session 1: Water Recourses Engineering and Hydrologic Engineering (1)**
11:55-14:00	**BREAK**
14:00-14:45	**Keynote Speech 3:** Water Purification from Bacteria, Cyanobacteria, and Toxins by Filtration and Biocidal Free Cations: Modeling of Filtration and Degradation During Filtration *Prof. Shlomo Nir, The Hebrew University of Jerusalem (HUJI), Israel*
14:45-15:30	**Keynote Speech 4:** On−Off Mobilization of Contaminants in Phosphogypsum Waste During Redox Oscillations, and Contaminant Removal Using Steel Industry Magnetite By-Product *Prof. Laurent Charlet, University Grenoble Alpes, France*
15:30-15:45	**BREAK**
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Thursday, July 29, 2021 ***MS Teams Link: http://www.academicconf.com/teamslink?confname=aceer2021***	
09:00-11:50	**Oral Session 2: Civil Engineering, Geological Engineering and Earthquake Engineering (1)**
12:25-14:00	**BREAK**
14:00-17:55	**Oral Session 2: Civil Engineering, Geological Engineering and Earthquake Engineering (2)**
17:55-18:35	**Poster Presentations**

Friday, July 30, 2021 ***MS Teams Link: http://www.academicconf.com/teamslink?confname=aceer2021***	
08:30-12:20	**Oral Session 3: Ecological Engineering and Ecological System**
12:05-13:30	**BREAK**
13:30-17:45	**Oral Session 4: Environmental Engineering and Science**

Part II Keynote Speeches

Keynote Speech 1: Remote Sensing for Ecosystem Services and Urban Sustainability

Prof. John Trinder

Emeritus Professor

School of Civil and Environmental Engineering

The University of New South Wales (UNSW Sydney)

Australia

Biography: John Trinder was employed at the University of NSW, Australia, from 1965-1999, progressing to Professor and Head of the School from 1990-1999. He currently holds the position of Emeritus Professor in the School of Civil and Environmental Engineering at the University of NSW. He was elected Honorary Fellow of UNSW in 2013. He was President (2000-2004) of the International Society for Photogrammetry and Remote Sensing (ISPRS) and is currently an Honorary Member. John has undertaken teaching and research at UNSW for more than 55 years, specialising in Photogrammetry and Remote Sensing and spatial information. He maintains an interest in these areas, and their contributions to studying environmental impacts.

Abstract: Sustainable development and urban sustainability will be described in the presentation, followed by demonstrations of the need for green spaces in cities, and the consequences of fragmentation of green spaces on biodiversity. While cities will continue to exist because of the increases in population around the world, said to reach about 8.5 billion by 2030, proposed desirable minimum green cover are recommended to be of the order of 15% to 20% in CBDs and industrial areas, 25% to 30% in residential and light commercial areas, and up to 50% in suburban areas.

Ecosystem Services (ES) are those services provided by the natural environment and properly functioning ecosystems, for the benefit of humans. They demonstrate the extent of dependence of humans on the natural environment. ES are represented by flows of material, energy and information from natural capital stocks, which combine with manufactured and human capital services to produce human welfare. Expressed another way, human well-being is dependent on interactions between built, social, human and natural capital.

The presentation proposes that assessment of ecosystem services (ES) should be used as a basis for sustainability of urban areas. It will demonstrate how researchers have used geospatial technologies, especially remote sensing, to define ecosystem services (ES) for urban environments and therefore that sustainability of urban areas can be based on the evaluation of demand and supply of ecosystem services.

Recently ES have been listed into four major categories: provisioning, regulating, cultural and amenity service, and supporting and habitat services, describe as follows:
* Provisioning services include material products obtained from ecosystems, including food, fibre, fresh water and genetic resources.
* Regulating services are benefits including regulation of climate, water, pollination and some human diseases.
* Cultural services are the non-material benefits obtained from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experience, as well as their role in supporting knowledge systems, social relations, and aesthetic values.
* Supporting and habitat services are those that are necessary for all other ES, such as biomass production, nutrient cycling, water cycling, provisioning of habitat for species, maintenance of genetic pools and evolutionary processes.

The supply of ES refers to the capacity of a region to supply a service, and demand for ES is the amount actually consumed. Therefore, these two services are combined to form the ecosystem footprint, which is the area needed to generate the ES required by a certain region in a timeframe. The applications of remote sensing technologies for determining supply and demand of ES have been demonstrated by several researchers, while it is recognized that access to remote sensing data at a range of resolutions, as well as volunteer collection of data will be required to achieve rapid compilation of ES. There have been rapid advances in earth observation technologies recently, that enable the collection of data on the terrain surface, and characteristics of land use/land cover. There are therefore likely to be improved satellite data available to determine more detailed estimates of supply and demand of ES in future

Keywords: Sustainable Development, Urbanization, Remote Sensing, Ecosystem Services, Natural Capital

Keynote Speech 2: Biochar as A Sustainable Building Material – Lessons and the Way Ahead

Prof. Harn Wei Kua

Sustainable Building Materials
National University of Singapore
Singapore

Biography: Harn Wei Kua is Associate Professor of Sustainable Building Materials at the National University of Singapore. He earned his PhD from the Building Technology Program, Massachusetts Institute of Technology (MIT). His research specializes in upcycling of waste into high performance sustainable building materials; his current focus is on the use of biochar as a partial replacement for sand and/or cement in concrete, while improving the mechanical and hygroscopic properties of concrete. He also specializes in sustainability assessment of building materials – he creates and applies life cycle sustainability assessment and Circular Economy methods to evaluate building materials and strategies of recycling waste into building materials.

Harn Wei Kua is Associate Editor of Critical Review in Environmental Science and Technology (IF: 8.302) and Energy and Environment (IF: 1.775). He is also the University's Thrust Lead for construction 3D printing and the lead for the Smart Materials Laboratory of the Department of Building. To date, he has won numerous academic awards and honors, including the MIT Carroll L. Wilson Award, and he has been invited to deliver more than 70 speeches in local and international conferences, seminars and summer schools.

Abstract: Biochar is well known as a sustainable and, possibly, carbon-negative material. Widely popular as a soil remediation agent and pollutant adsorbent, the use of biochar's physical properties to enhance concrete's chemical and physical processes has a relatively short history.

In the last 9 years, much advances have been made in this field. This talk aims to provide audience an interesting and accessible account of the major developmental milestones in the short history of biochar concrete and biochar cementitious materials. The sustainability benefits of different types of biochar concrete will also be highlighted against a background of novel findings on how various carbon-sequestering properties of biochar, for example, the pore surface fractal dimensions, can determine the density of pores that participate in the carbon capture process.

Keynote Speech 3: Water Purification from Bacteria, Cyanobacteria, and Toxins by Filtration and Biocidal Free Cations: Modeling of Filtration and Degradation During Filtration

Prof. Shlomo Nir

Professor Emeritus
The Hebrew University of Jerusalem (HUJI)
Israel

Biography:
1969 Ph.D-Theoretical Physics.
1970 Fellow, Inst. Life Sciences,HUJI.
1970-1980. RPMI, Buffalo NY. Cancer Research Scientist I-IV, and Assoc. Prof. Biophysics; University of NY, Buffalo.
1980 Assoc. Prof. HUJI ; Dept Soil and water Sciences.
1985 Professor.
2003 Professor Emeritus.

Guided 11 Ph.D and 15 M.Sc students.
Published 259 articles in peer reviewed scientific Journals and books, 4 books, 6 patents;
h-index 79.

Recent research mainly on Water Purification and teaches a graduate course. Developed models for:
1. Simultaneous adsorption of several inorganic and organic cations to surfaces, by accounting for electrostatic equations and specific binding in a closed system. The model has been applied to artificial and biological membranes and to clay-minerals.
2. Particle aggregation, extent and kinetics.
3. Membrane fusion and.endocytosis.
4. Pore formation by peptides.
5. Kinetics of filtration for a solution with several pollutants. The model has yielded simulations and predictions for removal of chemicals and bacteria for laboratory and pilot scales.
6. Filtration and degradation. The model, which predicts steady sate phenomena was recently applied in (i)removal from fish ponds of off flavor compounds and (ii) removal of bacteria. Designed a complex between organic cations and clay-minerals or clays, which has been efficient in removal of chemicals (mainly anionic and hydrophobic) and microorganisms, such as bacteria, viruses and a parasite, Cryptosporidium.

Abstract: Removal of pathogenic microorganisms by filtration provides safe water, and reduces harmful disinfection by products. Ordinary micelle-clay complexes have a relatively large surface area, large hydrophobic fractions, and are positively charged to half of the cation exchange capacity of the clay. Granulated micelle-clay composites (0.4 to 2mm) formed by organic cations, e.g., ODTMA (Octadecyltrimethylammonium), have the capacity to remove from water by filtration a wide array of

microbial contaminants: (a) Escherichia coli S-17; (b) total bacteria count (TBC); and (c) Cyanobacteria (Microcystis and Aphanizomenon). Filters included the complex exclusively, or mixed with sand. A model which considered convection, adsorption, and desorption simulated the filtration results and yielded predictions. Calculated capacities (emerging bacteria <1 per 100 mL) were (for a 1m long filter at a flow velocity of 10 m/h) 5 to 100 m3/ kg of complex for water including 5·106 to 1·103 E. coli bacteria/mL, respectively. Regeneration of used filters was by: (i) dilute solutions of NaOCl, or HCl, or (ii) heating in a furnace or (iii) by microwave radiation, which gave the best results. Removal capacity of TBC was smaller than in (a), but the technology enables to avoid using UV lamps in domestic filters. Bacteria capture by filtration was shown to be more efficient, due to biocidal/ biostatic effects of released cations. Placing a layer of activated carbon after the micelle-clay filter reduced the released cations to 1µg/L. A newly designed enriched complex with a larger ODTMA load to utilize both filtration and biocidal/biostatic activity of free cations, yielded enhanced capacity in removal of bacteria from water. Free ODTMA cations at concentrations of 30 and 90 mg/L at 5 min contact imposed full inhibition of the photosynthetic activity in cultures of Aphanizomenon and Microcystis, respectively, whereas for 20 min incubation, complete killing of these cells occurred at cation concentrations of 80 µg/L and 6 mg/L, respectively. Filtration of cyanobacteria was efficient and was adequately modelled. The estimated capacity of a 1m long filter (flow velocity 6m/h) to purify water, which includes 106 Microcystis cells per mL to drinking standards is 22 m^3/ kg of complex. The calculation assumed 10-fold reduction in cell number by a first step of coagulation/sedimentation. The capacity of ODTMA nano-composite to remove cyanotoxins, microcystins (MCs) from water to below 1 µg/L via filtration was determined. Higher capacities were observed for the removal of MC-LR, MC-WR, MC-3aspWR and MC-Y, whereas substantially lower capacities were recorded for more positively charged MC congeners, such as MC-RR and MC-3aspRR. Filtration results were simulated by the filtration model, for solutions including one to several toxins. In agreement with model predictions, results demonstrated that in the presence of MC-WR the emerging concentrations of MC-RR congeners eventually exceed their solution values. In conclusion, nano-composites of ODTMA-bentonite can be applied for removal of bacteria, cyanobacteria and cyanotoxins, microcystins from drinking water. Cyanotoxins and off flavour molecules were observed to be efficiently removed from water by a process of bacterial degradation during filtration. A model developed yielded good predictions for experimental results. The model predicts an establishment of a steady state.

Keywords: Nano-Composite, Granulated Micelle-Clay, Filtration Modeling, Removal of Bacteria, Biocidal Effects, Cyanotoxins, Microcystins, Modeling Filtration, Modeling Degradation During Filtration

Keynote Speech 4: On−Off Mobilization of Contaminants in Phosphogypsum Waste During Redox Oscillations, and Contaminant Removal Using Steel Industry Magnetite By-Product

Prof. Laurent Charlet

Institute of Earth Science (ISTerre-OSUG UMR 5275)
University Grenoble Alpes
France

Biography: Laurent Charlet is Professor of Water Bio-Geochemistry and Nanotoxicology at the University of Grenoble, France. He earned his PhD at the University of California, Riverside (advisor: Prof. Sposito) and performed postdoctoral research in Switzerland at EAWAG (within Prof. Stumm group) and at the University of Bern (within Prof. Schindler group). He studies the fate of metalloids (As, Se, Sb..), organics (antibiotics, prions), radionuclides and nanoparticles in natural media and in the human body. He investigates the influence of bio-geo-chemical processes on the mobility, bioavailability, biotransformation and chemical speciation of these compounds in cells and natural waters under varying redox conditions, from the molecular scale to the field. His group maintains a modern trace element analysis, surface chemistry and cell culture laboratory and makes use in several project of synchrotron X-ray techniques (μXAS, μXRF), Neutron scattering and Mössbauer spectroscopy. Laurent Charlet is co-Editor-in-Chief of Journal of Hydrology, was elected member of CNRS national committee Section 30, and Head of the Environmental Toxicology Facility, Rovaltain, France International Scientific Committee.

Abstract: The phosphate fertilizer industry is responsible for the stack-piling of Highly polluted and acidic phosphogypsum (PG) wastes all over the Mediterranean shore (Lebanon, Cyprus, Spain) and elsewhere. They are usually exposed to weathering conditions and contain high amounts of heavy metals, metalloids and radionuclides (Zn, Cd, Pb, Cr, Ni, As, Sb and U). In the present study, we focus on PG wastes disposed directly on the salt marsh soil of the Tinto River estuary (Huelva, Spain). In such estuarine systems, variable redox conditions imposed by tide cycles may lead to sulfide precipitation and thus, to natural attenuation of the contaminants. The behavior of these contaminants was evaluated on the PG and the marsh basement, separately, using reactors with controlled experimentally induced oscillating redox conditions. Chemically induced cycles of oxidation and reduction were achieved via a combination of gas (N_2: CO_2 vs compressed air) and carbon (ethanol) addition, to stimulate the metabolism of a natively present microbial community. The results revealed that Fe, and to a lesser extent S, control most precipitation/dissolution processes. Ferric iron precipitates in the form of phosphates and oxyhydroxides, while metal sulfide precipitation is insignificant and appears to be prevented by the abundant formation of Fe phosphates. An antagonistic evolution with changing redox conditions was observed for the remaining contaminants (i.e. Zn, As,

Cd and U) which remained mobile in solution for most of the time during the experimental run while. similar experiments on phosphate poor subsurface materials have shown clear on−off switch mobility behavior for both major elements (i.e. carbon (C), iron (Fe) and manganese (Mn)), and contaminants. Manganese, Fe, and As were mobilized under anoxic conditions, whereas Sb, Se, and U were mobilized under oxic conditions. While As, Sb, and U were reversibly sorbed, Se and Cr were irreversibly sequestered via reductive precipitation. When present in aqueous solutions at high concentrations, CrVI prevented the reduction of Mn and Fe, and inhibited the mobilization of elements with lower EH°. Comparison of phosphate-poor and phosphate rich systems demonstrate that high concentrations of phosphates inhibit the typical processes of immobilization of pollutants in saltmarshes which highlights the elevated contaminant potential of phosphogypsum wastes on coastal environments. To improve remediation strategies for multiple contaminants in redox-dynamic environments, we propose a mixed kinetic-equilibrium biogeochemical model that can be forced by oscillating boundary conditions and that uses literature rates and constants to capture the key processes responsible for the mobilization of contaminants in soils. Since the most problematic contaminants are redox active (U, Cr, As, Sb, Se) we further investigated their removal via magnetite surface reductive immobilization. Two types of magnetite were compared: a pure lab made nanoparticulate magnetite, and a nano-magnetite produced by the startup Hymag'in using steel industry waste material. The approach demonstrates a possible industrial waste material virtuous life cycle.

Keywords: Phosphogypsum, Estuarine Salt-Marshes, Redox Oscillations, Nanomagnetite, Contaminants' Retention

Part III Oral Presentations

Online Oral Presentation Guidelines

- Online Oral Presentation will be conducted via **Microsoft Teams Meeting**.
- All presenters are requested to reach the Online Session Room prior to the schedule time and complete their presentation on time.
- All presentation times are shown in China Standard Time (GMT+8:00).
- If a presenter is not able to show up via Teams, the session chair / conference secretary will download and play the pre-recorded video presentation during his/her scheduled presentation time, if listeners have questions about the presentation, please contact the conference secretary to forward the questions.
- If a presenter cannot show up on time or have problem with internet connect, the session chair has the right to rearrange his/her presentation, and let the next presentation start.
- Signed and stamped electronic presentation certificate would be issued via e-mail after conference.

Best Oral Presentations Selection

The session chair will select one best oral presentation from his/her session based on the following criteria:

- ✓ Research Quality
- ✓ Presentation Performance
- ✓ Presentation Language
- ✓ PowerPoint Design

Best Oral Presentations Award

The Best Presenter will receive an official certificate and a free registration to the ACEER2022.

Session 1_ Water Recourses Engineering and Hydrologic Engineering

Time: 10:55-11:55 & 15:45-17:50, July 28, 2021
Session Chair: ***Dr. Julian David Hunt, Energy Program, IIASA, Austria***
Session Room Link: http://www.academicconf.com/teamslink?confname=aceer2021

10:55-11:10	CEE1416 *(Video)*	Boosting algorithm and artificial neural network for flood susceptibility mapping *Dr. Romulus Costache, University Transilvania of Braşov, Romania*
11:10-11:25	CEE1440 *(Video)*	Advantages of employing multilevel monitoring wells for design of tunnels subjected to multi-aquifer alluvial *Mr. Masoud Mahdad, Iran University of Science and Technology, Iran*
11:25-11:40	CEE1505 *(Video)*	Prediction of the response of groundwater recharge to climate changes in Heihe River basin *Dr. Jucui Wang, Chang'an University, China*
11:40-11:55	CEE1408 *(Video)*	Exploration of rain gauge quality issues in Northern England *Dr. Sherien Fadhel, Mustansiriyah University, Iraq*
11:55-14:00		**LUNCH BREAK**
15:45-16:00	CEE1502	Are afternoon deep convection and precipitation more likely to occur over dry or wet surfaces in Oklahoma *Dr. Shaoyue Qiu, Lawrence Berkeley National Laboratory, U.S.A*
16:00-16:25	CEE1493	Hydrological investigation of bridge passages by using of remote Earth sounding *Prof. Andrii Bieliatynskyi, North Minzu University, China*
16:25-16:40	CEE1497	Comparison of various methods of estimating three-parameter distributions for nonstationary long-time data series *Dr. Łukasz Gruss, Wrocław University of Environmental and Life Sciences, Poland*
16:40-17:05	CEE1400	Comparison between maximum annual and peak over threshold methods for the determination of extreme waves in moroccan atlantic coast *Mr. Hosny Bakali, Hassania School of Public Works, Morocco*
17:05-17:20	CEE1396	Global resource potential of seasonal pumped hydropower storage for energy and water storage *Dr. Julian David Hunt, Energy Program, IIASA, Austria*
17:20-17:35	CEE1506 *(Video)*	Water quality assessment and pollution source apportionment using multi-statistic and APCS-MLR modeling techniques in Jinghe River Basin, China *Dr. Jucui Wang, Chang'an University, China*

17:35-17:50	CEE1421	Groundwater recharge processes in an Asian mega-delta: hydrometric evidence from Bangladesh *Dr. Sara Nowreen, Bangladesh University of Engineering and Technology, Bangladesh*

Session 2_ Civil Engineering, Geological Engineering and Earthquake Engineering

Time: 09:00-17:55, July 29, 2021

Session Chair:
09:00-11:50 Dr. Priya Mendiratta, City and Industrial Development Corporation of Maharashtra Ltd, India
14:00-17:55 Dr. Giovanni Dal Poggetto, University of Modena and Reggio Emilia, Italy

Session Room Link: http://www.academicconf.com/teamslink?confname=aceer2021

09:00-09:25	CEE1371 *(Video)*	Multiphysics multimaterial modelling of landslide-structure-interaction *Prof. Sabatino Cuomo, University of Salerno, Italy*
09:25-09:40	CEE1453	Simulation of urban growth in Mumbai Metropolitan Region, India using Cellular Automata and Neural Networks *Dr. Priya Mendiratta, City and Industrial Development Corporation (CIDCO) of Maharashtra Ltd, India*
09:40-10:05	CEE1514 *(Video)*	Recent progress in temporary visual aids for runways under construction *Mr. Gaël Le Bris, WSP USA Inc., U.S.A*
10:05-10:20	CEE1457	The identification of landslide-prone areas using the model TRIGRS *Dr. Téhrrie König, National Institute for Space Research - INPE, Brazil*
10:20-10:35		**BREAK**
10:35-10:50	CEE1450 *(Video)*	High-resolution grid of H/V spectral ratios, spatial variability, and shear wave velocity profiles employing microtremors at Port of Spain, Trinidad *Prof. Walter Salazar, Catholic University of El Salvador, El Salvador*
10:50-11:05	CEE1367 *(Video)*	Dynamic numerical simulation of pre-cracked concrete samples under different mechanical parameters *Mr. Wenbo Zhang, University of Newcastle, Australia*
11:05-11:20	CEE1458 *(Video)*	Characteristics of the seismic clusters bounding the Ramu-Markham Fault Zone, Eastern Papua New Guinea *Dr. George Noho, Papua New Guinea University of Technology, Papua New Guinea*

11:20-11:35	CEE1373	Construction analytics: Predicting the project performance for KPI dashboard development using Levenberg – Marquardt Algorithm *Mr. Jucar Fernandez, Mapua University, Manila, Philippines*
11:35-11:50	CEE1448 *(Video)*	Post-classification change detection algorithm for multispectral satellite images *Dr. S. Gandhimathi Alias Usha, Velammal College of Engineering and Technology, India*
11:50-14:00		**LUNCH BREAK**
14:00-14:15	CEE1427 *(Video)*	Assessment of lumped particles effect on dynamic behaviour of fine and medium grained sands *Dr. Angshuman Das, IIT Madras, India*
14:15-14:40	CEE1390 *(Video)*	Liquefaction of crushable volcanic sands: From laboratory behavior to field assessment *Prof. Rolando P Orense, University of Auckland, New Zealand*
14:40-14:55	CEE1432 *(Video)*	State of art regarding to quantify the consequences associated with building response to an earthquake shaking *Dr. Ali Majdi, Al- Mustaqbal University College, Iraq*
14:55-15:10	CEE1405	Geochronological investigation of the Danube Djerdap Lake sediments (Serbia): Sedimentology and inorganic composition *Dr. Snežana Štrbac, University of Belgrade, Serbia*
15:10-15:35	CEE1504 *(Video)*	Thermadapt Building Coverings: R33 Performance in 1cm of Thickness *Prof. Ronald Barrett, The University of Kansas, USA*
15:35-15:45		**BREAK**
15:45-16:10	CEE1515	Dynamic characterization of soils by laboratory testing for seismic risk assessment *Prof. Valentina Lentini, University Kore of Enna, Italy*
16:10-16:25	CEE1433 *(Video)*	Study of the chemical, physical and antibacterial properties of geopolymer matrices based on waste glass *Dr. Giovanni Dal Poggetto, University of Modena and Reggio Emilia, Italy*
16:25-16:40	CEE1376	Airborne particles in historic churches – sources, deposition and soiling *Dr. Marcin Strojecki, Jerzy Haber Institute of Catalysis and Surface Chemistry, Polish Academy of Sciences, Poland*
16:40-16:55	CEE1403	Evaluation of thermal comfort in an historical italian opera theatre by the calculation ofthe neutral comfort temperature *Dr. Alessandro Ziletti, Alessandro Ziletti Engineering Studio, Italy*

16:55-17:10	CEE1437 *(Video)*	Analysis of seismic response at arquata del tronto village through 3d numerical model *Dr. Primofiore Ilaria, University "G. d'Annunzio" of Chieti-Pescara, Italy*
17:10-17:25	CEE1463 *(Video)*	Soil engineering research on the elution and containment of harmful substances in construction-generated soil *Mr. Yoshiaki Iwamoto, Okumura Corporation, Japan*
17:25-17:40	CEE1370	Management Competency Model: Predictive Neural Network Approach for Empirical Components of Construction Project Proficiency *Dr. Dante L. Silva, Mapúa University, Philippines*
17:40-17:55	CEE1478	Potential impact of sea level rise on the geomorphology of Kuwait state coastline *Dr. Ahmed Mohamed Hassan El-kasaby, Ministry of Education, Kuwait*

Session 3_ Ecological Engineering and Ecological System

Time: 08:30-12:20, July 30, 2021
Session Chair: Dr. Mehmet Kürşat Şahin, Karamanoğlu Mehmetbey University, Turkey
Session Room Link: http://www.academicconf.com/teamslink?confname=aceer2021

08:30-08:55	CEE1419 *(Video)*	Direct seeding and outplantings in drylands of Argentinean Patagonia: estimated costs, and prospects for large-scale restoration and rehabilitation *Prof. Daniel R. Pérez, National University of Comahue, Argentina*
08:55-09:10	CEE1471 *(Video)*	Combining the evaluation of local-scale factors with bio-ecological variables for pest studies in wetland rice production *Dr.. Daniela Fuentes, Laboratory of Herbivory and Biological Control in Wetlands (HeCoB), Argentina*
09:10-09:25	CEE1456 *(Video)*	Seed-dispersal interactions in fragmented landscapes – a metanetwork approach *Dr. Carine Emer, São Paulo State University, Brazil*
09:25-09:40	CEE1516 *(Video)*	Ecological Niche Modelling: A key tool for predicting potential distribution and conservation of medicinal plants of Kashmir Himalaya *Dr. Javaid M Dad, University of Kashmir, India*
09:40-09:55	CEE1441	Foliar fertilization of nickel affects growth, yield component and micronutrient status of barley (Hordeum vulgare L.) grown on low nickel soil *Prof. Satish Kumar Singh, Banaras Hindu University, India*
09:55-10:10	CEE1490	Assessment of organic matter temporal dynamics in the river basin using remote sensing *Prof. Tatiana Trifonova, Lomonosov Moscow State University, Russia*

10:10-10:25		**BREAK**
10:25-10:50	CEE1454 *(Video)*	Constructed wetlands for wastewater management: a collaborative project *Dr. Cristina Calheiros, University of Porto, Portugal*
10:50-11:05	CEE1444	Integrated development Planning Support System (IDPSS) *Dr. Vaios Kotsios, National Technical University of Athens, Greece*
11:05-11:20	CEE1412	The elements contents in Cedrus atlantica (Endl.) Manetti ex Carrière (Pinaceae) needles and soil of the urban forests in Belgrade (Serbia) *Dr. Snežana Štrbac, University of Belgrade, Serbia*
11:20-11:35	CEE1449 *(Video)*	Morpho-functional effects of heat stress on the gills of Antarctic T. bernacchii and C. Hamatus *Dr. Daniela Amelio, University of Calabria, Italy*
11:35-11:50	CEE1455 *(Video)*	Riverine wood pasture responds to grazing decline *Dr. Vujanović Dušanka, University of Novi Sad, Serbia*
11:50-12:05	CEE1461	Ecological niche divergence contributes species differentiation in worm lizards (Blanus sp.) (Squamata: Amphisbaenia: Blanidae) in Mediterranean part of Anatolian peninsula and the Levantine region *Dr. Mehmet Kürşat Şahin, Karamanoğlu Mehmetbey University, Turkey*
12:05-12:20	CEE1513	Foraminifera and its environmental significance of Anchuthengu estuary, Thiruvananthapuram, south west coast of India *Dr. JESHMA .P, University of Madras, India*

Session 4_ Environmental Engineering and Science

Time: 13:30-17:45, July 30, 2021
Session Chair: Dr. Olufemi Victor Omonona, Alex Ekwueme Federal University, Nigeria
Session Room Link: http://www.academicconf.com/teamslink?confname=aceer2021

13:30-13:45	CEE1477	Experimental study on the effect of C-PAM and A-PAM on dewatering performance of waste mud *Miss. Yutong Zhang, Xi'an University of Technology, China*
13:45-14:00	CEE1372 *(Video)*	Effect of oil-contamination and water saturation on the bearing capacity and shear strength parameters of silty sandy soil *Asst. Prof. Chusak Kererat, Rajamangala University of Technology, Thailand*
14:00-14:25	CEE1492 *(Video)*	Analysis of microplastic infiltration into wetland ecosystems *Dr. Rahul Singh, Lovely Professional University, India*

14:25-14:40	CEE1395	improved thermostability, catalytic efficiency and remediation capability of fungal laccase immobilized in hydrophobic sol gels *Assoc. Prof. Shagufta Kamal, Government College University Faisalabad, Pakistan*
14:40-14:55	CEE1443 *(Video)*	Green alga-mediated treatment process for removal of zinc from synthetic solution and industrial effluent *Dr. R. Senthilkumar, University of Technology and Applied Sciences-Suhar, Sultanate of Oman*
14:55-15:20	CEE1361 *(Video)*	The innovation & sectoral carbon emissions nexus *Prof. Durmuş Çağrı Yildirim, Namık Kemal University, Turkey*
15:20-15:35	CEE1503 *(Video)*	Engineering research about wear *Prof. Kirill Voinov, ITMO University, Russia*
15:35-15:50		**BREAK**
15:50-16:05	CEE1486 *(Video)*	Assessment of heavy metals in mine soil and tailings from Jos, Nigeria *Dr. Olarinoye Oyeleke, Federal University of Technology, Nigeria*
16:05-16:30	CEE1392 *(Video)*	Air pollution and clouds: An impact of cloud dynamic and microphysics on sulphate distribution and deposition *Prof. Dragana Vujović, University of Belgrade, Serbia*
16:30-16:45	CEE1485	Sharing benefits of Marine Genetic Resources in High Seas for conservation? (In time of climate change) *Dr. Sergio Pena-Neira, Universidad Mayor, Chile*
16:45-17:00	CEE1447 *(Video)*	Effects of temperature trends and elevation height on solar radiation and electricity generation *Mr. Emmanuel P. Agbo, Cross River University of Technology, Nigeria*
17:00-17:15	CEE1451	A sustainable approach for urban wastewater treatment and reuse under semi-arid climate *Dr. Tawfik El Moussaoui, National School of Mines of Rabat (ENSMR), Morocco*
17:15-17:30	CEE1362	Ecological and human health risks and source apportionment of trace metals in the agricultural soils of Gboko district, central Nigeria *Dr. Olufemi Victor Omonona, Alex Ekwueme Federal University, Nigeria*
17:30-17:45	CEE1438	Occurrence and ecological risk assessment of three fluoroquinolone antibiotics in Nigerian hospital wastewater treatment plants *Dr. Akinranti S. Ajibola, University of Ibadan, Ibadan, Nigeria*

Part IV Poster Presentations

Online Poster Guidelines

Online Poster Presentations will consist of two parts:

- **Poster Presentations:** A collection of posters in PDF format (with/without audio) will be available at conference website for attendees to view starting on June 6, 2021.
- **Poster Q&As:** Live poster Q&A sessions will be held via Microsoft Teams Meeting for attendees to meet virtually with presenters and ask questions or give feedbacks.
- Signed and stamped electronic presentation certificate would be issued via e-mail after conference.

Best Poster Presentations Selection

One best Poster presentation will be selected based on the "**Vote**" received on the website.

Selection Criteria

✓ Research Quality

✓ Poster Design

Best Poster Presentations Award

The Best Presenter will receive an official certificate and a free registration to the ACEER2022.

List of Posters

Please Click Paper ID to Access the Poster Presentation.

CEE1360	Simulation and Analysis of Seepage In earth Dams, Case of Fontaine of Gazelles Dam *Dr. Abdelkader ratiat, National Higher School for Hydraulics, Algeria*
CEE1365	Eolianites identification and palaeoclimatic indication during the Late Pleistocene along the N-E Tunisia coast (Bizerte area) *Dr. Wided Sahli, Université de Carthage, Tunisie*
CEE1383	An experimental test of the allotonic frequency hypothesis to isolate the effects of light pollution on bat prey selection *Ms. Lauren A. Bailey, Rhodes University, South Africa*
CEE1402	Regional comparison of snow leopard diet using DNA metabarcoding *Prof. Bariushaa Munkhtsog, Institute of Biology, Mongolian Academy of Sciences, Mongolia*
CEE1404	Analysis of vulnerability of river-crossing bridge piers foundations *Prof. Francesco Federico, University of Rome "Tor Vergata", Italy*
CEE1410	Knowledge, attitudes, and practices concerning malaria control among people living close to mines in Bolivar State, Venezuela *Prof. Flor Herrera, Universidad de Carabobo, Venezuela*
CEE1422	Helminth infections in a pair of sympatric congeneric lizard species *Dr. Thiago Maia-Carneiro, Rio de Janeiro State University, Brazil*
CEE1424	Mineralogical study on the consistency property of bentonite mixed soil *Dr. Masafumi Okawara, Iwate University, Japan*
CEE1452	Using DID model to analyse the impact of vehicle purchase tax on the sales of alternative fuel vehicle *Miss. Jun Ma, Ural Federal University, Russia*
CEE1466	Spatio-temporal dynamics of suitable habitats for Detarium microcarpum Guill. & Perr. (Fabaceae), a priority food tree species in Benin (West Africa) *Dr. Relique Ignace Agbo, Academy of Sciences for Sustainable Agriculture and Environmental Protection (ASADuPE-ONG), Benin*
CEE1467	Research on and application of tunnel structure defects prediction using machine learning methods *Dr. Bo Shi, SGIDI Engineering Consulting (Group) Co., Ltd., China*
CEE1511	Design of weather index insurance for cereals heavy rain disaster *Dr. Chunhui Wang, Fujian Meteorological Service Center, Fuzhou 350001, China*

Part V Acknowledgements

On behalf of the ACEER2021 Organizing Committee, we would like to take this opportunity to express our sincere gratitude to our participants. We would also like to express our acknowledgements to the Technical Program Committee members who have given their professional guidance and valuable advice as reviewers. For those who contribute to the success of the conference organization without listing the name below, we would love to say thanks as well.

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