



# The 7th International Conference on Water Resource and Environment (WRE 2021)

November 1-4, 2021  
ONLINE via MS Teams

## Conference Program

Organizer



Co-organizer



I-Shou University  
Dept. Civil and Ecological  
Engineering

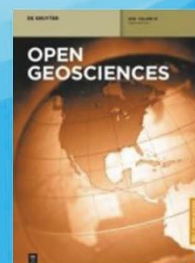


西安理工大学  
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# Part I Conference Schedule Summary

**MONDAY, NOVEMBER 1, 2021**

*MS Teams Link: <http://www.academicconf.com/teamslink?confname=wre2021>*

09:00-18:00 MS Teams Online Conference Testing

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**TUESDAY MORNING, NOVEMBER 2, 2021**

**Chaired by Prof. Chih-Huang Weng, I-Shou University**

*MS Teams Link: <http://www.academicconf.com/teamslink?confname=wre2021>*

08:20-08:30 **Welcome Speech from Conference General Chair**  
*Prof. Jiwei Zhu, Dean of School of Civil Engineering and Architecture, Xi'an University of Technology, China*

08:30-09:15 **Catalytic Ceramic Membrane for Water Treatment Process Intensification: Perspective, Challenges and Future Research**  
*Prof. Teik-Thye Lim, Nanyang Technological University (NTU), Singapore*

09:15-10:00 **Waste Minimisation through Systematic Design Methodology**  
*Prof. Dominic C. Y. Foo, University of Nottingham Malaysia, Malaysia*

10:00-10:15 **COFFEE BREAK**

10:15-11:00 **Adaptive Management of Urban Rainstorm and Flood Disaster Under Changing Environment**  
*Assoc. Prof. Rengui Jiang, Xi'an University of Technology, China*

11:00-11:45 **Electrochemical Strategies, A Bright Future for Wastewater Sensing**  
*Prof. Hassan Karimi-Maleh, University of Electronic Science and Technology of China (UESTC), China*

11:45-12:30 **SHEFROL: A Novel Bioreactor for Rapid and Inexpensive Treatment of Wastewater**  
*Prof. S. A. Abbasi, Pondicherry University, India*

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**TUESDAY AFTERNOON, NOVEMBER 2, 2021**

*MS Teams Link: <http://www.academicconf.com/teamslink?confname=wre2021>*

13:30-18:30 **Oral Session 1: Water Resources and Environmental Science**

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18:30-19:15 **Poster Presentations**

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## WEDNESDAY, NOVEMBER 3, 2021

08:30-12:25 **Oral Session 2: Soil, Groundwater and Hydrology**  
*MS Teams Link: <http://www.academicconf.com/teamslink?confname=wre2021>*

08:30-12:30 **Oral Session 3: Water, Marine Science, and Environmental Pollution**  
*MS Teams Link:*  
*<http://www.academicconf.com/teamslink?confName=wre2021&sessionid=3>*

12:30-13:30 BREAK

13:30-18:15 **Oral Session 4: Water Pollution and Wastewater Treatment**  
*MS Teams Link: <http://www.academicconf.com/teamslink?confname=wre2021>*

13:30-18:35 **Oral Session 5: Water Recourses and Water Management**  
*MS Teams Link:*  
*<http://www.academicconf.com/teamslink?confName=wre2021&sessionid=3>*

## THURSDAY, NOVEMBER 4, 2021

08:30-12:45 **Oral Session 6: Water, Climate Change, and Extreme Events**  
*MS Teams Link:*  
*<http://www.academicconf.com/teamslink?confName=wre2021&sessionid=3>*

12:45-13:30 BREAK

13:30-18:10 **Oral Session 7: Ecology and Environmental Science**  
*MS Teams Link:*  
*<http://www.academicconf.com/teamslink?confName=wre2021&sessionid=3>*

## Part II Keynote Speeches

### Catalytic Ceramic Membrane for Water Treatment Process Intensification: Perspective, Challenges and Future Research



*Prof. Teik-Thye Lim*

*Nanyang Technological University (NTU)  
Singapore*

**Biography:** Professor Lim obtained his PhD degree in Environmental Engineering from the Nanyang Technological University, Singapore, in 1998. He joined NTU in 2000 as Assistant Professor and is now a professor of environmental engineering. His fields of research include nanomaterials for environmental decontamination, environmental catalysis, advanced water treatment and waste-to-energy/materials. He has published over 200 journal papers and book chapters, with Web of Science citation count of 11,000. He is one of the founding editors of the Journal of Environmental Chemical Engineering, Elsevier. He has led various research projects with a total funding of over US\$6 millions. Some of his inventions have resulted in 10 filed intellectual properties including PCT patents. Besides contributing to the scientific communities, Prof Lim also applied his water treatment technology to provide safe drinking water to the Asia's developing communities.

**Abstract:** Heterogeneous catalysis for water decontamination through advanced oxidation processes has been widely investigated for decades. There is voluminous literature on lab-scale investigations of heterogeneous photocatalysis, sulfate-radical based oxidation processes, Fenton and Fenton-like processes, and catalytic ozonation for degradation of recalcitrant organic pollutants in water. Despite all the efforts to improve the catalysts, there are still very limited applications of heterogeneous catalytic oxidation processes in the real-world water treatment. This presentation provides an overview of heterogeneous catalysis for water decontamination, and addresses the several fundamental and practical issues that have hindered their adoption for real water treatment by the industry. One possible solution to overcome the challenges will be addressed. This involves coupling membrane separation process based on ceramic membrane and catalytic oxidation with nanocatalysts. In this hybrid system, the porous ceramic membrane serves as nanocatalyst support and the nanocatalysts-decorated micropores create a contiguous microreactor environment that can intensify the degradation of recalcitrant micropollutants leading to their mineralization within the ceramic membrane. Through a delicate technique of layer-by-layer depositions to form a hierarchically porous filtration layer, the water matrix constituents that can hinder the catalytic reaction process, including bulk organics and colloidal particles can be separated out by the catalytic membrane. The synergistic coupling of the two processes is demonstrated in a laboratory pilot-scale experiment.



## Waste Minimisation through Systematic Design Methodology



*Prof. Dominic C. Y. Foo*

*Professor of Process Design & Integration*

*Acting Head, Dept of Chemical & Environmental  
Engineering*

*Director, Centre for Green Technologies*

*University of Nottingham Malaysia*

*Selangor, Malaysia*

**Biography:** Professor Ir. Dr. Dominic Foo is a Professor of Process Design and Integration at the University of Nottingham Malaysia, and is the Founding Director for the Centre of Excellence for Green Technologies. He is a Fellow of the Institution of Chemical Engineers (IChemE), a Fellow of the Academy of Sciences Malaysia (ASM), a Chartered Engineer (CEng) with the Engineering Council UK, a Professional Engineer (PEng) with the Board of Engineer Malaysia (BEM), as well as the President for the Asia Pacific Confederation of Chemical Engineering (APCChE). He is a world-renowned scholar in process integration focusing on resource conservation and CO<sub>2</sub> reduction. He establishes international collaboration with researchers from various countries in the Asia, Europe, American and Africa. Professor Foo is an active author, with eight books, more than 160 journal papers and made more than 220 conference presentations, with more than 30 keynote/plenary speeches. He served as International Scientific Committees for many important international conferences (CHISA/PRES, FOCAPD, ESCAPE, PSE, SDEWES, etc.). Professor Foo is the Editor-in-Chief for Process Integration and Optimization for Sustainability (Springer Nature), Subject Editor for Process Safety & Environmental Protection (Elsevier), and editorial board members for several other renowned journals. He is the winners of the Innovator of the Year Award 2009 of IChemE, Young Engineer Award 2010 of IEM, Outstanding Young Malaysian Award 2012 of Junior Chamber International (JCI), Outstanding Asian Researcher and Engineer 2013 (Society of Chemical Engineers, Japan), Vice-Chancellor's Achievement Award 2014 (University of Nottingham) and Top Research Scientist Malaysia 2016 (ASM). He conducted close to 100 professional workshops to academics and industrial practitioners worldwide.

**Abstract:** In the past three decades, process integration techniques have been developed to address various resource conservation problems, ranging from energy to material recovery. One of the widely accepted definitions for process integration is given as a holistic approach to process design, retrofitting and operation which emphasises the unity of the process. In the past decades, significant advancements were reported for various process integration techniques such as pinch analysis and mathematical programming in addressing waste and wastewater minimisation problems. These techniques are now documented in various textbooks and review papers. In this talk, various process integration techniques will be described, with emphasis given to wastewater minimisation problems.

## Adaptive management of urban rainstorm and flood disaster under changing environment



*Assoc. Prof. Rengui Jiang*

*Deputy Head, Department of Engineering Management,  
Faculty of Civil and Architectural Engineering  
State Key Laboratory of Eco-hydraulics in Northwest Arid  
Region of China  
Xi'an University of Technology, Xi'an, China.*

**Biography:** Dr. Rengui Jiang is an associate professor at Faculty of Civil and Architectural Engineering at Xi'an University of Technology, deputy head of Department of Engineering Management. He is a visiting fellow at National University of Singapore, post doctor at State Key Laboratory of Simulation and Regulation of Water Cycle in River Basin, China Institute of Water Resources and Hydropower Research. His research interests mainly focus on the hydrological cycle and adaptive water resources management under changing environment, including flood and drought adaptive management, variability of extreme climate events and their teleconnection to atmospheric circulation patterns, and climate change impacts. He has published two books and more than 100 peer-review papers, and authorized eight Chinese patents and sixteen computer software copyright. He has obtained Shaanxi Provincial Science and Technology Star, Outstanding Young Talent in Shaanxi Universities, Outstanding Young Teacher at Xi'an University of Technology. He is the committee member of Water Resources Committee of China Society of Natural Resources, senior member of Chinese Hydraulic Engineering Society, China Computer Federation, editorial board member of Journal of Atmospheric Science Research, South-to-North Water Transfers and Water Science & Technology, etc.

**Abstract:** Under the influences of climate change and urbanization, urban rainstorm and flood disasters are more frequent and widespread, resulting in severe disaster losses, which have attracted wide attention. In view of the key issues of adaptive management of urban rainstorm and flood disasters under changing environment, the adaptive management mode of urban rainstorm and flood disaster under changing environment integrating risk management, emergency management and information management is proposed, and the adaptive management system of urban rainstorm and flood is developed. The interdisciplinary approach provides theoretical reference and technical support for urban rainstorm and flood prevention and mitigation. The urban rainstorm and flood disaster risk assessment model was constructed. The urban rainstorm and flood were simulated for different scenarios based on storm water management model. The urban rainstorm and flood monitoring and early warning services were provided. The adaptive management system of urban rainstorm and flood was developed. The information technologies were used throughout the whole process of the evolution of urban rainstorm and flood events. Integrating risk management, emergency management and information management, the adaptive management mode of urban rainstorm and flood that can quickly respond to changes in the external environment was constructed. Urban storm and flood adaptive management system was designed and developed, which provide dynamic simulation, scenario analysis, emergency plan and process management of urban storm and flood events. The results show that the adaptive management mode of urban rainstorm and flood simplifies the management process, and it can quickly adapt to the changing environment, improve the emergency response speed and emergency management efficiency of rainstorm and flood events, and improve the urban flood control and disaster reduction ability.

## Electrochemical Strategies, A Bright Future for Wastewater Sensing



*Prof. Hassan Karimi-Maleh*

*School of Resources and Environment, University of Electronic Science and Technology of China, China*

*Department of Chemical Engineering, Quchan University of Technology, Quchan, Iran*

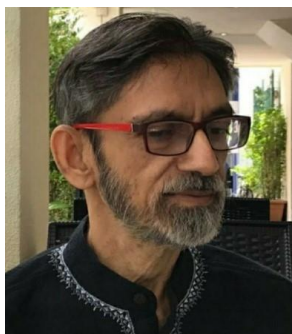
**Biography:** Hassan Karimi-Maleh works as professor in the School of Resource and Environment, University of Electronics Science and Technology of China (UESTC). He is a highly cited researcher selected by Clarivate Analytics 2018 (cross-filed), 2019 (Agriculture field) and 2020 (cross-filed) and Top 1% Scientists in Chemistry and Agriculture simultaneously in ISI Essential Science Indicators. He has published more than 250 research papers with more than 14913 citations and H-index 77 and he works as editorial board of more than 20 international journals such as *Ecotoxicology and Environmental Safety* (Elsevier, IF 4.527), *Journal of Food Measurement and Characterization*. He also works as adjunct Professor in University of Johannesburg, South Africa and Quchan University of Technology, Quchan, Iran. His research interest includes development of chemically modified electrodes and DNA sensors for food, biological, pharmaceutical and environmental compounds analysis and investigation of electrochemistry behavior of electroactive materials such as polymers, organic and inorganic compounds. Recently, he focused on synthesis of nanomaterials and application of them in drug delivery and energy storage fields.

**Abstract:** Monitoring of water quality is an important issue in life science. Water plays an important role in life and the quality of water has a direct relation with human health. The study of the quality of drinking water and water used in agriculture and industry is one of the most important issues in the modern world today. It is important and necessary to study the level of hardness, toxic ions, and biological pollutants for the use of water resources. For this purpose, various techniques have long been used to monitor water quality. In between, electrochemical methods have attracted more attention due to fast response, low cost, high sensitivity and portability. This presentation reviews different approaches in electrochemical monitoring of water pollutants and benefits of them.

**Keywords:** Water Quality, Electrochemical Sensors, Monitoring



## **SHEFROL: A Novel Bioreactor for Rapid and Inexpensive Treatment of Wastewater**



*Prof. S. A. Abbasi*

*CSIR Emeritus Professor  
Centre for Pollution Control & Environmental Engineering  
Pondicherry University  
India*

**Biography:** Prof S. A. Abbasi has been a full university professor and centre director during 1987-2015 and is an Emeritus Professor since then. Prior to it he was Head-in-charge of the Water Quality & Environment Division at the Centre for Water Resources, Kozhikode (1979-87), and a Visiting-cum-adjunct Professor at California State University (1984-1987). He has also been a Visiting Professor at the universities of Minnesota, Florida, California–Berkeley, Malaya and Al-Ahsa.

With 43 books, over 400 papers in indexed journals, 12 patents, close to 16,000 citations and a Hirsch Index currently at 70, Prof Abbasi is among the world’s foremost experts in the fields of process safety and environmental engineering. In the recent Stanford University study, he was ranked among the world’s top 0.5% scientists, and among the top 100 Indian scientists, independent of the area of specialisation [<https://www.thehindu.com/news/cities/puducherry/pondicherry-university-professor-felicitated/article33349572.ece>].

Among numerous coveted honours and awards received by him are the National Design Award in Environmental Engineering, the IPCL award for Safety and Hazard Management in Petroleum Industries, the National Hydrology Award, the International Desalination Association’s prize, and fellowships of the National Academy of Sciences and the Indian Institute of Chemical Engineers. Prof Abbasi is also well-known for his poetry (ghazal and geet), fiction, and his work on fostering inter-faith harmony.

In 1991 Prof Abbasi had set up, and has led since then, a research group on accident forecasting, risk assessment, and occupational safety at Pondicherry University. The group is among the most productive in Asia and has spearheaded the Indian R & D thrust in this field all through.

**Abstract:** The SHEFROL technology is particularly suited to the treatment of sewage (greywater) which is the most voluminous and problematic wastewater in all developing countries, including India and China. As of now over 75% of it is discharge untreated, playing havoc with rivers, lakes and ponds. It is also believed to be the biggest source of most water-borne diseases.

The SHEFROL technology revolves round the trademarked SHEFROL® suit of reactors developed earlier by Prof S. A. Abbasi and his co-workers at the Centre for Pollution Control and Environmental Engineering, Pondicherry University. In 2018 a patent was granted to it after the technology had been

extensively field-tested on several pilot plants set up within Pondicherry University, in the villages of Puducherry, and a resort at Madurai. At present plants based on this technology are being commissioned in the towns of the state of Utter Pradesh, India.

The unique feature of this technology is that it is over 6 times less expensive than the next cheapest conventional technology while being as effective and efficient as the best. It is also 'self propogating', requiring very low energy inputs, material inputs and maintenance effort. Besides receiving a patent, Prof Abbasi and co-workers have also published 17 research papers in indexed international journals on the various scientific and technological aspects of the SHEFROL® technology.

The core of the technology is the SHEFROL reactor comprising of channels in which short-statured terrestrial, amphibious, or aquatic weeds are packed to capacity. The dimensions of the channels have been set by extensive modelling and optimization. Wastewater is made to flow though the channels at a depth adequate to cover the plant roots. Hence the acronym SHEFROL® to express the "sheet-flow root level" Hydrology of these reactors. The unique design and operation of SHEFROL® enables it to achieve removal of numerous pollutants in a single step, or 'pot', in contrast to conventional technologies which need several different units in series. Based on systematic screening of commonly available short-statured weeds the inventors have identified a suit of 20 weeds which are easily and freely available throughout India and of which one or more can be used in each SHEFROL system. After stacking in SHEFROL® channels these weeds gorw and reproduce as they treat the wastewater. This makes the system self-propagating as no stirring, fertilization, aeration etc are involved. For the same reason the system has negligible operation/maintenance cost or depreciation.

# Part III Oral Presentations

## 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 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 WRE 2022.

## Session 1\_ Water Resources and Environmental Science

Time: 13:30-18:05, November 2, 2021

### Session Chairs:

13:30-16:00 Prof. Petros Samaras, International Hellenic University, Greece

16:15-18:30 Prof. Ahmad Zaharin Aris, Universiti Putra Malaysia, Malaysia

Online Room Link: <http://www.academicconf.com/teamslink?confname=wre2021>

13:30-13:45	WRE4433	The calculation of river ecological flow by considering the lifting amount and ecological requirements <i>Dr. Dandan Liu, Xi'an University of Technology, China</i>
13:45-14:10	WRE4251	Nanocomposites for Water research innovations <i>Prof. Ajay Kumar Mishra, Academy of Nanotechnology and Waste Water Innovations, South Africa</i>
14:10-14:25	WRE4480	Research on the Configuration of Water Resources-Social Economic Coupling System Based on SD Simulation <i>Dr. Yihuan He, Harbin Institute of Technology, China</i>
14:25-14:40	WRE4436	Research on the spatial distribution of water resources risk based on atlas compilation-Case study: Qinling Mountains of Shaanxi, China <i>Dr. Xinyue Ke, Xi'an University of Technology, China</i>
14:40-15:05	WRE4186	Membrane fouling in bioreactors and operation controls for efficient reduction <i>Prof. Petros Samaras &amp; Dr. Dimitra Banti, International Hellenic University, Greece</i>
15:05-15:20	WRE4274	The development of a policy framework to mitigate underwater noise pollution from commercial vessels <i>Dr. Seyedvahid Vakili, World Maritime University (WMU), Sweden</i>
15:20-15:45	WRE4185	Environmental pollution, daily exposure, and potential risk of endocrine disrupting compounds <i>Prof. Ahmad Zaharin Aris, Universiti Putra Malaysia, Malaysia</i>
15:45-16:00	WRE4326	Filtration and separation performance of ultrafiltration during the treatment of algae-laden water with the presence of anionic surfactant <i>Dr. Bin Liu, Hunan University, China</i>
16:00-16:15		<b>COFFEE BREAK</b>
16:15-16:40	WRE4198	A stochastic data-driven framework for hydrological and water resources modelling <i>Prof. John Quilty, University of Waterloo, Canada</i>

16:40-16:55	WRE4257	Observed change of glacial runoff in arid region: A Case study in Northwestern China <i>Prof. Zhongqin Li, State Key Laboratory of Cryospheric Sciences /Tianshan Glaciological Station, China</i>
16:55-17:10	WRE4350	Visualization of water resources multi scenario regulation based on dualistic water cycle framework <i>Dr. Jichao Liang, Xi'an University of Technology, China</i>
17:10-17:25	WRE4465	Effect of channel slope and roughness on hydraulic jump in open channel flow <i>Mr. Koroungamba Laishram, National Institute of Technology, India</i>
17:25-17:40	WRE4425	Benefit analysis of industrial water supply in Xi'an based on emergy method <i>Dr. Zihan Guo, Xi'an University of Technology, China</i>
17:40-18:05	WRE4315	Abstract for Oral Presentation: What are the environmental risks of alien species in aquaculture in China? A trial application of the European Non-native Species in Aquaculture Risk Analysis Scheme (ENSARS) to assess largemouth bass <i>Micropterus salmoides</i> <i>Prof. Gordon H. Copp &amp; Dr. Shan Li, Fisheries &amp; Aquaculture Science (Cefas), UK</i>
18:05-18:30	WRE4551	The regime dependent effects of economic growth on water stress <i>Assoc. Prof. Durmuş Çağrı Yildirim, Namık Kemal University, Turkey</i>

## Session 2\_ Soil, Groundwater and Hydrology

**Time: 08:30-12:25, November 3, 2021**

**Session Chairs:**

**08:30-10:20** Assoc. Prof. Rosangela F. Sviercoski, Oakland University, USA

**10:30-12:25** Prof. Dominic C. Y. Foo, University of Nottingham Malaysia, Malaysia

**Online Session Room Link: <http://www.academicconf.com/teamslink?confname=wre2021>**

08:30-08:55	WRE4195	Modeling the Multiscale Interactions Between Water and Heat Transport in the Shallow Subsurface: Towards Coupling Surface and Atmosphere Processes <i>Assoc. Prof. Rosangela F. Sviercoski, Oakland University, USA</i>
08:55-09:20	WRE4294	Mobility of nutrients in marginal land soils and its potential effect on freshwater quality <i>Prof. Julia Lu, Ryerson University, Canada</i>



09:20-09:35	WRE4343	Geostatistics under preferential sampling in the presence of local repulsion effects <i>Dr. Gustavo da Silva Ferreira, National School of Statistical Sciences - ENCE Brazilian Institute of Geography and Statistics - IBGE, Brazil</i>
09:35-09:50	WRE4543	Nitrate source identification and apportionment of groundwater using hydrochemical indices, nitrate stable isotopes, and the new Bayesian stable isotope mixing model (MixSIAR) <i>Dr. Song He, Chang'an University, China</i>
09:50-10:05	WRE4220	The influence of porous medium typology on the scaling laws of aquifer parameters <i>Dr. Agostino Lauria, University of Calabria, Italy</i>
10:05-10:20	WRE4191	Mesh-free simulation of flows by surface water and groundwater <i>Dr. Tibing Xu, Ningbo University, China</i>
10:20-10:30		<b>COFFEE BREAK</b>
10:30-10:45	WRE4340	Machine-learning-based quantitative estimation of soil organic matter content by VIS/NIR spectroscopy <i>Dr. Jinbao Liu, Shaanxi Provincial Land Engineering Construction Group Co., Ltd., China</i>
10:45-11:00	WRE4459	Groundwater Geochemistry and Hydrogeochemical Processes Assessment in Bantul, Yogyakarta, Indonesia <i>Miss Diyaning Ratri, Universitas Gajah Mada, Indonesia</i>
11:00-11:15	WRE4247	GMS-MODFLOW application in the investigation of groundwater potential in Concepcion, Tarlac, Philippines <i>Miss Leselle C. Quitaneg, University of the East, Philippines</i>
11:15-11:30	WRE4544	Typical irrigation Corn field in Weining Plain, China: A pilot study demonstrating moisture movement, leaching actions of soil salt, and the migration of nitrogen, with the different irrigation conditions <i>Dr. Fengmei Su, Chang'an University, China</i>
11:30-11:45	WRE4279	Maximum precipitation interpolation using an evolutionary optimized IDW algorithm <i>Dr. Cristina Serban, Ovidius University of Constanta, Romania</i>
11:45-12:00	WRE4524	A comparison between lumped and distributed hydrological models for daily rainfall-runoff simulation <i>Dr. Federico Vilaseca, University of the Republic, Uruguay</i>
12:00-12:25	WRE4232	Environmental impact on the toxicologically relevant arsenic species in ground water of 2nd aquifer of coal mining area and release in a reservoir: Risk assessment to aquatic life <i>Prof. Tasneem G. Kazi, University of Sindh, Pakistan</i>

## Session 3\_ Water, Marine Science, and Environmental Pollution

Time: 08:30-12:30, November 3, 2021

Session Chair: Prof. Hassimi Abu Hasan, Universiti Kebangsaan Malaysia, Malaysia

Online Room Link: <http://www.academicconf.com/teamslink?confName=wre2021&sessionid=3>

08:30-08:55	WRE4174	Nonlinear mooring systems for floating offshore wind turbines <i>Assoc. Prof. Philipp Thies, University of Exeter, United Kingdom</i>
08:55-09:20	WRE4336	Water Treatment using biofilm technology: A future technology in developing countries <i>Prof. Hassimi Abu Hasan, Universiti Kebangsaan Malaysia, Malaysia</i>
09:20-09:35	WRE4328	Radiation knowledge and willingness to buy bottled water from regions near the Fukushima Daiichi Nuclear Power Plant <i>Prof. Kentaka Aruga, Saitama University, Japan</i>
09:35-09:50	WRE4372	Modeling of sediment transport using wave height action in Fialaka Marina <i>Mr. Khaled Al-Salem, Kuwait Institute for Scientific Research, Kuwait</i>
09:50-10:05	WRE4391	Occurrence of microplastics in the sediments of Baseco port area at Manila Bay, Philippines <i>Dr. Kathlia D. Cruz, Mapua University, Philippines</i>
10:05-10:20	WRE4329	The environmental pollution created by small scale industries and Phytoremediation as a green remediation technology <i>Dr. Udayagee Kumarasinghe, University of Sri Jayewardenepura, Sri Lanka</i>
10:20-10:30		<b>COFFEE BREAK</b>
10:30-10:45	WRE4529	Identifying, monitoring and mitigating inland sediment pollutants to improve the Black Sea <i>Prof. George N. Zaimis, International Hellenic University, Greece</i>
10:45-11:10	WRE4413	Effects of traffic pollution on metal accumulation and N, P use proficiencies in <i>Populus nigra</i> L. <i>Assoc. Prof. Neslihan Karavin, Amasya University, Turkey</i>
11:10-11:35	WRE4229	Prediction model of the collapse of bank slope under the erosion effect of wind-induced wave in the Three Gorges Reservoir Area, China <i>Dr. Guo Fei, China Three Gorges University, China</i>
11:35-12:00	WRE4552	Appraisal of climate change and cyclone trends in Indian coastal states <i>Dr. Komali Kantamaneni, University of Central Lancashire, UK</i>
12:00-12:15	WRE4178	Environmental contaminants-induced metabolic disorders and their treatment strategies using plant-based bioactive compounds <i>Prof. Muhammad Sajid Hamid Akash, Government College University Faisalabad, Pakistan</i>
12:05-12:30	WRE4301	Heavy metal ion separation from industrial wastewater using stacked graphene membranes <i>Prof. M. Natália D. S. Cordeiro, University of Porto, Portugal</i>

## Session 4\_ Water Pollution and Wastewater Treatment

Time: 13:30-18:15, November 3, 2021

### Session Chairs:

13:30-15:50 Dr. Alexandros Stefanakis, Technical University of Crete, Greece

16:00-18:15 Dr. Xiaowu Huang, Guangdong Technion – Israel Institute of Technology, China

Online Session Room Link: <http://www.academicconf.com/teamslink?confname=wre2021>

13:30-13:45	WRE4213	Nanomaterials as an efficient adsorbent for the removal of Pharmaceutical Drugs from wastewater <i>Dr. Shaziya Haseeb Siddiqui, Sam Higginbottom University of Agriculture Technology and Sciences, U.P. India</i>
13:45-14:10	WRE4361	Mechanisms of removal of heavy metals and arsenic from water by TiO <sub>2</sub> -heterogeneous photocatalysis <i>Prof. Marta Litter, IIIA CONICET-UNSAM, Argentina</i>
14:10-14:25	WRE4504	Application of ZIF-8 Nanocomposite membrane in microbial desalination cells for simultaneous heavy metal removal and biofouling prevention <i>Dr. Nicholas Miwornunyuie, Tianjin University, China</i>
14:25-14:40	WRE4482	Anammox: State of the art and remaining challenges <i>Dr. Xiaowu Huang, Guangdong Technion – Israel Institute of Technology, China</i>
14:40-14:55	WRE4520	Characterization of Sediment bacterial communities to assess the effects of pollution on bacterial community structure in two freshwater lakes differing in nutrient load near Delhi NCR, India <i>Ms. Sandhya Bhat, GGSIP University, India</i>
14:55-15:10	WRE4409	Degradation of aqueous organic dye pollutants by heterogeneous photo-assisted Fenton-like process using natural mineral activator: parameter optimization and degradation kinetics <i>Dr. Kosar Hikmat Hama Aziz, University of Sulaimani, Iraq</i>
15:10-15:25	WRE4304	Development of the wastewater disposal system in the nature protection zone of Lake Baikal <i>Prof. Evgeny Ivanovich Pupyrev, Moscow State University of Civil Engineering, Russia</i>
15:25-15:50	WRE4205	Constructed Wetlands for sustainable wastewater treatment and reuse: case studies and opportunities <i>Dr. Alexandros Stefanakis, Technical University of Crete, Greece</i>
15:50-16:00		<b>COFFEE BREAK</b>
16:00-16:15	WRE4410	Industrial saline waste waters as a feedstock <i>Prof. Marian Turek, Silesian University of Technology, Poland</i>

16:15-16:30	WRE4528	Nanoparticles, magnetic nanoparticles, and liquid membranes (BLM & SLM) in selective and facile separation of dyes and heavy metals from water samples <i>Prof. Foujan Falaki, Islamic Azad University, Iran</i>
16:30-16:45	WRE4455	Study on the treatment of manganese and nickel wastewater with chitosan activated sludge composite adsorbent <i>Dr. Zuoping Zhao, Shaanxi University of Technology, China</i>
16:45-17:00	WRE4477	Removal of chromium from synthetic wastewater by adsorption onto Ethiopian low-cost Oदारacha adsorbent <i>Dr. Yohanis Birhanu, Jigjiga University, Ethiopia</i>
17:00-17:15	WRE4472	Microplastics in fresh water: Monitoring challenges and possible mitigation strategies <i>Dr. Francesco Saliu, University of Milano Bicocca, Italy</i>
17:15-17:30	WRE4402	Utilization of coal mine water in a two-pass nanofiltration system <i>Dr. Dorota Babilas, Silesian University of Technology, Poland</i>
17:30-17:45	WRE4442	Hemodialysis wastewater treatment by combination of electro-coagulation/electro-oxidation and adsorption: case study in Hedi Chaker Hospital, Sfax, Tunisia <i>Prof. Mohamed ksibi, University of Sfax, Tunisia</i>
17:45-18:00	WRE4514	Enumeration of <i>Escherichia Coli</i> concentration of river water and wastewater samples by measuring $\beta$ -D-glucuronidase (GUS) activities via Microplate Reader <i>Mr. Mohomed Niyaz Mohomed Shayan, Hokkaido University, Japan</i>
18:00-18:15	WRE4498	Novel CoOOH@MXene nanocomposite as heterogeneous activator of peroxymonosulfate for the degradation of sulfamethoxazole: The reaction kinetics and mechanism <i>Dr. Lin Deng, Hunan University, China</i>

## Session 5\_ Water Recourses and Water Management

**Time: 13:30-18:35, November 3, 2021**

**Session Chairs:**

**13:30-16:15 Prof. Lei Xie, Shandong University, China**

**16:25-18:35 Prof. Salvatore Ciriaco, University of Padova, Italy**

**Online Room Link: <http://www.academicconf.com/teamslink?confName=wre2021&sessionid=3>**

13:30-13:55	WRE4539	Nature-based solutions towards water management <i>Dr. Cristina Calheiros, University of Porto, Portugal</i>
13:55-14:20	WRE4493	Benefit sharing for hydro-diplomacy in South Asia <i>Prof. Lei Xie, Shandong University, China</i>

14:20-14:35	WRE4513	Multi-step-ahead forecasting of hourly potential evapotranspiration for irrigation triggering in horticultural nurseries under oceanic climate <i>Dr. Rousseau Tawegoum, Institut Agro – Agrocampus Ouest, France</i>
14:35-14:50	WRE4516	Competencies in water management: Turning aspirations into achievements <i>Prof. Colin Green, Middlesex University, UK</i>
14:50-15:05	WRE4464	Comparing the Utilities Consumptions in Dubai per category and community: MANOVA and cluster analysis approaches <i>Miss Afef Saihi, American University of Sharjah, UAE</i>
15:05-15:30	WRE4175	Modal Analysis of Lifting a Sunken Chemical Tanker from sea bottom using Intelligent Controlled Lift Bags <i>Dr. Arun Kumar Devaki Bhavan Velayudhan, Muthoot Institute of Technology and Science, India</i>
15:30-15:45	WRE4490	Afghanistan and the use of water resources of the Amu Darya <i>Prof. Natalia Sysoeva, Irkutsk State University, Russia</i>
15:45-16:00	WRE4236	Legal implication of the use of big data in the transboundary water context <i>Dr. Imad Antoine Ibrahim, Qatar University, Qatar</i>
16:00-16:15	WRE4534	Key assessment indicators for water sensitive urban design framework <i>Dr. Shweta Rathi, Medi-Caps University, India</i>
16:15-16:25		<b>COFFEE BREAK</b>
16:25-16:40	WRE4537	Water: A multidimensional approach <i>Prof. Salvatore Ciriaco, University of Padova, Italy</i>
16:40-16:55	WRE4435	Climatic parameters and probability of stormwater runoff from green roofs <i>Prof. Anita Raimondi, Politecnico di Milano, Italy</i>
16:55-17:10	WRE4512	Identification of long-term trends and analysis of three-parameter distributions of selected biogenic compounds in the water of the Turawa reservoir <i>Dr. Łukasz Gruss &amp; Prof. Mirosław Wiatkowski, Wrocław University of Environmental and Life Sciences, Poland</i>
17:10-17:25	WRE4188	Development of a new separation system for specific particles based on a mobile hydrocyclone, self-monitoring <i>Dr. Barrak Nizar, University of Monastir, Tunisia</i>
17:25-17:40	WRE4484	Investigation and characterization of water vapour condensation as a non-conventional source to mitigate the scarcity of water <i>Mr. Dinesh Kumar, Indian Institution of Information Technology Allahabad Prayagraj, India</i>



17:40-17:55	WRE4499	Water retention measures in the urban landscape and their impact on microclimate change <i>Mr. Jozefína Pokrývková, Slovak University of Agriculture in Nitra, Slovakia</i>
17:55-18:20	WRE4332	From looking for salt aggregates to discovering the structure of water <i>Assoc. Prof. Li Shu, Edith Cowan University, Australia</i>
18:20-18:35	WRE4522	Globalization and reception of international water law in a River Basin Organisation: The case of hydropower development in Lao PDR <i>Miss Aline Telle, University of Geneva, Switzerland</i>

## Session 6\_ Water, Climate Change, and Extreme Events

**Time: 08:30-12:45, November 4, 2021**

**Session Chairs:**

**08:30-10:35 Prof. Tri Retnaningsih Soeprbowati, Universitas Diponegoro, Indonesia**

**10:45-12:45 Dr. Nkongho Ayuketang Arreyndip, University of Buea, Cameroon**

**Online Room Link: <http://www.academicconf.com/teamslink?confName=wre2021&sessionid=3>**

08:30-08:45	WRE4414	Vulnerability curves for masonry buildings affected by hyperconcentrated flows as natural disaster risk management tools for the quantification of material damage <i>Mr. Tony Quispe, Peruvian University of Applied Sciences, Peru</i>
08:45-09:00	WRE4415	Analysis of human physical vulnerability using static equilibrium techniques of a hazard flood for the determination of unsafe areas in the city of Catacaos – Piura, Peru <i>Miss Maria Cristina Rodas Palacios, Peruvian University of Applied Sciences, Peru</i>
09:00-09:25	WRE4214	Extreme hydrodynamic loads on low-rise residential building <i>Dr. Moon Wei Chek, Universiti Sains Malaysia, Malaysia</i>
09:25-09:50	WRE4318	Sediment climate change record as a base for sustainable lake management <i>Prof. Tri Retnaningsih Soeprbowati, Universitas Diponegoro, Indonesia</i>
09:50-10:05	WRE4324	Consistency assessment between Summer Simmer Index and other Heat Stress indices (WBGT and Humidex) in Iran's climates <i>Dr. Somayeh Farhang Dehghan, Hakim Sabzevari University, Iran</i>
10:05-10:20	WRE4221	Why increases in precipitation extremes do not translate to increased flooding <i>Dr. Conrad Wasko, University of Melbourne, Australia</i>

10:20-10:35	WRE4473	<p>Assessment of water requirements of the main crops adaptable to future climate change in the irrigable area of Sagaing Region, Myanmar</p> <p><i>Ms. Swe Zin Aung, Yangon Technological University, Myanmar</i></p>
10:35-10:45		<b>COFFEE BREAK</b>
10:45-11:00	WRE4525	<p>Water availability and severe floods are driven by atmospheric rivers in New Zealand</p> <p><i>Dr. Jingxiang Shu, The University of Auckland, New Zealand</i></p>
11:00-11:15	WRE4474	<p>Water-food nexus in aquaponics models designed for circular economy, resilience, and sustainability</p> <p><i>Prof. Saleem Mustafa, Universiti Malaysia Sabah, Malaysia</i></p>
11:15-11:30	WRE4494	<p>Analyses of Taipei citizens' attitudes and perceptions of Sustainable Development Goals</p> <p><i>Prof. Yung-Jaan Lee, Chung-Hua Institution for Economic Research</i></p>
11:30-11:45	WRE4212	<p>The Greater Mekong's climate-water-energy nexus: Current trends and future pathways</p> <p><i>Assoc. Prof. Stefano Galelli, Singapore University of Technology and Design, Singapore</i></p>
11:45-12:00	WRE4396	<p>Evapotranspiration estimation of Urmia Lake Basin using GCOM-C thermal imagery</p> <p><i>Prof. Masahiro Tasumi, University of Miyazaki, Japan</i></p>
12:00-12:15	WRE4207	<p>Predicting hydrological response to future climate change-induced droughts in a north African watershed: A hybrid modeling approach</p> <p><i>Dr. Youssef Brouziyne, Mohammed VI Polytechnic University, Morocco</i></p>
12:15-12:30	WRE4244	<p>Investigating the evolution of drought conditions over Sub-Saharan Africa</p> <p><i>Dr. Nkongho Ayuketang Arreyndip, University of Buea, Cameroon</i></p>
12:30-12:45	WRE4485	<p>Floods and health risks: Evidence from Russia</p> <p><i>Prof. Elena A. Grigorieva, Institute for Complex Analysis of Regional Problems Far Eastern Branch Russian Academy of Sciences, Russia</i></p>

## Session 7\_ Ecology and Environmental Science

Time: 13:30-18:10, November 4, 2021

### Session Chairs:

13:30-15:55 Dr. Komali Kantamaneni, University of Central Lancashire, UK

16:05-18:10 Dr. Vabeiryureilai Mathipi, Mizoram University, India

Online Room Link: <http://www.academicconf.com/teamslink?confName=wre2021&sessionid=3>

13:30-13:55	WRE4273	Agronomic factors of corn ( <i>Zea mays</i> L.) produced under water stress conditions and fertilized with biofertilizer in the semi-arid region of Paraíba, Brazil. <i>Prof. Alex Serafim de Lima, State University of Paraíba, Brazil</i>
13:55-14:10	WRE4262	The potential of vermitechnology for potentially toxic element removal in urban community wastewater by-product: sewage sludge and landfill leachate <i>Dr. Azizi Abu Bakar, University of Malaya, Malaysia</i>
14:10-14:25	WRE4289	Assessing effective pasture root depth for irrigation scheduling by water balance modelling <i>Dr. Birendra KC, Aqualinc Research Limited, New Zealand</i>
14:25-14:40	WRE4308	Understanding wildlife wealth through people's knowledge: A case study in Patharia Hills reserve Forest of Assam, India <i>Prof. Parthankar Choudhury, Assam University, India</i>
14:40-14:55	WRE4488	Revisiting the biodiversity of <i>Salvelinus</i> : new insights driven by recent molecular genetics achievements <i>Dr. Evgeniia I. Bondar, A.V. Zhirmunsky National Scientific Center of Marine Biology, Far Eastern Branch, Russia</i>
14:55-15:10	WRE4288	Transports then and now: a new paradigm in marine animals' transport <i>Prof. João Correia, Flying Sharks, Portugal</i>
15:10-15:25	WRE4451	Meander Floodplain Management and Stabilization of Riverbank in Urban Region <i>Dr. Siti Murniningsih, University of Indonesia, Indonesia</i>
15:25-15:40	WRE4316	River Yamuna in Delhi-Keeping it Clean and Flowing <i>Dr. Ashok Kumar Jain, Former Commissioner, India</i>
15:40-15:55	WRE4345	Enzymatic pretreatment and anaerobic co-digestion as a new technology to high-methane production <i>Dr. Janaína Dos Santos Ferreira, Federal University of Santa Catarina, Brazil</i>
15:55-16:05		<b>COFFEE BREAK</b>
16:05-16:20	WRE4307	Waste water and fruit waste: A source of biodiesel production using oleaginous yeast <i>Dr. Kanakdande Amruta Prakash, Swami Ramanand Teerth Marathwada University, India</i>

16:20-16:45	WRE4183	<a href="#">Biomonitoring potentially toxic elements in freshwater ecosystems</a> <i>Assoc. Prof. Daniela Baldantoni, Università degli Studi di Salerno, Italy</i>
16:45-17:00	WRE4272	<a href="#">Do eggshells of grey herons <i>Ardea cinerea</i> and great cormorants <i>Phalacrocorax carbo</i> from Poland reflect water pollution levels?</a> <i>Assoc. Prof. Ignacy Kitowski, University of Life Sciences in Lublin, Poland</i>
17:00-17:15	WRE4508	<a href="#">Diversity of Earthworms through mitochondrial COX1 gene from Mizoram, India</a> <i>Dr. Vabeiryureilai Mathipi, Mizoram University, India</i>
17:15-17:40	WRE4200	<a href="#">The biological monitoring as a source of information on environmental pollution with heavy metals</a> <i>Prof. Maria Waclawek, University of Opole, Poland</i>
17:40-17:55	WRE4549	<a href="#">Numerical modeling of thermal structure in Lake Sidi Ali (Morocco)</a> <i>Dr. Soufiane Haddout, Ibn Tofail University, Morocco</i>
17:55-18:10	WRE4496	<a href="#">Consequence analyses induced by landslides along transport infrastructures</a> <i>Prof. Valentina Lentini, University Kore of Enna, Italy</i>

## Part IV Poster Presentations

### Poster Guidelines

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.
- ✚ **Online Poster Q&As:** Under each Poster, Attendees could ask questions or give feedbacks, the Conference Committee will forward them to the Presenter after conference.
- ✚ 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 WRE 2022.



## List of Posters

Please Click <http://www.academicconf.com/poster?confname=wre2021> or the Paper ID to access the Poster Presentations.

WRE4393	<a href="#">Model of formation of hydrothermal Ore Deposits</a> <i>Dr. Ivan Gordienko, The National Academy of Sciences, Ukraine</i>
WRE4337	<a href="#">The physical meaning of the search for aquifers using the L-shaped frame</a> <i>Dr. V. Shuleikin, Russian Academy of Sciences, Institute of Oil and Gas Problems, Russia</i>
WRE4387	<a href="#">Unbalanced optimal transport for ecology and environment: applications to fish migration and groundwater pathways</a> <i>Dr. Hidekazu Yoshioka, Shimane University, Japan</i>
WRE4401	<a href="#">Electrodialytic utilization of NF-RO brine</a> <i>Dr. Andrzej Milewski, Silesian University of Technology, Poland</i>
WRE4380	<a href="#">Arsenic(III) removal from aqueous solution using biochar modified by titanium</a> <i>Miss Yan Yang, Guizhou University, China</i>
WRE4290	<a href="#">Optimum design of injection rates and spacing of recharge wells in MAR region, South Korea</a> <i>Mr. Myoung-Rak Choi, Daejeon University, Korea</i>
WRE4292	<a href="#">Pre-assessment of clogging possibility in recharge wells and shallow aquifers in MAR region, South Korea</a> <i>Mr. Myoung-Rak Choi, Daejeon University, Korea</i>
WRE4293	<a href="#">A case study on design and field application by evaluation of artificial cultivation performance</a> <i>Mr. Dong-Min Shin, Geotech Consultant Co., Ltd, Korea</i>
WRE4376	<a href="#">Interaction of flow turbulence and nitrogen nutrients on the growth of <i>Scenedesmu Quadricanda</i></a> <i>Dr. Yafei Cui, Tongji University, China</i>
WRE4194	<a href="#">Variation rules before and after water flooding in ultra-low permeability reservoir</a> <i>Dr. Lei Song, Changqing Oilfield Exploration and Development Research Institute, China</i>
WRE4193	<a href="#">Impact of different vegetation zones on the velocity distribution and discharge of open-channel flow</a> <i>Dr. Xiaonan Tang, Xián Jiaotong-liverpool University, China</i>
WRE4219	<a href="#">Assessing relationship of degradation of coastal zones and phytoplankton species structure of Lake Uvildy and Lake Turgoyak (South Ural, Russia)</a> <i>Prof. Anastasiya Kostryukova, South Ural State University, Chelyabinsk, Russia</i>
WRE4311	<a href="#">The efficiency of crude enzyme extracted from horseradish root in oxidation of catechol</a> <i>Dr. Fathollah Gholami-Borujeni, Mazandran University of Medical Sciences, Iran</i>

WRE4330	Pesticides in karst groundwater, Yucatan, Mexico, impacts to the water and public health <i>Dr. Angel G. Polanco Rodriguez, Universidad Autónoma de Yucatán, México</i>
WRE4353	Tropical Andes Radar precipitation estimates need high temporal and moderate spatial resolution <i>Mr. Mario Guallpa, Municipal Public Company of Telecommunications, Drinking Water, Sewerage and Sanitation of Cuenca, Ecuador</i>
WRE4210	Study of the influence of the level of degradation of coastal zones on the trophicity of water in Turgoyak and Uvildy lakes, Chelyabinsk region (Russia) <i>Dr. Irina Mashkova, South Ural State University, Russia</i>
WRE4395	Isotope Signs ( $^{234}\text{U}/^{238}\text{U}$ , $^2\text{H}$ , $^{18}\text{O}$ ) of groundwater: an investigation of the existence of paleo-permafrost in European Russia (Pre-Volga region) <i>Prof. Evgeny Yakovlev, N. Laverov Federal Center for Integrated Arctic Research, Russia</i>
WRE4521	Assessment and analysis of effect of properties of various fly ashes from thermal conversion of sewage sludge on strength parameters of concretes manufactured with their addition <i>Dr. Marek Chalecki &amp; Dr. Gabriela Rutkowska, Warsaw University of Life Sciences, Poland</i>
WRE4546	Daily actual evapotranspiration estimation of different land use types based on SEBAL model in the agro-pastoral ecotone of northwest China <i>Mr. Liangyan Yang, Shaanxi Provincial Land Engineering Construction Group Co., Ltd., China</i>
WRE4547	Inversion of soil moisture in Yangjuangou watershed of Loess Plateau based on SAR data of GF-3 satellite <i>Dr. Hui Kong, Shaanxi Provincial Land Engineering Construction Group Co., Ltd., China</i>
WRE4548	Effects of Returning Cropland to Forest and Grassland on Deep Soil Moisture Dynamics in Loess Hilly Region <i>Ms. Tingting Meng, Shaanxi Provincial Land Engineering Construction Group Co., Ltd., China</i>
WRE4432	A multi-method integrated simulation system for water resources allocation <i>Dr. Jie Hou, Xi'an University of Technology, China</i>
WRE4433	Dynamic simulation study on water supply volume of the Hanjiang to Weihe River Water Diversion Project <i>Dr. Qiang Hui, Xi'an University of Technology, China</i>
WRE4439	The dynamic identification mechanism research of drought based on process description <i>Dr. Shaoxun Li, Xi'an University of Technology, China</i>
WRE4440	Research on the realization of water-saving social service application based on knowledge cloud service <i>Dr. Wei Ma, Xi'an University of Technology, China</i>

WRE4423	Spatio-temporal evolution of soil moisture in the Headwater Area of the Yellow River <i>Dr. Anfeng Qiang, Xi'an University of Technology, China</i>
WRE4420	Evaluation and spatial distribution of soil and water conservation efficiency in Shaanxi Province based on DEA model <i>Mr. Zhonghao Wang, Xi'an University of Technology, China</i>
WRE4550	How to improve the ecological compensation policy of planting structure adjustment in BTH area? <i>Dr. Yuan Xiu, Xi'an University of Technology, China</i>
WRE4426	Construction of content base based on water-saving knowledge <i>Mr. Shaofei Zhang, Xi'an University of Technology, China</i>
WRE4422	Study on dynamic evaluation of river health based on theme service <i>Mr. Xu Zhang, Xi'an University of Technology, China</i>
WRE4476	Analysis of Physicochemical Water Quality Parameters for Streams under Agricultural, Urban and Forest Land-use types: In Case of Gilgel Gibe Catchment, Southwest Ethiopia <i>Mr. Berhanu Zawude Bakure, Wollega University, Ethiopia</i>
WRE4540	Research on water resources-social economy-ecosystem coupling system based on improved ant colony algorithm <i>Dr. Yihuan He, Harbin Institute of Technology, China</i>

# Part V Acknowledgements

On behalf of the WRE2021 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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