



Proceedings Of The 9th International Conference Of Recent Trends In Environmental Science And Engineering (RTESE 2025)

**July 17, 2025 - July 19, 2025 | Imperial College London
Conference Center, London, United Kingdom**

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WELCOME MESSAGE FROM THE CONFERENCE CHAIR

On behalf of the International Academy of Science, Engineering and Technology (International ASET Inc.), the organizing committee would like to welcome you to the 9th International Conference of Recent Trends in Environmental Science and Engineering (RTESE 2025).

RTESE 2025 is aimed to become one of the leading international annual conferences in the fields related to environmental science and engineering. This conference 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.

RTESE is a series of international conferences held yearly. These conferences focus on all aspects of environmental science and engineering. The 9th International Conference of Recent Trends in Environmental Science and Engineering (RTESE 2025) is going to be held in a hybrid format, i.e. in person as well as online.

In the eighth meeting of this conference, three Plenary speakers and three Keynote speakers will share their expertises with the aim of exposing participants to a wide spectrum of applications, and to foster crosspollination of ideas and develop new research interests. In addition, approximately 16 papers will be presented from professors, students, and researchers across the world.

We thank you for your participation and contribution to the 9th International Conference of Recent Trends in Environmental Science and Engineering (RTESE 2025). We wish you a very successful and enjoyable experience.

Dr. Mehrab Mehrvar

Department of Chemical Engineering, Toronto Metropolitan University, Canada
Conference Chair and Proceedings Editor
RTESE 2025

Dr. Zhi Chen

Concordia University, Canada
Conference Co-Chair and Proceedings Editor
RTESE 2025

ABOUT RTESE 2025

The International Conference of Recent Trends in Environmental Science and Engineering (RTESE 2025) aims to become the leading annual conference in fields related to environmental science and engineering. The goal of RTESE 2025 is to gather scholars from all over the world to present advances in the fields related to environmental science and engineering and to foster an environment conducive to exchanging ideas and information. This conference will also provide an ideal environment to develop new collaborations and meet experts on the fundamentals, applications, and products of the mentioned fields.

RTESE is a series of international conferences held annually. These conferences focus on all aspects of environmental science and engineering. After successfully holding RTESE'17 to RTESE'24 in Canada, RTESE 2025 is hosted in Imperial College London Conference Center, London, United Kingdom as well this year. RTESE 2025 is going to be held in a hybrid format, i.e. in person as well as online.

RTESE is an acronym for **R**ecent **T**rends in **E**nvironmental **S**cience and **E**ngineering.

- All papers were peer-reviewed
- The conference proceedings are published under an ISSN and ISBN number
- Each paper is assigned a unique DOI number by [Crossref](#)
- The conference proceedings are indexed by [Google Scholar](#)
- The proceedings are permanently archived in [Portico](#) (one of the largest community-supported digital archives in the world)

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SCIENTIFIC COMMITTEE

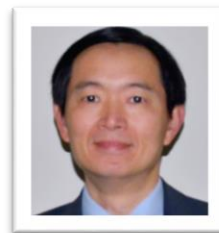
We would like to thank the following for accepting to act as a member of the Scientific Committee for the RTESE 2025 Congress:

Scientific Committee Chairs



Dr. Mehrab Mehrvar

Department of Chemical Engineering,
Toronto Metropolitan University,
Canada, Canada
Conference Chair



Dr. Zhi Chen

Concordia University, Canada
Conference Co-Chair

Scientific Committee Members

- **Dr. Chunjiang An**, Concordia University, Canada
- **Dr. Christopher Y H Chao**, The Hong Kong Polytechnic University, Hong Kong
- **Dr. Paul Christodoulides**, Cyprus University of Technology, Cyprus
- **Dr. Nenad Gucunski**, Rutgers University, Canada
- **Dr. Rajiv Gupta**, Birla Institute of Technology & Science, India
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- **Dr. Vicente Rodríguez-González**, Institute for Scientific and Technological Research of San Luis Potosi, Mexico
- **Dr. Jun Xia**, Wuhan University, China
- **Dr. Qiuyan Yuan**, University of Manitoba, Canada

PLENARY/KEYNOTE SPEAKERS

The Plenary and keynote information for the 9th International Conference on Recent Trends in Environmental Science and Engineering (RTESE 2025) is as follows:

Plenary Speakers



Dr. Steven C. McCutcheon
University of Georgia, USA



Dr. Irene Xagorarakis
University of Cartagena,
Colombia

Keynote Speaker



Dr. Edgar Quiñones-Bolaños
University of Cartagena,
Colombia



Dr. Zhe Yang
The University of
Queensland, Australia



Dr. Nariman Yousefi
Toronto Metropolitan
University, Canada

RTESE 2025 PLENARY SPEAKER



Titles: N/A

Dr. Steven C. McCutcheon, University of Georgia, USA

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Steven McCutcheon is an international expert in ecological, environmental, and civil engineering; ecotoxicity; toxic waste management including bio and phytoremediation; contaminant fate and transport and exposure and risk assessment in surface and ground water; water quality; hydrodynamics and sediment transport; hydrology; water resources; sustainability; and climate change. Dr. McCutcheon is renowned as a pioneer of sustainable hazardous waste cleanup. Critically acclaimed, his third book and several papers define the newer field of phytoremediation. As a National Expert and Senior Environmental Engineer (retired) with 37 years of experience with the USEPA and US Geological Survey, Dr. McCutcheon wrote technical guidance on waste management and served on rule-making working groups.

RTESE 2025 PLENARY SPEAKER



Titles: An Academia-Industry-Government Partnership That Monitors and Predicts Outbreaks in Tri-County Detroit Area Since 2017

Dr. Irene Xagorarakis, Michigan State University, USA

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Her research focuses on microbial water quality emphasizing prevention of disease and protection of public health. She and her students have been studying: (1) environmental surveillance approaches for identification and prediction of viral outbreaks, (2) the fate of viruses and antibiotic-resistant bacteria in the built environment and in natural systems, (3) virus inactivation and removal with membrane bioreactors and other water treatment processes. She has authored multiple peer-reviewed scientific journal publications and book and encyclopedia chapters. Her research has been covered by news organizations such as the New York Times, BBC and others. In 2020 her wastewater surveillance work for early detection of viral outbreaks was featured in *Women in Engineering and Science: Investigations by Prominent Female Engineers*, Springer Nature, Switzerland. In 2022 she was featured in the *Smithsonian: Stories of Women in STEM: Biotechnology*. For her research related to viruses in environmental systems and prediction of outbreaks she received awards by the US Environmental Protection Agency (2018) and by the American Society of Civil Engineers (2021 and 2022). In 2023 she received the William J. Beal Outstanding Faculty Award at Michigan State University.

RTESE 2025 KEYNOTE SPEAKER



Titles: A Knowledge Management Model for Strengthening Coastal Aquifers Resilience in Latin-American Countries Against Potential Climate Change Impacts.

Dr. Edgar Quiñones-Bolaños, University of Cartagena, Colombia

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Edgar Quiñones. Bolaños is a Civil Engineer graduated from the University of Cartagena. He also holds a Specialization in Physical Sciences from the National University of Colombia, and a master's and a PhD in Environmental Engineering from the University of Guelph (Canada). His research interests are in the field of environmental management, including modeling and studies related to fate mechanisms of pollutants in water, air, soil and their interaction with human health, biota, and the cultural heritage of the Colombian nation. He has more than 32 years of experience as a researcher, with more than 100 publications (books, peer-reviewed articles, presentations), of which books such as "Environmental Factors in the Walls of Cartagena de Indias" and "Assessment of Environmental Risk Levels in the District of Cartagena de Indias" stand out. He has international experience with the development of projects with Toronto Metropolitan University and Guelph University in Canada, Macquarie University in Australia, Purdue University and the University of Southern California in the United States. He is currently the director of the environmental modeling research group (Category A1), coordinator of the master's degree in environmental engineering and the PhD program in engineering at the University of Cartagena.

RTESE 2025 KEYNOTE SPEAKER



Titles: Membrane-Based Energy-Efficient Resource Recovery From Wastewaters

Dr. Zhe Yang, The University of Queensland, Australia

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Dr. Zhe Yang currently is an ARC DECRA fellow in the School of Chemical Engineering/Dow Centre for Sustainable Engineering Innovation at the University of Queensland. He obtained his PhD degree in Environmental Engineering in 2018 at the University of Hong Kong (PhD supervisor: Prof. Chuyang Tang). He was appointed as research assistant/post-doc fellow in HKU from Nov 2018 to July 2021 and was further promoted to Research Assistant Professor from July 2021 to Dec 2023. He was recognized as a Top 1% Scholar worldwide ranked by Clarivate Analytics by citations in 2023. Dr. Yang has more than 10 years of R&D experience in membrane technology in the context of desalination, water reuse, and water/wastewater treatment. To date, he has published over 70 papers and two book chapters, with total citations of over 6,600 and an h-index of 42 based on Google Scholar. Most of these papers (90%) are published in Nature indexed/top tier journals in the field of environmental engineering and membrane technology, including Nature Communications, Nano Letters, Chemical Society Reviews, Environmental Science & Technology, Environmental Science & Technology Letters, Water Research, and Journal of Membrane Science. He has been awarded numerous prestigious awards, including The First Prize of the Water 2023 Young Investigator Award, Early Career Stars of Separation & Purification Technology, The 2022 ACS ES&T Engineering Best Paper Award, the Geneva International Exhibition of Inventions Gold Metal in 2019, etc. He currently serves as the Early Career Editorial Board member of the leading journal in his field (Desalination, IF 8.3).

RTESE 2025 KEYNOTE SPEAKER



Titles: Nano-Engineered Graphene-Based Porous Materials for Water Treatment

Dr. Nariman Yousefi, Toronto Metropolitan University, Canada

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Yousefi is developing an innovative water filtration technology. Made of graphene, a carbon-based material whose full properties were discovered in 2004, his "sponge" has the potential to revolutionize the kind of water we drink. "I'm trying to make it possible for everyone to have access to safe, clean water," he says. "From northern communities in Canada to developing countries around the world." When scaled for home-use, his filtration system will be small enough to fit in a jug yet powerful enough to absorb contaminants such as heavy metals, pharmaceuticals, hormones, illicit drugs, bacteria and viruses, as well as nano- and micro-plastics, many of which current technologies cannot remove. Yousefi's filter will also be eco-friendly. "This needs to be a basic operating principle for engineers, especially in the water field," he says. "Everything you design and invent needs to be green."

LIST OF PAPERS

Plenary & Keynote Speakers

A Knowledge Management Model for Strengthening Coastal Aquifers Resilience in Latin-American Countries Against Potential Climate Change Impacts

Authors: Edgar Quiñones-Bolaños

Membrane-Based Energy-Efficient Resource Recovery From Wastewaters

Authors: Zhe Yang

Pollutions and Treatments

Modulating the Coordination Environment of Single-Atom Catalysts for Energy and Environmental Applications

Authors: Xiaoqiang An

Estimation of the Essential Mineral Content in Biota Species from the Ionian and Adriatic Coastal Areas in Albania

Authors: Kristi Haka, Alma Shehu, Julian Shehu

Evaluating the Environmental State of Albanian Rivers: Findings from a OneTime Sampling Campaign

Authors: : Trendelina Jaku, Alma Shehu, Fiona Gega, Julian Shehu

Assessing Opportunities in Nitrogen Management for GHG Emissions Reduction in Agriculture Systems using A Life Cycle Assessment Model

Authors: Hafiz Muhammad Hasnain Shah, Asif Zunaira

LIST OF PAPERS

Environmental Protection & Stainability

Synthesis of Petroleum Alternative Fuels by Fischer-Tropsch Synthesis on Cobalt-Platinum-Supported β -Zeolite Catalysts

Authors: Md Azhar Uddin, Manami Nakanishi, Yoshiel Kato

Environmental Sustainability in an Italian University

Authors: Marco Ragazzi, Vincenzo Torretta, Luca Adami, Elena Cristina Rade

A Dynamic Urban Environmental Comfort Framework: Integrating Spatial, Social, and Environmental Factors

Authors: Sina Ataee, Myriam Lopes, Helder Relvas

Resilience of Waste Collection in Unconventional Scenarios

Authors: Elena Cristina Rada, Marco Ragazzi, Giuseppe Angelini, Pier Luigi Fedrizzi, Luca Giacomini

Multi-pollutant Control of NO and Hg⁰ with Reduced Graphene Oxide Modified CeO₂/TiO₂ for Low-temperature NH₃-SCR

Authors: Ji-Ren Zheng, Chung-Shin Yuan

3D-Printed Bioplastics from Fish Protein and Green Solvents

Authors: Adewale Giwa

Analysing Passenger and Climate Impacts on Bus Station Cooling Energy Consumption in Kuwait

Authors: Mohamed Salem, Ahmad Sedaghat, Mohamad Hussein Farhat, Hayder Salem, Mohammad Nazififard

LIST OF PAPERS

Water and Wastewater Pollution and Treatment

Conversion of Fly Ash to Zeolites A and X and an Assessment of Their Ion Exchange Capacity

Authors: Mozghan Bahadory, Ali Aminian, Hossein Rostami

Water Quality Prediction of a High Fluctuate River Under Climate Change Scenarios

Authors: Chi-Feng Chen, Hsin-Jung Ho, Jen-Yang Lin, ShyhFang

Degradation of ciprofloxacin by electrochemical advanced oxidation process using C/PbO₂ anode

Authors: Arnab Das, Md. Mahboob Alam, Asok Adak

Towards Adaptive Water Quality Indexing: Integrating Fuzzy Logic for Improved Contaminant Detection and Treatment Planning

Authors: Joy Tuoyo Adu, Muthukrishna Kumarasamy

The Influence of structures and lithology on groundwater quality: A case study of Baringo County in the central Kenyan Rift Valley

Authors: Patrick Kirita Gevera, Kevin Kibet Ngeno & Ednah Kwamboka Onyari

SPONSORS

International ASET Inc. would like to thank the following sponsors for their support of RTESE 2025:



IJEPR

International Journal of Environmental
Pollution and Remediation



Department of
Chemical Engineering
Faculty of Engineering
& Architectural Science

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JOURNAL PUBLICATION

Selected articles from the conference will be published in the International Journal of Environmental Pollution and Remediation (IJEPR)

This journal has 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.

All published papers of IJEPR will be submitted to Google Scholar. Additionally, they will be permanently archived in Portico (one of the largest community-supported digital archives in the world) and will be assigned unique DOIs.

Please visit the following website for the respected journal:
IJEPR: <https://ijepr.avestia.com/>

RTESE 2026

The 10th International Conference of Recent Trends in Environmental Science and Engineering (RTESE 2026) will be held on June 11, 2026 – June 13, 2026 in Barcelona, Spain.



For inquiries and to obtain further information on the congress,
please visit the [website](https://www.2026.rtese.com)

You can also email info@rtese.com or call us at: +1-613-834-9999

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ETHICS & MALPRACTICE

At International ASET Inc., we take matters that relate to ethics in publishing very seriously. We believe that the peer-review publication process is a vital building block of academia, and its integrity must be maintained at all costs, which is why every article will be peer-reviewed by several experts in the field. Under peer-review, experts in the related fields are required to provide opinions and comments on the improvements of the submissions.

We are proud of our efforts towards abiding by the guidelines of ethics, integrity, and high standards in publishing.

Following are the ethics guidelines set by the organizers for the authors and the reviewers of the conference:

Scientific Committees

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: [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.

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Contribution to Decisions

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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.

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The paper being submitted for the proceedings should be based on clear objective, discussion, and references. The findings, data, and the arguments being used in the paper should be accurate. It is author's responsibility to guarantee the authenticity of the data in the paper.

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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.

Acknowledgement of Source

Acknowledgement to other's work being used in the paper must be given at all times. Authors of the paper should give comprehensive credit where it is necessary, by citing the work, they use for supporting their own research.

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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.

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ETHICS & MALPRACTICE

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Schedule:

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

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