



**PROCEEDINGS OF THE 4TH
INTERNATIONAL CONFERENCE
OF RECENT TRENDS IN ENVIRONMENTAL
SCIENCE AND ENGINEERING (RTESE'20)**

November 12, 2020 - November 14, 2020 | ~~Niagara Falls, Canada~~ | Virtual Conference

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TABLE OF CONTENTS

Welcome Message from the Conference Chair.....	3
About RTESE'20.....	4
Scientific Committee.....	5
Keynote Speakers.....	6
List of Papers	8
Sponsors	11
Journal Special Issue.....	12
RTESE'21.....	13
Ethics & Malpractice	14
Contact Us	19

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 4th International Conference of Recent Trends in Environmental Science and Engineering (RTESE'20).

RTESE'20 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'20 is a series of international conferences which are held yearly. These conferences focus on all aspects of environmental science and engineering. After the success of the second conference in Ottawa, Canada, RTESE will remain in Canada and will host the third international conference.

In the second meeting of this conference, two 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 10 papers will be presented from professors, students, and researchers across the world.

We thank you for your participation and contribution to the 4th International Conference of Recent Trends in Environmental Science and Engineering (RTESE'20). We wish you a very successful and enjoyable experience.

Dr. Mehrab Mehrvar

*Conference Chair and Proceedings Editor
RTESE'20*

Dr. Zhi Chen

*Conference Co-Chair and Proceedings Editor
RTESE'20*

ABOUT RTESE'20

The International Conference of Recent Trends in Environmental Science and Engineering (RTESE'20) aims to become the leading annual conference in fields related to environmental science and engineering. The goal of RTESE'20 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 yearly. These conferences focus on all aspects of environmental science and engineering. After successfully holding RTESE'17, RTESE'18, RTESE'19 in Canada, RTESE'20 is hosted in Canada as well this year.

RTESE is an acronym for **Recent Trends in Environmental Science and Engineering**.

The proceedings is published in Ottawa, Canada.

All papers were peer-reviewed

The congress proceedings is published under an ISSN and ISBN number

Each paper is assigned a unique DOI number by [Crossref](#)

The conference proceedings is indexed by [Google Scholar](#)

The proceedings is permanently archived in [Portico](#) (one of the largest community-supported digital archives in the world)

 Google Scholar

 Crossref

 PORTICO

[Return to Top](#)

SCIENTIFIC COMMITTEE

We would like to thank the following for accepting to act as a member of the Scientific Committee for the RTESE'20 Congress:

Scientific Committee Chairs



Dr. Mehrab Mehrvar
Ryerson University, Canada
Conference Chair



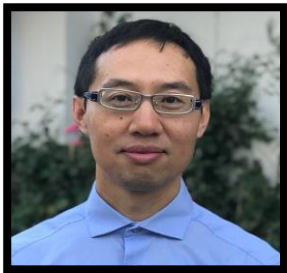
Dr. Zhi Chen
Concordia University, Canada
Conference Co-Chair

Scientific Committee Members

- **Dr. Zhi Chen**, Concordia University, Canada
- **Dr. Christopher Chao**, The Hong Kong University of Science and Technology, Hong Kong
- **Dr. Sarah Dickson**, McMaster University, Canada
- **Dr. Baoqiang Liao**, Lakehead University, Canada
- **Dr. Loretta Li**, University of British Columbia, Canada
- **Dr. Samuel Ma**, Texas A&M University, USA
- **Dr. Konstantinos Menelaou**, Environment and Climate Change Canada, Canada
- **Dr. Fumitake Nishimura**, Kyoto University, Japan
- **Dr. Kavitha Palaniappan**, University of Newcastle, Singapore
- **Dr. Chavalit Ratanatamskul**, Chulalongkorn University, Thailand
- **Dr. Hongbo Su**, Florida Atlantic University, USA

KEYNOTE SPEAKER

We are very happy to announce the following keynote speakers for the 4th International Conference of Recent Trends in Environmental Science and Engineering (RTESE'20):



Dr. Xingmao Samuel Ma

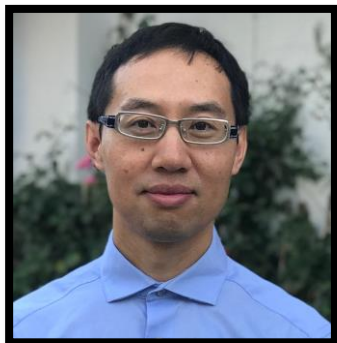
Texas A&M University, USA of Minnesota, USA



Dr. Lynda McCarthy

Ryerson University, Canada

RTESE'20 KEYNOTE SPEAKER



Titles: Elucidating the Underlying Physical, Chemical and Biological Mechanisms for the Altered Plant Uptake and Accumulation of Heavy Metals by Engineered Nanoparticles

[Dr. Samuel Ma, Texas A&M University, USA](#)

[View Abstract](#)

[Return to Top](#)

Dr. Xingmao (Samuel) Ma is an associate professor in the Zachry Department of Civil and Environmental Engineering at Texas A&M University. He received his Ph.D. in Civil (Environmental) Engineering from the Missouri University of Science & Technology in 2004. Before he joined Texas A&M University in January 2015 as a tenured associate professor, he was an assistant and then associate professor at Southern Illinois University Carbondale for seven years. His current research interests include environmental fate and transport of engineered nanoparticles in plant-soil ecosystems and sustainable applications of nanotechnology in agriculture and environment. He is also interested in understanding the biogeochemistry of conventional and emerging environmental pollutants and how the biogeochemical processes of concerned environmental pollutants are affected by co-existing pollutants. His research efforts also extend to water reuse and membrane technologies. He has published over 75 journal articles and book chapters and delivered more than 80 presentations in national and international conferences. He has been a keynote speaker in several international conferences. He is an associate editor of *Environmental Chemistry Letters*, an editorial member of the *International Journal of Phytoremediation*, and a member of the Board of Directors of the International Phytotechnology Society. He has supervised and co-supervised 5 Ph.D students, 18 M.S students, 1 postdoctoral researcher, and 6 visiting scholars.

RTESE'20 KEYNOTE LECTURE



Titles: “Silent Spring” to “The Lorax”:
Environmental Science and Using Answers
from the Past to Find Solutions for the
Future

[Dr. Lynda McCarthy, Ryerson University,
Canada](#)

[View Abstract](#)

[Return to Top](#)

Dr. Lynda McCarthy is a Professor in the Department of Chemistry and Biology at Ryerson University in Toronto. Her research includes aquatic ecotoxicology, Great Lakes pollution and remediation, and assessing the impact on organisms exposed to land-applied pulp mill and municipal biosolids.

In the past decade, she has received funding for her research from sources such as the Natural Sciences and Engineering Research Council (NSERC Discovery and Strategic Grants) and the National Centres for Excellence’s (NCE) Canadian Water Network (CWN). She attended Queen’s University and the University of Waterloo where she gained a BSc and a PhD respectively and was a Department of Fisheries and Oceans federal government scientist for many years at the Great Lakes institute Canada Centre for Inland Waters (CCIW).

At Ryerson University, Dr. McCarthy received the prestigious Dean’s Teaching Award for excellence in teaching and she is the founding visionary behind Ryerson Urban Water (RUW). She is also leading an initiative that brings Ontario school boards and the Ministry of Education together with education experts in an effort to develop a deep environmental literacy in our children. Her motto is: from the classroom to the boardroom to the legislature.

LIST OF PAPERS

Environmental Protection

Title: Inoculation of Soil With Cadmium-Resistant Actinomycetes Flora Reduces Cadmium Accumulation in Rice (*Oryza Sativa* L.)

Authors: XUE Shengping, WANG Xiaohuan

[View Paper](#)

Title: Contributions to Keep the Atmosphere Balanced: How a Magnetic Minimizer of Emissions from Mobile Sources Should Be Designed

Authors: Raul Guerrero Torres, Mehrab Mehrvar

[View Paper](#)

Title: Towards understanding the Effect of Oil on Phytoremediation of PCB CoContamination in Transformer Oil Using *Chromolaena Odorata*

Authors: R. O. Anyasi, H. I. Atagana

[View Paper](#)

Title: Recyclable Treatment of Cyanide in the Mining Industry: The Way Forward

Authors: RO Anyasi, HI Atagana, JO Raymond Anyasi, CS Ajah

[View Paper](#)

Title: Contributions to Keep the Atmosphere Balanced: Reflections on Implementing the Global Use of a Meb Minimizer to Abate Air Pollution from Mobile Sources Controlling Co2 Emissions

Authors: Raul Guerrero Torres, Mehrab Mehrvar

[View Paper](#)

LIST OF PAPERS

The following papers were presented at the 4th International Conference of Recent Trends in Environmental Science and Engineering (RTESE'20).

Environmental Sustainability and Development

Title: Bacteria-Endophyte Enhanced Phytotreatment of Petroleum Hydrocarbon-Contaminated Soil by *Nicotiana Tabacum*

Authors: Anyasi, Raymond Oriebe; Atagana, Harrison Ifeanyichukwu ; Sutherland, Rene

[View Paper](#)

Title: Reviewing the Trend in Image Processing Techniques Used in the Agriculture Industry

Authors: Smriti Sridhar , Rajiv Gupta , Garrick Louis

[View Paper](#)

Title: Rehabilitation Proposal for a Rural Settlement Affected By the Fundão Dam Tailings (Mariana-Brazil): A Study Case

Authors: Bárbara Carolina Soares Fortes, Maria Rita Scotti, Maria Cristina Villefort, Stael Alvarenga

[View Paper](#)

LIST OF PAPERS

Water Resources and Treatment

Title: Morphological Investigation Of Cellulose Acetate Nanofibrous Membranes

Authors: Nasrin Attari, Robert Hausler

[View Paper](#)

Title: Insights into the Impact of Transporter Proteins on the Uptake and Transport of Cerium Oxide Nanoparticles by Soybean (*Glycine max.* (L.) Merr.)

Authors: Xingmao Ma

[View Paper](#)

SPONSORS

International ASET Inc. would like to thank the following sponsors for their support of RTESE'20:



[Return to Top](#)

JOURNAL SPECIAL ISSUES

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

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

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.

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

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

RTESE'21

The 5th International Conference of Control, Dynamic Systems, and Robotics (RTESE'21) will be held in May 17-19, 2021 in Niagara Falls, Canada.



For inquiries and to obtain further information on the congress, please visit the [website](http://www.2021.rtese.com) or call us at:

+1-613-834-9999

[Return to Top](#)

ETHICS & MALPRACTICE

Publication Ethics and Publication Malpractice Statement

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

Scientific Committee

Scientific Committee

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

Scientific Committee

Equality and Decisions

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

Confidentiality

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

Conflicts of Interest

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

ETHICS & MALPRACTICE

Reviewers

Contribution to Decisions

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

Promptness

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

Confidentiality

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

Fairness

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

Thoroughness

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

Conflicts of Interest

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

ETHICS & MALPRACTICE

Authors

Authorship

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

Accuracy, Originality, and Plagiarism

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

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

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

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Conflicts of Interest

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

Animal and Human Subjects

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

Hazardous Material

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

Reporting of Mistakes, Errata, and Retractions

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

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

ETHICS & MALPRACTICE

Publisher

Errata and Retractions

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

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Ownership and Management

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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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[Return to Top](#)