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On behalf of the International Academy of Science, Engineering and Technology (International ASET Inc.), the organizing committee would like to welcome you to the 5th International Conference of Energy Harvesting, Storage, and Transfer (EHST’21).

EHST'21 is aimed to become one of the leading international annual conferences in the fields related to energy harvesting, storage, and transfer. 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.

EHST is a series of international conferences held yearly. These conferences focus on all aspects of Energy Harvesting, Storage, and Transfer. Due to COVID-19, we have made the decision to hold the 5th International Conference of Energy Harvesting, Storage, and Transfer (EHST’21) virtually this year.

In the fifth meeting of this conference, two keynote speakers will share their expertise 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 5th International Conference of Energy Harvesting, Storage, and Transfer (EHST’21). We wish you a very successful and enjoyable experience.

Dr. Boguslaw Kruczek  
*Conference Chair and Proceedings Editor*  
*EHST'21*

Dr. Xianshe Feng  
*Conference Co-Chair and Proceedings Editor*  
*EHST'21*

Dr. Wael H. Ahmed  
*Technical Program Chair*  
*EHST'21*
The 5th International Conference of Energy Harvesting, Storage, and Transfer (EHST'21) aims to become the leading annual conference in fields related to energy harvesting, storage, and transfer. The goal of EHST'21 is to gather scholars from all over the world to present advances in the fields related to energy harvesting, storage, and transfer 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.

EHST is a series of international conferences held yearly. These conferences focus on all aspects of Energy Harvesting, Storage, and Transfer. Due to COVID-19, we have made the decision to hold the 5th International Conference of Energy Harvesting, Storage, and Transfer (EHST'21) virtually this year.

EHST is an acronym for Energy, Harvesting, Storage, and Transfer.

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)
We would like to thank the following for accepting to act as a member of the Scientific Committee for the EHST’21 Conference:

**Scientific Committee Chairs**

**Dr. Boguslaw Kruczek**  
University of Ottawa, Canada  
Conference Chair

**Dr. Xianshe Feng**  
University of Waterloo, Canada  
Conference Co-Chair

**Dr. Wael H. Ahmed**  
University of Guelp, Canada  
Technical Program Chair

**Scientific Committee Members**

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Dr. Sylvie Lorente, INSA Toulouse, France  
Dr. Jean Duquette, Carleton University, Canada  
Dr. Hadis Zarrin, Ryerson University, Canada  
Dr. Ali Tarokh, Lakehead University, Canada  
Dr. Hany Farag, York University, Canada  
Dr. Yanhai Du, Kent State University, Canada  
Dr. Stefano Leonardi, University of Texas, Dallas, USA  
Dr. ZhongYang Cheng, Auburn University, USA  
Dr. Mohtada Sadrzadeh, University of Alberta, Canada  
Dr. Leonardo Chamorro, University of Illinois at Urbana-Champaign, USA  
Dr. Liang Yu, Beijing Institute of Technology, China
The keynote information for the 5th International Conference of Energy Harvesting, Storage, and Transfer (EHST'21) is as follows:

**Dr. Mohtada Sadrzadeh**  
University of Alberta, Canada

**Dr. Stefano Leonardi**  
The University of Texas at Dallas, USA
Dr. Sadrzadeh researches the fundamental and applied aspects of membrane materials and process development, focusing on their applications in industrial/residential wastewater treatment and energy harvesting from wastewater. The contributions made by Dr. Sadrzadeh during his academic career thus far have led to the development and application of novel composite and nanocomposite membranes for water and gas treatment. He has an h-index of 32 (according to Scopus) with his 120+ refereed publications cited more than 2400 times. He is currently directing Advanced Water Research Lab (AWRL) at the University of Alberta that is equipped with membrane and nanoparticle synthesis and characterization equipment as well as membrane filtration systems. In this unique membrane-specialized facility in western Canada, ten graduate students and four postdoctoral fellows are working under his supervision on cutting-edge membrane technologies. He already graduated 7 PhD and 11 MSc students.

For more information please visit: https://ehstconference.com/keynote-speakers/

Stefano Leonardi is a professor at the Department of Mechanical Engineering University of Texas at Dallas. He got a Master degree in Aeronautical Engineering (1999) and a PhD in Theoretical and Applied Mechanics (2002) at the University of Rome “La Sapienza”, Italy. He was Assistant Professor from 2006 to 2010 and Associate professor from 2010 to 2013 at the University of Puerto Rico at Mayaguez. He joined UTD in 2013. His research interests are in turbulent flows over rough walls, heat transfer, turbo-machinery, super-hydrophobic surfaces, wind turbines, cardiovascular flow, wildfire propagation and oceanography. Leonardi’s research has been funded by National Science Foundation, Office of Naval Research, National Institute of Health, American Heart Association, National Renewable Energy Laboratory, Pratt & Whitney and Argonne National Lab.
# LIST OF PAPERS

The following papers were presented at the 5th International Conference of Energy Harvesting, Storage, and Transfer (EHST’21).

## Energy Conversion and Storage

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The following papers were presented at the 5th International Conference of Energy Harvesting, Storage, and Transfer (EHST’21).

## Energy Conversion and Storage

**Titles:** Multiple Electrodes-based Bubble Motion Active Transducer for Effective Electrical Energy Harvesting  
**Authors:** K. Rohana Wijewardhana, Thilini K. Ekanayaka, E. N. Jayaweera  

[View Paper](#)

**Titles:** Compressed Air Energy Storage for a Small-Scale Wind Turbine  
**Authors:** Abdullah Bin Walid, Juliana D'Angela Mariano  

[View Paper](#)
International ASET Inc. would like to thank the following sponsors for their support of EHST'21:
Selected articles from the conference will be published in the *Journal of Fluid Flow, Heat and Mass Transfer (JFFHMT)* after a secondary review process.

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 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.

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All published papers of JFFHMT 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.
The 6th International Conference on Energy Harvesting, Storage, and Transfer (EHST'22) will be held on June 8, 2022 - June 10, 2022 in Niagara Falls, Canada.

For inquiries and to obtain further information on the congress, please visit the website

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

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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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