Transport & Energy Processes Division
An AIChE Community

2022 TEP FALL NEWSLETTER

Welcome to the AIChE TEP 2022 Fall Newsletter! In this letter, you will find a welcome message from the chair; announcements about TEP Programming and upcoming meetings, awards winners and call for award nominations, abstract submissions for upcoming conferences.

MESSAGE FROM THE CHAIR

Dear TEP Colleagues and Friends,

The TEP Division ("Division 7") continues to provide engineers and scientists with an interest in transport and energy processes a community to join. While the division continues to support its members interested in heat and mass transport processes by providing a platform to share and discuss their knowledge and experiences in the field, the division also expanded to emerging areas such as fuel cell and energy storage technologies as well as CO_2 capture, storage and utilization in the recent years. We organize topic symposia and sessions in the relevant research fields in both AIChE spring and annual meetings and look forward to seeing you at the upcoming AIChE meeting. We appreciate your membership and engagement, and encourage you to invite early career professionals and nominate colleagues for the TEP Division awards.

Best wishes,
Burcu Gurkan
TEP Division Chair
Nord Distinguished Associate Professor
Chemical and Biomolecular Engineering
Case Western Reserve University

TEP PROGRAMMING and UPCOMING MEETINGS

TEP business meeting is scheduled to be in-person on November 15, 2022 (6 to 7 pm MST in Phoenix Convention Center - N-227B) during the AIChE Fall Meeting in Phoenix, AZ. During this meeting, TEP leadership and members will meet to discuss topics including plans for the upcoming AIChE meetings, deadlines for various events and activities. All TEP members are welcomed to join this meeting. This is a great opportunity to learn about the division, our people, and symposia organized by TEP, as well as networking with professionals and experts in our community.

TEP Programming Areas

7a. Transport Processes in Chemical Reactors: This session welcomes presentations on experimental and numerical analysis of transport in all types of chemical reactors.

7b. Transport Phenomena in Sustainable Fuels: Experimental and numerical efforts related to Sustainable and/or Alternative fuels such as biofuels, hydrogen, and syngas.

7c. Clean Energy Processes: Transport In Advanced Fuel Cell Technologies: fundamental understanding on key components including catalysts, electrolytes, and electrode design to single cell and stack systems such as testing protocols, performance evaluation, and cost analysis. Other topics of interest: CO_2 Capture, Utilization, and Disposal

7d. Energy Conversion & Storage Processes: Electrochemical energy storage topics including advanced electrode materials discovery and fabrication, innovative electrolytes development, chemomechanical and interfacial challenges, reaction kinetics, and mechanism by experimental, theoretical and computational methods are all welcome. Both fundamental and applied research in electrochemical energy storage technologies related to materials, processes, devices and safety are considered. Thermal energy storage (TES) topics including numerical and experimental work on phase change materials, sensible heat, and chemical reaction.

Symposia at the 2022 AIChE Annual Meeting

November 15, 2022
289 CO_2 Capture, Utilization, and Disposal: Key to Clean Energy Production
319 Fuel Processing for Hydrogen Production
354 Transport In Advanced Fuel Cell Technologies
423 - Advanced Electrochemical Storage

November 16, 2022
474 Thermal Energy Storage
531 Advanced Electrochemical Energy Storage Technologies I
577 Advanced Electrochemical Energy Storage Technologies II
540 Poster Session: Transport and Energy Processes Division

TEP AWARDS WINNERS

2021 Kern Award Winner
Professor John H. Lienhard V
Department of Mechanical Engineering, Massachusetts Institute of Technology
"For outstanding contributions to process engineering that have advanced energy-efficient thermal and membrane desalination systems and liquid jet impingement cooling at high heat flux."

2022 TEP Best Paper Award Winner
Bertrand J. Neyhouse
PhD candidate in Chemical Engineering, Massachusetts Institute of Technology
"For scholarly activities encompassing experimental and modeling research of active materials and membranes for redox flow batteries." Paper titled: "Too Much of a Good Thing? Assessing Performance Tradeoffs of Two-Electron Compounds for Redox Flow Batteries"

CALL for NOMINATIONS

2023 Donald Q. Kern Award: Nominate a colleague in recognition of their expertise in a given field of heat transfer, transport phenomena, and energy processes. Please send nominations to the TEP Director Burcu Gurkan (beg23@case.edu).

2023 TEP Division Award: Nominate a colleague for outstanding chemical engineering contribution and achievement in heat transfer or energy conversion. Please send nominations to Daniela Mainardi (mainardi@latech.edu).

2023 TEP Graduate Student Best Paper Award: Nominations can be submitted by symposium organizers to TEP Director Andrej Lenert (alenert@umich.edu) from abstracts submitted to their TEP symposium.

FUTURE CONFERENCES

2023 AIChE Annual Meeting, November 5-10, 2023, Orlando, FL
2023 Spring Meeting and 19th Global Congress on Process Safety, March 12-16, 2023, Houston, TX
2023 Micro & Nanoscale Phase Change Phenomena Gordon Research Conference, Jan 8-13, 2023, Lucca, Italy