

SUNDAY, NOVEMBER 2

Technical Program

3:00 PM REGISTRATION OPENS: BARANOFF LOBBY (REMAINS OPEN THROUGH MEETING)

PLENARY LECTURE SESSION

Tom Zawodzinski, Discussion Leader

4:30 PM Opening Remarks: Brian Benicewicz, Michael Hickner, and Tom Zawodzinski

5:00 PM Jeorg Belak, BASF

BASF Celtec® Technology - Improved HT-PEM Products for Alternative Applications

5:30 PM WELCOME RECEPTION

MONDAY, NOVEMBER 3

8:00 AM BREAKFAST: FOUR SPRINGS BALLROOM

Proton Exchange Membranes

Brian Benicewicz, Discussion Leader

9:00 AM Karen Winey, University of Pennsylvania

Self-Assembled Nanoscale Water Channels for Fast Conductivity in Fluorine-Free Polymers

9:30 AM Justin Kennemur, Florida State University

Can We Find Universal Design Strategies for PEMs and AEMs from Precision Polyolefins

10:00 AM Michael Hickner, Michigan State University

The Role of Water in Ion Exchange Membranes

10:30 AM BREAK

11:00 AM Amalie Frischknecht, Sandia National Laboratories

Relationships between Morphology and Dynamics in Anion-Exchange Polymers

11:30 AM SESSION WRAP UP & TOPIC DISCUSSION

12:00 PM LUNCH: FOUR SPRINGS BALLROOM

Intermediate and High Temperature

Michael Hickner, Discussion Leader

2:00 PM Tom Zawodzinski, University of Tennessee, Knoxville

Composite Electrolytes for PEM Fuel Cells Operating at Low RH and T>100°C

2:30 PM Christopher Arges, Argonne National Laboratory

High-Temperature Ionomers for Fuel Cells and Hydrogen Pumps

3:00 PM Brian Benicewicz, University of South Carolina

Polybenzimidazole Membranes for Heavy Duty Transportation

3:30 PM BREAK

4:00 PM SESSION WRAP UP & TOPIC DISCUSSION

4:15 PM POSTER PREVIEW TALKS

5:00 PM POSTER SESSION AND RECEPTION (TWO HOUR SERVICE)

TUESDAY, NOVEMBER 4

8:00 AM BREAKFAST: FOUR SPRINGS BALLROOM

Anion Exchange Membranes

Justin Kennemur, Discussion Leader

Chulsung Bae, Rensselaer Polytechnic Institute

9:00 AM Hydroxide Ion-Conducting Polymer Membranes and Ionomers: Synthesis, Properties, and Applications

Vladimir Atanasov, University of Stuttgart

Recent Advances in HT-PEMFC at University of Stuttgart

10:00 AM BREAK

Flow Battery Membranes + Electrolysis

Christopher Arges, Discussion Leader

10:30 AM Geoff Geise, University of Virginia

Characterizing and Modeling Ion Partitioning in Charged Polymers

11:00 AM Adam Imel, University of Tennessee-Oak Ridge Innovation Institute

Surfactant Effects on Structure and Transport on PFSA Membranes

11:30 AM SESSION WRAP UP & TOPIC DISCUSSION

12:00 PM LUNCH: FOUR SPRINGS BALLROOM

NO TECHINCAL PROGRAMMING TUESDAY AFTERNOON – OPEN FOR INDIVIDUAL NETWORKING

WEDNESDAY, NOVEMBER 5

8:00 AM BREAKFAST: FOUR SPRINGS BALLROOM

Ion Transport

Geoff Geise, Discussion Leader

9:00 AM Ben Meekins, University of South Carolina

Aqueous and Anhydrous HCl Electrolysis Using Polybenzimidazole Membranes

9:30 AM Ahmet Kusoglu, Lawrence Berkeley National Laboratory

Mapping Properties of Ionomers to Chemistry, Environment and Confinement

10:00 AM Brian Benicewicz, Michael Hickner, and Tom Zawodzinski

Closing Remarks, Meeting Adjourns

11:00 AM Hotel Checkout

MONDAY, NOVEMBER 3, 2025

POSTER PROGRAM

Cyril C. Anorondu

1. Florida State University

Polymer Blend Electrolytes from PEO, PVA, and PEI with Fixed-Anion Poly(4-styrenesulfonate)

Anyka Bergeson, Rangachary Mukundan, Ahmet Kusoglu

2. Lawrence Berkeley National Laboratory

Investigating the Mechanical Properties of Aged PEMWE Membranes Under Compression

Chris Birch, Jamie Gaitor, Edward P. Zovinka, Danielle Markovich, Qihao Li, David A. Muller, Héctor D. Abruña, Tomasz Kowalewski, and Kevin J.T. Noonan

3. Carnegie Mellon University

Examining Impact of Insulating Comonomers in Vinyl-Addition Poly(norbornene) Anion Exchange Membranes

Hui Duan, Lan Wang, and Yushan Yan

4. University of Delaware

Hybrid Organic-Inorganic Anion Exchange Membranes Based on Zwitterionic Functionalized Anion Exchange Polymers

Lindsay F. Jones, Daniel Vigil, Amaile L. Frischknecht, and Karen I. Winey

5. University of Pennsylvania

Fourier Transform Infrared Spectroscopy of Water Dynamics in Hydrocarbon Proton Exchange Membranes

Ishwor Karki, Kris Likit-anurak, Benjamin Meekins, and Brian C. Benicewicz

6. University of South Carolina

Mechanically Robust Dense PBI Membranes for High Power Density

Ji Hee Kim, Hyejin Lee, Hyo Jun Min, Jonghak Kim, Byungchan Bae, and Dongwon Shin

7. Korea Institute of Energy Research

Tailoring Cationic Functional Groups to Enhance Durability and Conductivity of Polyphenylene-based Anion Exchange Membranes

Douglas I. Kushner, Harrison J. Cassady, and Ahmet Kusoglu

8. Lawrence Berkeley National Laboratory

Characterizing Composite Fuel Cell Membranes

Huina Lin and Brian C. Benicewicz

9. University of South Carolina

Ion-Pair Polybenzimidazole Membranes for Fuel Cells with Flexible Operating Temperatures

Hao Liu, Md Waliullah Hossain and Chuanbing Tang

10. University of South Carolina

Polycarbazoles for High-Performance AEM Fuel Cells

Heemin Park, Jong Yeob Jeon, Pothana Gandhi Nellepalli, Daniel P. Leonard, Sun Y. Kang, Yu Seung Kim, Chulsung Bae, and **Adam McKnight**

11. Rensselaer Polytechnic Institute

Cyclic Olefin Copolymer-Based Anion Exchange Membranes for Fuel Cells and Water Electrolysis

MONDAY, NOVEMBER 3, 2025, CONTINUED

POSTER PROGRAM

12. **Hyo Jun Min**, Ji Hee Kim, Dongwon Shin, Hyejin Lee, and Byungchan Bae
Korea Institute of Energy Research
Boc-Enabled Regenerative Ni(0) Synthesis of Polyphenylene Block Copolymers for Anion Exchange Membrane

13. **Liam Radeke** and Justin G. Kennemur
Florida State University
Minimization of Chain Transfer Events to Achieve High Molar Mass Polypentenamer Membranes

14. **Dmytro Serhiichuk**, Theodora Dragani and Anastasiia Konovalova
Technical University of Denmark
Polymer Engineering for Next-Generation CO₂ Electrolysis

15. Poster Withdrawl

16. **Dongwon Shin**, Sungwon Cho, Hyo Jun Min, Hyejin Lee, and Byungchan Bae
Korea Institute of Energy Research
Antioxidant-Assisted Improvement of Chemical Stability in Hydrocarbon-Based Polymer Electrolyte Fuel Cell Components

17. **Nadia Z. Singleton** and Justin G. Kennemur
Florida State University
Synthesis and Design of Flexible, Modular, and Well-Defined Anion Exchange Membranes

18. **Lucius Veiga**, Douglas I. Kushner, and Ahmet Kusoglu
Lawrence Berkeley National Laboratory
Interplay of Pretreatment and Processing effects in Ionomer Membranes

19. **Catherine M. Weiss**, Shouwen Shi, Douglas Kushner, Ahmet Kusoglu, and Adam Z. Weber
Lawrence Berkeley National Laboratory
Water Transport in Ionomers: The role of Interface and Chemistry

20. **Charlie Womack**, Nam Nguyen, Michael Patrick Blatt, Kyoungmin Kim, Daniel T. Hallinan* and Justin G. Kennemur
Florida State University
Blending Precise Polyelectrolytes with PEO for Next Generation Batteries: Miscibility, Conductivity, and Transference Values near Unity

21. **Benjamin Broekhuis** and Christopher Arges
University of Chicago/Argonne National Laboratory
Ion-pair polymer electrolytes membranes prepared from commercial anion exchange membranes