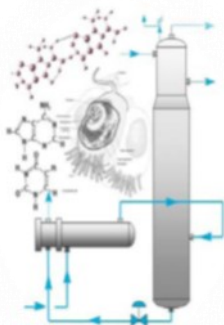


AIChE Chicago Section January 2024 Newsletter



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Joint ACS/AIChE Chicago January Meeting Designing Better Materials for Future Batteries



Y. Shirley Meng, Ph.D.

**Laboratory for Energy Storage & Conversion,
The University of Chicago, IL, USA**

**Argonne Collaborative Center for Energy Storage Science (ACCESS),
IL, USA**

Date: **Wednesday, January 24, 2024**

Location: **Moretti's Ristorante & Pizzeria Rosemont**

Address: [9519 W Higgins Rd, Rosemont, IL 60018](https://www.morettisrestaurants.com/rosemont)

<https://www.morettisrestaurants.com/rosemont>



Cost: **\$40** **AIChE Global and Chicago Section Member**
\$50 **Non-Member**
\$15 **Unemployed/Retired**
\$10 **Student**

Registration and Information: <https://cvent.me/4YZIzw>

Agenda:

DATE

5:00-6:00 PM: Networking and Social hour

6:00-7:00 PM: Dinner

7:00-7:15 PM: Section Announcements

7:15-8:30 PM: Presentation and Q&A

Chair's Corner

Hello AIChE Chicago Section, and welcome to 2024! As we delve into the new year, I want to express my gratitude for your participation and support last year. Your presence and participation at our monthly meetings has sparked insightful discussions and memorable connections. I hope that over the holidays you were able to relax, recharge, and spend some time with loved ones.



We closed out the last calendar year with a great presentation on the intricacies of atomistic modeling of battery materials from Dr. Hakim Iddir, and are looking forward to another energy storage presentation in January. We will be hearing from Dr. Shirley Meng, currently associated with Argonne National Lab and the University of Chicago, about "Designing Better Materials for Future Batteries." Dr. Meng's research is at the forefront of energy storage and conversion. Through combining cutting-edge analytical techniques and simulation approaches, she has developed innovative frameworks for the exploration of next-generation battery materials. Her work spans across lithium-ion batteries, sodium-ion batteries, all-solid-state batteries, magnetic materials, and more. Please join us to learn about some exciting innovations in these battery technologies, and I encourage you to bring along colleagues and friends who are interested in AIChE, the energy transition, or battery technologies.

We're also excited about the upcoming 2024 Midwest Regional Conference. Mark your calendar for March 5-6 at the Illinois Institute of Technology. This event is an excellent platform to foster learning, networking, and community engagement. Early bird registration closes soon, visit www.aiche.org/community/sites/local-sections/chicago to learn more and register today!

I'll close again by mentioning that my inbox is open to you. Please voice your thoughts, suggestions, criticisms, or questions at chair@aichechicago.org. Let's collaborate to make AIChE Chicago Section a continuous platform for growth and innovation.

Thank you for your continued dedication. Here's to new discoveries, learning, and success in 2024.

Best,

McKay Rytting

AIChE Chicago Section Chair 2023-24

Cont. from Page 1

January Meeting information

Biography:

Dr. Y. Shirley Meng is a Professor at the Pritzker School of Molecular Engineering at the University of Chicago. She serves as the Chief Scientist of the Argonne Collaborative Center for Energy Storage Science (ACCESS) Argonne National Laboratory. Dr. Meng is the principal investigator of the research group - Laboratory for Energy Storage and Conversion (LESC), that was established at University of California San Diego since 2009. She held the Zable Chair Professor in Energy Technologies at University of California San Diego (UCSD) from 2017-2022. Dr. Meng received several prestigious awards, including ECS Battery Division Research Award (2023), the C3E technology and innovation award (2022), the Faraday Medal of Royal Chemistry Society (2020), International Battery Association IBA Research Award (2019), Blavatnik Awards for Young Scientists Finalist (2018), C.W. Tobias Young Investigator Award of the Electrochemical Society (2016) and NSF CAREER Award (2011). Dr. Meng is elected Fellow of Electrochemical Society (FECS), Fellow of Materials Research Society (FMRS) and Fellow of American Association for the Advancement of Science (AAAS). She is the author and co-author of more than 300 peer-reviewed journal articles, two book chapters and six issued patents. she is the Editor-in-Chief for Materials Research Society MRS Energy & Sustainability. Dr. Meng received her Ph.D. in Advance Materials for Micro & Nano Systems from the Singapore-MIT Alliance in 2005. She received her bachelor's degree in Materials Science with first class honor from Nanyang Technological University of Singapore in 2000.



Abstract:

High energy long life rechargeable battery is considered as key enabling technology for deep decarbonization. Energy storage in the electrochemical form is attractive because of its high efficiency and fast response time. Besides the technological importance, electrochemical devices also provide a unique platform for fundamental and applied materials science & research since ion movement is often accompanied by inherent complex phenomena related to phase changes, electronic structure changes and defect generation. In this plenary talk, I will discuss a few new perspectives for energy storage materials including new superionic conductors, new intercalation compounds and their interfacial engineering. With recent advances in photon and electron characterization tools and computational methods, we are able to explore ionic mobility, charge transfer and phase transformations in electrode and electrolyte materials in operando, and map out the structure-properties relations in novel functional metals, ceramics and gaseous materials for next generation energy storage and conversion. Moreover, I will discuss a few future priority research directions for electrochemical energy storage.

Registration: <https://cvent.me/EndNQ9>



2024 AIChE Midwest Regional Conference & Chicago Section March Dinner Meeting

Topic :

- Advances in Refining & Biorefining Technology
- Bioengineering & Nanotechnologies
- Catalysis & Reaction Engineering
- Energy Storage
- Green Engineering & Climate Solutions
- Fluid Properties, Fluid Dynamics & Transport Phenomena
- Environmental Remediation & Process Safety
- Machine Learning & Optimization
- Materials Science and Polymers

 **March 5-6, 2024**

 **Illinois Institute of Technology (IIT)**

Important Dates

- Abstract Submission Deadline: January 26th, 2024
- Acceptance Status: February 2nd, 2024
- Early Bird Deadline: February 9th, 2024
- Poster Submission Deadline: February 16th, 2024

Registration



KEYNOTE SPEAKERS



Mike Pires

Vice President, North and Central
Commercial Enablement, Americas
Air Products



Manuela Serban

Fellow
Catalysts and Process Development
for Renewable Fuels Production
Honeywell UOP



Meenesh Singh

Professor
Department of Chemical Engineering
University of Illinois at Chicago



Venkat Srinivasan

Director of the Argonne Collaborative
Center for Energy Storage Science
(ACCESS)
Argonne National Laboratory

Abstracts



Conference Website



AICHE MIDWEST REGIONAL CONFERENCE (MRC) VOLUNTEERS NEEDED!

AICHE CHICAGO HOSTS A MIDWEST REGIONAL CONFERENCE FEATURING TECHNICAL PRESENTATIONS FROM BOTH INDUSTRY AND ACADEMIA EACH SPRING. VOLUNTEERS ARE NEEDED TO HELP PLAN THIS EVENT.

WE NEED VOLUNTEERS TO HELP WITH
PROGRAMMING,
WEBSITE,
REGISTRATION,
ADVERTISING,
CATERING,
HIGH SCHOOL OUTREACH AND MORE!

IF YOU ARE INTERESTED IN HELPING OUT OR LEARNING MORE

EMAIL

BELMA.DEMIREL@BP.COM

AZITA.AD@GMAIL.COM



November Meeting Photos

Remember to check out our [Facebook page](#) for more photos and news!



2023 AIChE K-12 STEM Outreach Competition

AIChE holds a K-12 STEM Outreach Competition each year at the Annual Meeting/Annual Student Conference. The first competition was held Nov 20, 2019 in Orlando, Florida. Although AIChE Chicago has a great history of involvement in K-12 Outreach programs, we have never participated in the AIChE K-12 STEM Outreach Competition until 2023.

Entrants to the competition submit a module, which includes instructions and handouts on an interactive demonstration or experiment. Competitors submit modules based on grade levels (K-2, 3-5, 6-8, or 9-12). Awards are given to top modules for grade level category, top 2 modules from undergraduate submissions, and top 2 modules from non-undergraduate submissions.

Janet Werner represented the AIChE Chicago Section at the Competition on November 5, 2023 in Orlando, Florida with "What Makes Sour Candy Taste Sour?", a grades 3-5 module focused on pH and learning about acids. This module won 1st place for non-undergraduate submissions, winning \$500 for the section.

There were around 16 groups at the 2023 competition presenting modules. First the demonstrations were performed for judging, then they were performed for 100+ K-12 students and parents from the local Orlando area or family members of AIChE Annual Meeting attendees. The K-12 demonstrations were also open to the Annual Meeting attendees. It was great to share ideas with other chemical engineers about K-12 outreach and see so much enthusiasm from students -- both K-12 and undergraduates!







2023 AIChE Chicago Fellows Recognition


Several recently elected AIChE Fellows from the Chicago section were acknowledged at the 2023 Annual Meeting. We are proud to congratulate Jeff, Ignasi, and Adam on their accomplishment!!

AIChE 2023 New Fellows (Annual Meeting)

Jeffrey Zalc

PRINCIPAL ENGINEER - PROCESS MODELING AND ADJUNCT PROFESSOR, BP AND ILLINOIS TECH

-  15 publications
-  AIChE Chicago Local Section Leader (2019-2023) & 2020 Midwest Regional Conference Organizer
-  2021-2022 Hamid Arastoopour Excellence in Teaching Award, ChBE Department, Illinois Tech Recipient
-  In their time at BP, created a new HYSYS extension that allows simulation users to import crude oils and blends directly into the flowsheet simulation environment



AIChE 2023 New Fellows (Annual Meeting)

Ignasi Palou-Rivera

EXECUTIVE DIRECTOR & CHIEF TECHNOLOGY OFFICER, RAPID MANUFACTURING INSTITUTE (AICHE)

-  10 publications and 2 patents
-  Chicago Local Section Secretary (2020-2021), CAST Division Programming Coordinator (2012)
-  Board Member of the AIChE Institute for Sustainability (IfS) and Past Chair of AIChE's Sustainable Engineering Forum
-  Subcommittee Member on the AIChE Public Affairs & Information Committee



AIChE 2023 New Fellows (Annual Meeting)

Adam J. Kanyuh

TECHNOLOGY SPECIALIST, HONEYWELL FELLOW

-  10 Patents
-  Chair for Chicago Local American Institute of Chemical Engineers Chapter (2015 – 2016)
-  Chair for the AIChE Midwest Regional Conference (2011 & 2017)
-  Poster Chair for the AIChE Midwest Regional Conference (2019 & 2023)



2024 Meeting Schedule and Speakers

Month	Date	Speaker	Affiliation	Topic
Jan	24th	Dr. Y. Shirley Meng	University of Chicago, Argonne National Laboratory (ANR)	Designing Better Materials for Future Batteries
Feb	15th		Spraying Systems	TBA (will include lab/manufacturing tour)
Mar	5th			

Upcoming AIChE Conferences, Meetings and Webinars

AIChE Conferences

Feb 4-8, 2024	28th Annual ARC Industry Forum , Renaissance Orlando Hotel, Orlando, FL, USA
Feb 27-29, 2024	Fundamentals of Batch to Continuous Process Conversion in Specialty and API Chemistries
Feb 27-Mar 1, 2024	OTC Asia , Kuala Lumpur Convention Center, Kuala Lumpur, Malaysia
Mar 5-6, 2024	16th AIChE Midwest Regional Conference , Illinois Institute of Technology (IIT), Chicago, IL USA

AIChE Webinars

Jan 30, 2024	Venting for Gaseous and Liquid Hydrogen
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[Connect with members & participate in discussions on Engage!](#)

Check out AIChE's member benefit, AIChE Engage. Use the robust directory search to find and connect with members. Participate in technical, career, and academic discussions about chemical engineering.

Thread Subject	Replies	Last Post
Improving Soft Skills Through Mentorship article- Aiche/CEP December 2020 CEP	0	9 hours ago by Ch...
PhD Thesis		
Pressure setting for manway cover for tank emergency v...		Pr... Original post by Pr...
Digitalization in the process industry		yesterday by John Braccili Original post by Rohit Korde
Slow Progress of New-Age Tools in Chemical Engineering	6	3 days ago by Jacob Albrecht Original post by Kushal Sinha



The logo for AIChE Engage features the text "AIChE" in blue and "Engage" in orange, with a stylized globe icon in the center.

Attention Students and Parents!

If you are an undergraduate chemical engineering student or have a son or daughter that plans to study chemical engineering you may be interested in the Chicago Section's scholarship program.

Applications are due **March 15, 2024**.

Please [click here](#) to read rules and eligibility.

For a Link to the Electronic Version of the AIChE Chicago Scholarship Application Form, Click on the Link Below:

<http://form.jotform.us/form/42814483647159>



NOMINATIONS REQUESTED FOR THE ERNEST W. THIELE AWARD

The Ernest W. Thiele award is sponsored by bp and recognizes the outstanding contributions to our profession by a Midwest region chemical engineer. This award was established by the AIChE Chicago Section and is presented annually to a Midwest region AIChE member. This internationally recognized award consists of an engraved plaque and \$1,000 honorarium presented at a monthly section meeting.

Nomination forms and additional information can be obtained from the Thiele Committee Chair. Completed nominations are due to the committee chair no later than ***April 01, 2024***.

One of the highest honors a distinguished chemical engineer can receive is our AIChE Chicago Section Thiele award. Please consider nominating a deserving engineer for this prestigious award.

To nominate, please contact: Jeffrey Zalc

bp Solutions, P&O

phone: 630.881.5478 ; email: jeffrey.zalc@bp.com

More information about this award and the past winners:

<https://www.aiche.org/community/sites/chicago-local-section/ernest-w-thiele-award>

<https://www.aiche.org/community/sites/local-sections/chicago/thiele-award-past-winners>

Volunteers Needed for Chicago Local Section

How many opportunities can you find to learn project management, delegation and leadership skills for free? Volunteering with the Chicago Section of AIChE is such an opportunity. While you're learning new skills, your professional network grows. Just about all of us are either undergoing a career change, contemplating a career change, or are wondering if our career will be changed for us. Volunteering with AIChE is a way to add skills and accomplishments to your resume.

Volunteers are needed to help with:

- Programming – arrange speakers for monthly meetings, and arrange catering and venues
- Logistics – arrange catering and venues
- Newsletter Editor – prepare and publish ten monthly newsletters
- Newsletter Contributions – write meeting summaries, contribute photos, and more
- Engineering Outreach – coordinate three annual K-12 outreach events with high schools and colleges
- Professional Development and Sponsorship – arrange companies to sponsor pre-meeting talks to help fund student dinners
- Awards and Scholarship Committees – Review applications for local Section award and scholarships
- Midwest Regional Conference – many opportunities including programming, logistics, website, advertising, sponsorship, high school outreach, poster session and more!
- Young Professionals – plan socials and programming for young professionals (under 35)



If you are interested in any of these positions, please contact us aichechicago@gmail.com.

Young Professionals Committee (YPC) Chicago Section

AIChE's Young Professionals Committee (YPC) Chicago Section was created to start and maintain young professionals' involvement in AIChE after graduation and to ensure that students retain their membership through their transition into the work force.

We enthusiastically welcome all people with a degree in Chemical Engineering, including those currently working in industry and academia, recent graduates, and those pursuing other paths. We also welcome current students – both undergraduate and graduate – to our events.

The Chicago YPC exists as a subset of the AIChE Chicago section.

Our goal is to provide technical, career, and networking opportunities to young Chemical Engineering professional in the Chicagoland area. To accomplish this, we seek to provide a variety of technical and social activities, provide outreach and volunteering opportunities, and to create programming that will appeal to ChemE's under the age of 35.

Website: <https://www.aiche.org/community/sites/local-sections/chicago/young-professionals>

Email us: yp.aichechicago@gmail.com

Connect with us: We have a facebook group under YPC Chicago!

Join our mailing list: We have google group under ypcchicago!

Why Renew Your AIChE Membership?

Renew your membership now to keep learning and growing.

Renew Membership



Stay Connected to 40,000+ international members who take advantage of:

- Subscription to AIChE's flagship publication: CEP*
- Education—Access to e-learning courses and instructor-led training, offering Continuing Educations Units and PDHs
- Access to CareerEngineer—a comprehensive job site tailored to chemical engineers
- Access to the AIChE eLibrary—a wealth of information from Knovel Life Sciences and the McGraw-Hill AccessEngineering Library collections

[View COMPLETE benefits](#)

AIChE Volunteer and Meeting Attendee Conduct Guidelines

AIChE's volunteers are the core of the Institute and make all of its programs, conferences and educational efforts possible. These offerings provide excellent opportunities for AIChE members and meeting attendees to gain greater technical expertise, grow their networks, and enhance their careers. AIChE events provide engineers, scientists, and students a platform to present, discuss, publish and exhibit their discoveries and technical advances.

At all times, volunteers and meeting attendees should act in accordance with AIChE's Code of Ethics, upholding and advancing the integrity, honor and dignity of the chemical engineering profession. AIChE's Board of Directors has developed these guidelines to foster a positive environment of trust, respect, open communications, and ethical behavior. These guidelines apply to meetings, conferences, workshops, courses and other events organized by AIChE or any of its entities and also to volunteers who conduct other business and affairs on behalf of AIChE.

Specifically

1. Volunteers and meeting attendees should understand and support AIChE's Code of Ethics.
2. Volunteers and meeting attendees should contribute to a collegial, inclusive, positive and respectful environment for fellow volunteers and attendees, and other stakeholders, including AIChE staff.

3. Volunteers and meeting attendees should avoid making inappropriate statements or taking inappropriate action based on race, gender, age, religion, ethnicity, nationality, sexual orientation, gender expression, gender identity, marital status, political affiliation, presence of disabilities, or educational background. We should show consistent respect for colleagues, regardless of discipline, employment status, and organizations for which they work, whether industry, academia, or government.
4. Disruptive, harassing or other inappropriate statements or behavior toward other volunteers, members, and other stakeholders, including AIChE staff, is unacceptable.
5. Volunteers and meeting attendees should obey all applicable laws and regulations of the relevant governmental authorities while volunteering or attending meetings. Volunteers and meeting attendees taking part in any AIChE event, including the ChemECar Competition™, should also comply with all applicable safety guidelines.

Violations of this conduct policy should be reported promptly to the AIChE President or Executive Director.

[Read AIChE's Code of Ethics](#)

AICHE CHICAGO SECTION

AICHe Chicago Section
2501 Chatham Rd Ste N
Springfield, IL 62704
aichechicago@gmail.com

<https://www.facebook.com/AICHeChicagoSection>

<https://www.linkedin.com/groups/4538581>

<https://www.aiche.org/community/sites/local-sections/chicago>

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Chicago
Online**

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Chair Elect	<i>Matt Walters</i>
Past-Chair	<i>Sarika Goel</i>
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	<i>Yechan Won</i>
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	<i>Robert Tsai</i>
	<i>Yechan Won</i>

We want you for AICHe-Chicago!

AICHe is committed to promoting a fair, just, and equitable profession and society. AICHe believes that all who wish to be a part of the chemical engineering community should have equal opportunity to pursue and achieve success. We work toward a better future for all — through our technical expertise; through how we inspire, engage, retain, and advance future talent; and through how we treat each other within and beyond the profession.

[AICHe Equity, Diversity, and Inclusion Statement | AICHe](#)

We need your help!

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aichechicago@gmail.com

<http://www.aiche.org/community/sites/local-sections/chicago/announcements/volunteerism>



Submitting Articles to AICHe Columns

We welcome email submissions for our monthly newsletter. Commercial announcements are subject to the fee schedule below. News stories, editorials, technical or career related non-commercial contributions are always welcome with no charge. We consider job postings, announcements of for-fee training courses, expositions, conferences as commercial.

Categorization of announcements is at the sole discretion of the Chicago AICHe Board of Directors. Chicago AICHe may publicize activities of interest to our members by cooperating professional societies and other non-profits without charge.

Please submit your material to aichechicago@gmail.com with "newsletter article" as a subject line.

