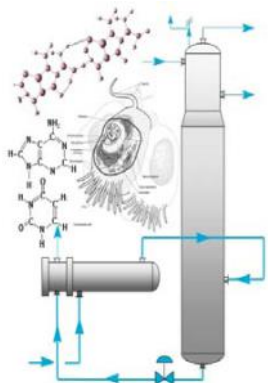


December Newsletter

Chicago Section

www.aiche.org/Chicago

December 2021



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GOODBYE 2021
WELCOME
2022

*Remember! Renew your AIChE Membership
by 12/31/2021*

Chicago Local Section dues are only \$20 and support key initiatives!

<http://www.aiche.org/community/membership/renew>

SAVE THE DATE

Joint ACS/AIChE - Chicago Section January 2022 Meeting

Speaker	Professor Maureen Tang Chemical and Biological Engineering
Topic	“Beyond adsorption” phenomena in electrocatalytic hydrogen reactions
When	Tuesday, January 18, 2022

Biography: Dr. Maureen Tang joined the faculty of Chemical and Biological Engineering at Drexel University in 2014. She received her BS in Chemical Engineering from Carnegie Mellon University in 2007 and her PhD from the University of California, Berkeley in 2012. While at Berkeley, she received a NSF Graduate Research Fellowship, an NSF East Asia Pacific Summer Fellowship, and the Daniel Cubicciotti Student Award of the Electrochemical Society. Dr. Tang completed post-doctoral work at Stanford University and research internships at Kyoto University, the University of Dortmund, and DuPont. She is the recipient of a 2018 NSF CAREER award, the 2019 College of Engineering Early Career Research Award, and a 2018 Award for Excellence in Peer Review from the ACS PRF. Her research at Drexel develops materials, architectures and fundamental insight for electrochemical energy storage and conversion.



Abstract:

In an energy landscape with increased environmental concerns and reduced availability of fossil fuels, electrochemical systems will likely play a major role for automotive and grid-storage applications. Our research strives to diagnose and overcome challenges related to electrochemical energy storage. We focus on mechanistic analysis that integrates both theory and experiment. One example of these challenges relates to the electrocatalytic hydrogen evolution and oxidation reactions (HER and HOR). The pH-dependence of HER and HOR kinetics remains a fundamental conundrum in modern electrochemistry. In this talk, I will discuss our work to elucidate this paradox using single-crystal voltammetry, microkinetic modeling, and kinetic isotope effects. We find that, contrary to some literature reports, the acidic and basic HER/HOR do not follow different pathways, nor do adsorption energies of active intermediates change. Rather, the interfacial water dynamics are fundamentally and qualitatively different in acid and base. Methods for quantifying these phenomena and implications of these findings on electrocatalyst design are discussed.

YP Event

We will be hosting an in-person social at a Starbucks in downtown Chicago, so come out to meet some ChemE young professionals (first 10 people to RSVP get a free drink and free food, if they choose to). We may choose to go somewhere after Starbucks (will be decided by attendees).

Please contact Ruben at rubenbarajas321@gmail.com to RSVP by Tuesday December, 28th (by end of the day) or ask questions.

Event Details

What: Social (get to know some people). Free food/drinks.

Where: Starbucks
171 W Randolph St,
Chicago, IL 60601



When: **Wednesday, December 29th, 6:30PM to ~8:00PM** (you can leave whenever)

Cost: Free

Young Professionals Committee

Upcoming AIChE Conferences, Meetings and Webinars

AIChE Conferences	
Jan 19, 2022 (webinar)	Modeling and Simulation of Fuel Cells and Electrolyzers
Jan 26, 2022 (webinar)	Digital Transformation to Achieve PSM Excellence
Feb 1, 2022	International Congress on Sustainability Science & Engineering (ICOSSE '22) , The University of Auckland, New Zealand
Feb 9-10, 2022	2022 Ethylene Middle East Technology Conference (EMET) , Gulf Hotel and Convention Centre, Kingdom of Bahrain
Mar 1-2, 2022	14th AIChE Midwest Regional Conference , The University of Illinois Chicago (UIC), Chicago, IL
Mar 21, 2022	PD2M Singapore Conference , Singapore City, Singapore
Apr 1-3, 2022	Quantum Computing Applications in Chemical and Biochemical Engineering Workshop , Copenhagen, Denmark
Apr 10-14, 2022	2022 Spring Meeting and 18th Global Congress on Process Safety , Henry B. González Convention Center, Hyatt Riverwalk, San Antonio, TX



2022 AICHE Midwest Regional Virtual Conference

March 1 & 2, 2022

<https://www.aiche.org/conferences/midwest-regional-conference/2022>

MRC organizing committee is planning next year's conference in a variety of different areas.

Call for abstracts is now open

For submission questions please contact the Programming Chairs:
Belma Demirel (Belma.Demirel@bp.com) and Hakim Iddir (iddir@anl.gov)

For volunteer opportunities please contact the Conference Chairs:
Matthew Walters (mwalters@exponent.com) and Jessica Morris (jmorris@exponent.com)

Assistance is needed with programming, sponsorship, educational outreach, and more so please consider helping your technical community.

Keynote Speakers

Simona Rollison
Chief Technology Officer
ISACA

Stephen Klejst
Executive Director of Investigations & Recommendations
U.S. Chemical Safety and Hazard Investigation Board (CSB)

Manos Mavrikakis
Ernest Micek Distinguished Chair
University of Wisconsin- Madison

December In History

Some Notable Birthdays

December 12

1833: Matthias Hohner, German manufacturer of harmonicas.

1866: Alfred Werner, Swiss chemist and winner of the Nobel Prize in 1913.

December 17

1778: Humphry Davy, English chemist known for his discovery of elements such as potassium and sodium.

1908: Willard Frank Libby, inventor of the carbon-14 atomic clock and winner of the Nobel Prize in 1960.

December 20

1805: Thomas Graham, founder of colloid chemistry.

1868: Harvey S. Firestone, industrialist and founder of Firestone Tires.

December 29

1776: Charles Macintosh, Scottish chemist and inventor of waterproof fabric.

1800: Charles Goodyear, inventor of the vulcanization process for rubber.

December 30

1851: Asa Griggs Candler, founder of the Coca-Cola Company.

Some Notable Events

December 5

1905: Chiclets gum was trademark registered.

December 9

1924: Wrigley's gum was trademark registered.

December 19

1871: Mark Twain received the first of his three patents for suspenders.

December 20

1946: "The Yearling," a movie based on the novel by Marjorie Kinnan Rawlings, was copyright registered.

1871: Albert Jones of New York, New York, patented corrugated paper.

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, 2022**.

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.

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>

To nominate, please contact:

Jeffrey Zalc

bp Solutions, P&O

phone: 630.881.5478

email: jeffrey.zalc@bp.com

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 1st**.

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>



You have credits, use them!



AIChE Global professional members get six free credits each year, good for live or archived content, with permanent access to the contents selected. You'll find courses, webinars, conference presentations and more from AIChE, CCPS, SBE, IfS, and ISWS.

Check out the archived webinars and conference presentations [available at the AIChE website](#), and be sure to renew your membership!



Six Sigma: A Practical Overview

eLearning (online) Course

Six Sigma is successfully practiced throughout the chemical engineering industry for improvement, organization and problem-solving. In this course,....



Transport of Hydrogen Fuel

eLearning (online) Course

This 3rd video course is part of the Hydrogen Safety microlearning series aimed at providing an "awareness level" overview of hydrogen for fire, law...



The Link Between Process Safety and Process Intensification

Archived Webinar

📅 Dec 11, 2019

Join this 60-minute webinar to learn about the link between process safety and process intensification.



Integrating Operations and Information Technology (OT/IT) ...

Archived Webinar

📅 Jun 22, 2017

Discussing the practice of smart manufacturing and integrated operations and information technology (OT/IT) systems. Smart Manufacturing (SM) is the technology practice of applying advanced sensors,...

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 local network grows.

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.

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](#)

[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.

2021-2022 Meeting Schedule and Speakers

Month	Date	Speaker	Affiliation	Topic
January	Tuesday 18th	Prof. Maureen Tang	Drexel	“Beyond adsorption” phenomena in electrocatalytic hydrogen reactions

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
13964 Doral Lane
Homer Glen, IL 60491
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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 Online**

Officers and Contact Information

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Chair Elect	<i>Sarika Goel</i>
Past-Chair	<i>Jeffrey Zalc</i>
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Social Media	<i>Sanaz Taghvaii</i>
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	<i>Kashif Uddin</i>
Newsletter Editors	<i>Yechan Won</i>
	<i>Robert Tsai</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!

How many opportunities can you find to learn project management, delegation and leadership skills for free? Becoming an officer in the Chicago Section of AICHE is such an opportunity. While you're learning new skills, your local 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.

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.

