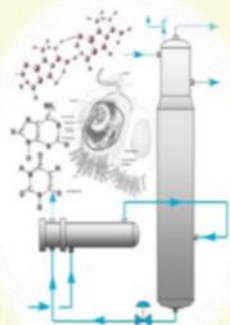


# AIChE Chicago Section February 2021 Newsletter



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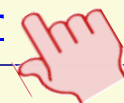
## Virtual Links:



## AIChE February 2021 Meeting

<b>Speaker:</b>	Prof. Ah-Hyung (Alissa) Park Department of Earth and Environmental Engineering & Department of Chemical Engineering Director of the Lenfest Center for Sustainable Energy Columbia University
<b>Topic:</b>	Circular Carbon and Hydrogen Economy integrated with Carbon Capture, Utilization and Storage
<b>Date/ Registration Deadline:</b>	Wednesday, February 17, 2021 5:30-7:30 PM
<b>Program:</b>	5:30 PM: Zoom Meeting opens 5:45 PM: Section Announcements 6:00 PM: Technical Presentation
<b>Where:</b>	Virtual Zoom Meeting (link to be provided upon registration)

[Click to View Event Summary and Register](#)



**Cost:** Free

(To donate or learn about the local section student's scholarship program, please go to [this page](#).)

## Speaker's Bio:

Ah-Hyung (Alissa) Park is the Lenfest Earth Institute Professor of Climate Change in the Departments of Earth and Environmental Engineering & Chemical Engineering at Columbia University. She is also the Director of the Lenfest Center for Sustainable Energy.

Her research focuses on sustainable energy and materials conversion pathways with emphasis on integrated Carbon Capture, Utilization and Storage (CCUS) technologies addressing climate change. Park group is also working on Direct Air Capture of CO<sub>2</sub> and Negative Emission Technologies including BioEnergy with Carbon Capture and Storage (BECCS) and sustainable construction materials with low carbon intensity.

Park received a number of professional awards and honors including the Mid-Career Faculty Award at Columbia University (2020), U.S. C3E Research Award (2018), PSRI Lectureship Award in Fluidization at Amer-



**Cont. on Page 3**

## Chair's Corner

This month, I would like to provide an update on our local section's efforts to help increase the connectivity of chemical engineers not only in the immediate Chicago area, but also across the Midwest in general. As a consequence of the pandemic, the monthly meetings of our Chicago Section have been conducted virtually, and they will likely remain hybrid even after we are able to meet face-to-face. Participation levels have been high and we have had excellent speakers. Similarly, the 2021 AIChE Midwest Regional Conference (MRC) will be conducted virtually on March 17-18, 2021 and our volunteers are working diligently to ensure that it will be a success.



Having such activities held virtually means that there is no reason for them to be limited to people who live in Chicagoland or who can travel to Chicago for a technical conference. The volunteers in our local section saw a unique opportunity to help strengthen the community of chemical engineers by connecting with those who reside outside of the Chicago area.

Consequently, we recently reached out to academics at nearly twenty five departments across the Midwest in order to more broadly share our newsletter containing information about our virtual monthly meetings and the upcoming virtual MRC in March. We received lots of positive feedback about the effort and hope that those of you who are new recipients of our newsletter consider joining us in our monthly meetings, participating in the MRC, and forwarding our newsletter to fellow students and colleagues. Also, feel free to contact us if you are interested in presenting at one of our virtual monthly meetings.

Jeffrey M. Zalc  
([jeffrey.zalc@bp.com](mailto:jeffrey.zalc@bp.com) or [zalc@iit.edu](mailto:zalc@iit.edu))  
AIChE Chicago Section Chair  
AIChE Senior Member

### **Why Renew Your AIChE Membership?**

Renew Membership



**Renew your membership now to keep learning and growing.**

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- Subscription to AIChE's flagship publication: CEP\*
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- 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](#)**

Cont. from Page 1

## February Meeting information

ican Institute of Chemical Engineers (2018), American Chemical Society Energy and Fuels Division - Emerging Researcher Award (2018), International Partnership Award for Young Scientists of Chinese Academy of Sciences (2018), Janette and Armen Avanesians Diversity Award at Columbia University (2017), American Chemical Society WCC Rising Star Award (2017), James Lee Young Investigator Award (2010) and the National Science Foundation CAREER Award (2009).

Park also led a number of global and national discussions on CCUS including the Mission Innovation Workshop on Carbon Capture, Utilization and Storage in 2017 and the National Petroleum Council CCUS Report in 2019. She is an elected Fellow of AAAS, ACS, and RSC.

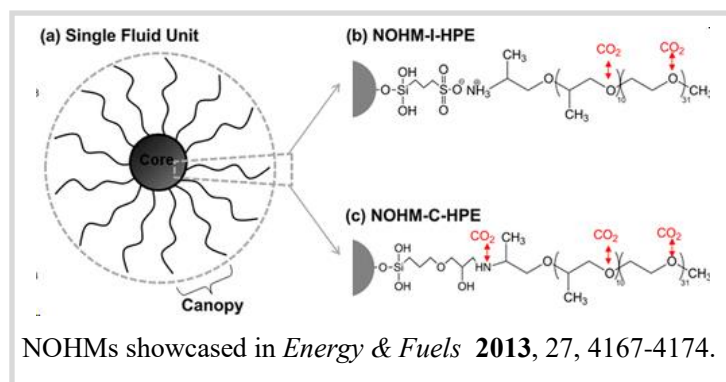
### Abstract:

In order to meet the ever-increasing global energy demands while stabilizing the atmospheric CO<sub>2</sub> level, the development of carbon capture, utilization and storage (CCUS) technologies is one of the critical needs.

In particular, there has been significant efforts to develop CO<sub>2</sub> capture solvents and some (e.g., amine-based aqueous solvents) have shown very promising results. Unfortunately, the energy requirement for the current aqueous solvent systems is still considered to be too high. Thus, efforts have been focused on the development of second and third-generation CO<sub>2</sub> capture solvents which are often water-free.

Nanoparticle Organic Hybrid Materials (NOHMs) are a new class of organic-inorganic hybrids that consist of a hard nanoparticle core functionalized with a molecular organic corona that possesses a high degree of chemical and physical tunability. It has recently been discovered that NOHMs have interesting electrolyte properties which may allow the CO<sub>2</sub> capture to be pulled by the in-situ CO<sub>2</sub> conversion reactions. The development of these unique nanoscale hybrid materials will not only advance CO<sub>2</sub> capture materials design but also introduce unique research opportunities in various energy and environmental fields.

This seminar will discuss the challenges and opportunities of different CO<sub>2</sub> capture and conversion pathways including Negative Emission Technologies that can allow the development of circular carbon and hydrogen economy using renewable energy.



## 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](mailto:aichechicago@gmail.com) with "newsletter article" as a subject line.



## 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>



### *aiche knowledge*

How many of these AIChE acronyms do you know?

Answers on page 7

PTF

PDD

MRC

CCPS

### **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.

To nominate, please contact:  
Jeffrey Zalc  
bp Solutions, P&O  
phone: 630.881.5478  
email: [jeffrey.zalc@bp.com](mailto:jeffrey.zalc@bp.com)

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, 2021**.

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>



## AICHE CHICAGO SECTION INFORMATION

**AIChE Chicago Section**  
**13964 Doral Lane**  
**Homer Glen, IL 60491**  
[aichechicago@gmail.com](mailto: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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 AIChE  
 Chicago  
 Online**

### Officers Information

Chair	Jeff Zalc
Chair Elect	Ha Dinh
Chair Programming	Christopher Nicholas
Secretary	Ignasi Palou-Rivera
Social Media	Sanaz Taghvaii
Treasurer	McKay Rytting
Directors at Large	Robert Tsai
	Pat Shannon
	Olha Zvarych
House Committee	Paolo Palmas
	Lance Baird
Newsletter Editors	Reza Mostofi
	Azita Ahmadzadeh

## We want you for AIChE Chicago!

### 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](mailto:aichechicago@gmail.com)

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



## “KEYNOTE SPEAKERS”

See page 8 for  
 more information



**AIChE<sup>®</sup>**  
**MIDWEST**  
**REGIONAL**  
**CONFERENCE**

2021 AIChE Midwest Regional Conference  
*Online Virtual – March 17-18, 2021*  
 Organized by Chicago Local Section and  
 Global AIChE

### Prof. William Schneider

Dorini Family Chair in Energy Studies  
 Chair, Chemical and Biomolecular Engineering  
 University of Notre Dame

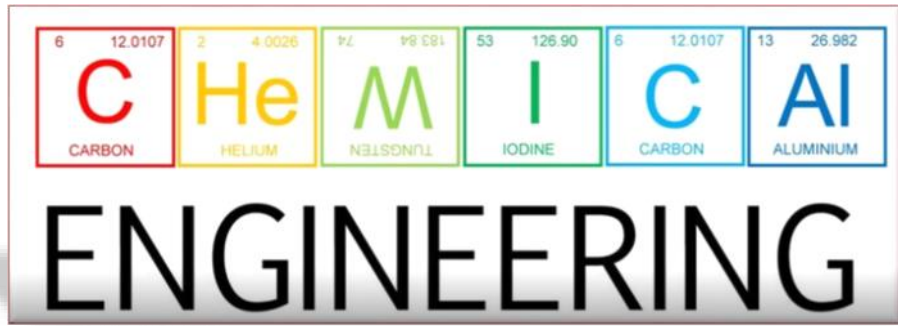


### Dr. Marius Stan

Program Lead, Intelligent Materials Design  
 Argonne National Laboratory



# Recently spotted on SOCIAL MEDIA

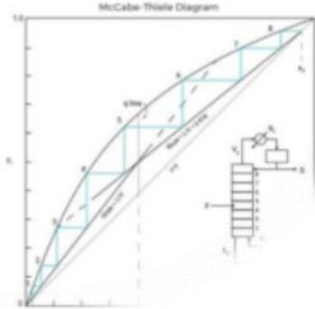


*Stay up-to-date and never miss the news and events related*

*to AICHE Chicago section and beyond. Click on these images to see more.*



AWARDED FOR THE ERNEST W. THIELE AWARD  
 Remember McCabe-Thiele Diagram from Separation Class?  
**Ernest W. Thiele Award**  
 (from Chicago section, sponsored by BP)



## 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](mailto:aichechicago@gmail.com).

## aiche knowledge

### Center for Chemical Process Safety (CCPS)

CCPS brings together manufacturers, government agencies, consultants, academia and insurers to lead the way in improving industrial process safety

### Process Development Division (PDD)

The Process Development Division promotes networking and communication among engineers and scientists interested in process development

### Midwest Regional Conference (MRC)

Annual Midwest conference in the Chicago area, bringing researchers, practitioners, educators and students together in a two day meeting.

### Particle Technology Forum (PTF)

Purpose of the PTF is to serve as a forum to promote information exchange, scholarship, research and education in the field of Particle Technology

## 2021 Meeting Schedule and Speakers

Month	Date	Speaker	Affiliation	Topic
February	Wednesday 17 <sup>th</sup>	Prof. Alissa Park	Columbia	Energy Conversion / CO <sub>2</sub> sequestration
March	Wednesday 17 <sup>th</sup>	Prof. Sohail Murad	IIT	Process Synthesis; joint with MRC
April	Tuesday 13 <sup>th</sup>	Dr. Ted Krause	Argonne	H <sub>2</sub> generation and utilization
May			TBD	

# “CALL FOR CONTRIBUTIONS”



**AIChE®**  
MIDWEST  
REGIONAL  
CONFERENCE

2021 AIChE Midwest Regional Conference  
*Online Virtual – March 17-18, 2021*  
Organized by Chicago Local Section and  
Global AIChE

The AIChE Midwest Regional Conference continues into its 13th consecutive year. The conference will be conducted via a virtual platform but will maintain its traditional program that provides an opportunity for engineers and scientists in the region to learn about new technologies while furthermore still offering ample networking opportunities.



Submission deadline (**Extended**): **February 15, 2021**

**DEADLINE**

Submission site: <https://aiche.confex.com/aiche/mrc13/cfp.cgi>

**EXTENDED**

Conference details: <https://www.aiche.org/conferences/midwest-regional-conference/2021>

## Programming Areas

- Energy and Sustainability
- Catalysis and Reaction Engineering
- Refining and Petrochemical Processing
- Process Safety and Occupational Health
- Environmental Compliance and Remediation
- Biomedical, Pharmaceutical and Nano-Engineering
- Process Engineering, Modeling, Control and Optimization
- Fluid Properties, Fluid Dynamics and Transport Phenomena

**Need to  
Contact us?**

**Submission questions?**

Contact the Programming Chair  
Hakim Iddir at [iddir@anl.gov](mailto:iddir@anl.gov)

**Volunteer opportunities  
and other questions?**

Contact the Conference Chair  
Bob Tsai at [robert.tsai@honeywell.com](mailto:robert.tsai@honeywell.com)

## Sponsorship Opportunities

Each year many practitioners, professors and students attend this annual event. Your sponsorship support STEM activities and provides a great avenue to advertise your business. For more information contact [Azita Ahmadzadeh](#)

