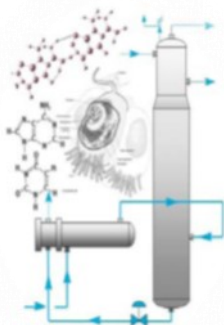


# AICHE Chicago Section

## October 2021 Newsletter



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## October Meeting Summary

<b>Speaker:</b>	<b>Lev Davydov</b> Principal Engineer, FCC & Olefins Development Honeywell UOP Des Plaines, USA
<b>Topic:</b>	<b>FCC Regenerator Design and Improvement Using CFD and Kinetic Modeling Tools</b>
<b>Event Date Registration Deadline:</b>	<b>Thursday October 28<sup>th</sup></b>
<b>Program:</b>	5:30 PM Zoom Meeting Opens 5:45 PM Section Announcements 6:00 PM Technical Presentation, Q&A
<b>Where:</b>	Zoom Meeting

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

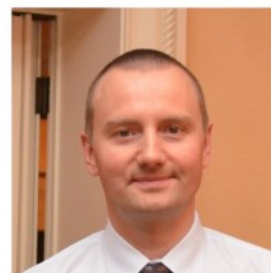


**Cost:** FREE

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

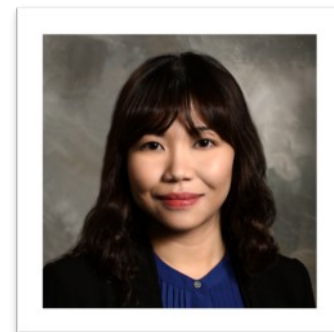
### Biography:

**Lev Davydov** is a Principal Engineer with Honeywell UOP. He is responsible for managing R&D project teams in the FCC and Olefins area, from idea creation to market introduction. Lev has 14 years of experience with UOP, working primarily on scaling up catalytic processes involving fluidized beds. Prior to joining UOP Lev spent 6 years with Linde Engineering R&D. He has authored/co-authored 35 patents and published 14 refereed articles. Lev has an MEng degree from Moscow School of Technology and PhD from University of Cincinnati, both in Chemical Engineering.



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## Chair's Corner



Welcome to October!

We had a fantastic start of the year with September meeting. Although the meeting was still virtual, we welcomed over forty members back after the summer break and officially marked the beginning of this year activities. It was very exciting to see old faces and meet new ones. Our September speaker, Professor Nimir O. Elbashir, presented from Doha, Qatar. Besides sharing with us the latest research in natural gas technologies, professor Elbashir also showed us the wonderful program at the Texas A&M University at Qatar. I really appreciate how digital technologies has helped us feel more connected and enabled more global collaboration. The AIChE Chicago Section leadership and I will continue to work on bringing our members a diverse slate of monthly presentations in the upcoming months.

As mentioned in the September newsletter, planning for 2022 Midwest Regional Conference (MRC-14) is in full swing. Please keep an eye out for the announcement and Call for Abstracts in your mailbox in the next few weeks. The conference, hosted by the Chicago Section every year, provides a platform for our professionals to exchange technical

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

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

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## October Meeting information

### **Abstract:**

#### **FCC Regenerator Design and Improvement Using CFD and Kinetic Modeling Tools**

CFD→Reactor Network→Kinetic Model→Process Model→Economical Design→Value

Simulation and modeling have become practical diagnostic and predictive tools for large-scale industrial processes and equipment, allowing industrial scientists and engineers to perform “numerical experiments” during different stages of research, development and engineering design. For example, regeneration of catalysts in the Fluid Catalytic Cracking (FCC) process in different flow regimes can be simulated using a detailed CFD model combined with the simplified reaction kinetics. Results from such a model can help make informed decisions on the design and operating conditions for better process performance, improved energy efficiency and increased operating sustainability.

This presentation gives a brief overview of different approaches to gas-particle CFD as they apply to different FCC regenerator configurations. Flow patterns inside these vessels directly affect their performance and efficiency (of carbon burn and oxygen use) and serve as a qualitative guide to regenerator design improvement. “Numerical tracer” studies can provide a quantitative demonstration of the differences in residence time distributions of both catalyst and gas phase in different regenerator types. Moments of residence time distributions allow one to build ideal reactor networks to simulate the regenerator in conjunction with coke burn kinetics. Such a model shows the differences in coke combustion patterns inside the regenerator, demonstrates the effect of hardware upgrades on the regenerator performance, and ultimately serves as a design tool to assist process and equipment improvement efforts at Honeywell UOP.

### **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.

To nominate, please contact:

Jeffrey Zalc

bp Solutions, P&O

phone: 630.881.5478

email: [jeffrey.zalc@bp.com](mailto:jeffrey.zalc@bp.com)

## YP Event

We are hosting our first in-person event since the start of the pandemic. We will meet at a pub for food/drinks and then attend a Haunted House (first 10 people to RSVP get free admission to the haunted house).

Please contact Ruben at [rubenbarajas321@gmail.com](mailto:rubenbarajas321@gmail.com) to ask questions or RSVP by Monday October, 25th (by end of the day).

### Event Details

What: Food/drinks and then a Haunted House

	<b>Five Roses Pub</b>	<b>13th Floor Haunted House</b>
Where:	5509 Park Pl, Rosemont, IL 60018 (847)233-0077	5050 River Rd, Schiller Park, IL 60176 (708)571-3326

When: **Wednesday, October 27th, Starting @ 7PM** (meet at Five Roses Pub)

Cost: First 10 people to RSVP get free admission to the haunted house, so make sure to let Ruben know if you are interested and if you want to know if free admission is still available. Food/drinks before the haunted house are optional but not free.

Parking: Parking at the Parkway Bank Financial Park (Parking Garage @ 5441 Park Pl, Rosemont, IL) is \$15 for a 24 hour period or free if you get your parking ticket validated at a nearby venue, like the pub we are attending.

Public Transit: The CTA Blue Line Rosemont train stop is about a mile from Five Roses Pub.

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knowledge, network, and build a local community of chemical engineers. It takes a team of dedicated volunteers to organize an event of such scale, and we always welcome more help and contribution. Please reach out to this year conference chair, Dr. Matt Walters, at [mwalters@exponent.com](mailto:mwalters@exponent.com) if you would like to take part of the conference planning committee.

In additional, I am very pleased to share that our Young Professional Committee (YPC) has seen an increase in active members since the beginning of this programming year. The first YPC event will be an in person Meet-and-Greet followed by a haunted house field trip on October 27, 2021. We would like to welcome everyone to come hangout and get to know each other again, after more than a year of Zoom calls and virtual events. Please find details on YPC event in this Newsletter. Throughout this year, I will be sharing more with you about what we have in mind for YPC activities and the section. If you or your young colleagues are interested in getting involved in Chicago's YPC, please email the current Chicago YPC Chair Ruben Barajas, [rubenbarajas321@gmail.com](mailto:rubenbarajas321@gmail.com).

Ha Dinh  
AIChE Chicago Section Chair  
AIChE Senior Member

## 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 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 Section Officers/Volunteers

<i>Chair</i>	<i>Ha Dinh</i>		<i>Lance Braid</i>
<i>Chair Elect</i>	<i>Sarika Goel</i>	<i>House Committee</i>	<i>Seetha Manickam</i>
<i>Past-Chair</i>	<i>Jeff Zalc</i>		<i>Kashif Uddin</i>
<i>Programming</i>	<i>Belma Demirel</i>		<i>Jarad Champion</i>
	<i>David Hietala</i>	<i>Directors at Large</i>	<i>Pat Shannon</i>
<i>Secretary</i>	<i>Nick Marinov</i>		<i>Robert Tsai</i>
<i>Treasurer</i>	<i>McKay Rytting</i>		<i>Yechan Won</i>
<i>Social Media</i>	<i>Sanaz Taghvaii</i>	<i>Newsletter Editors</i>	<i>Robert Tsai</i>

### Why Renew Your AIChE Membership?

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- Education—Access to e-learning courses and instructor-led training, offering Continuing Education 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

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