

North Jersey Section AIChE Newsletter

Year-End 2022 Edition

Volume 46 January 2023

We are a Professional Association of Chemical and Biochemical Engineers devoted to the advancement and growth of our members and the promotion of Chemical and Biochemical Engineering as a career.

The North Jersey Local Section represents chemical and biochemical engineering professionals residing or working in Bergen, Essex, Hudson, Morris, Passaic, and Sussex counties in New Jersey, and Rockland County in New York.

A MESSAGE FROM THE CHAIR-ELECT:

The challenges of remaining relevant and providing our members with expected, meaningful content, like interesting meeting topics, (e.g.; ***Anomalies in Rocket Motor Propellants and Quantum Computing***), and continuing education credits, continued in 2022. Although pandemic restrictions state-wide were essentially no longer existent, general interest in in-person meetings and events would remain low, and we remained in the virtual world through 2022. (Please refer to the **Member Awareness** section below for details.)

Despite these challenges, we remained active through the year. We conducted both Executive Committee meetings and monthly dinner meetings virtually via ZOOM® well throughout 2022, awarding a **total of 4 hours of continuing education credits** to our licensed members.

We were also able to continue supporting the student chapters at NJIT and Steven's Institute of Technology, supporting the **Mid-Atlantic Regional Undergraduate Student Conference** at NJIT, and **awarding 11 scholarships** in April. (You can find the details in the **2022 Meeting Summaries** section below.)

And finally, we held a successful election for the 2023 Executive Committee members so we would not lose continuity moving into the new year. All of this is summarized in this newsletter, which has been issued to let you all know that we are still here, and we are still active!

Once again, none of this would have been possible without the hard work of the **Executive Committee of the North Jersey Section**, all of whom were re-elected to the 2023 Executive Committee, (see "**Did You Know?**", below.) I would like to thank all of them for adapting to the

"new normal", and for helping the Section to continue providing the services our membership has come to expect from it.

And finally, I would just like to say Happy New Year to all of our members and their families! Stay healthy and stay safe!

Peter Sibilski, FAICHe, P.E., CEM

2022 Chair-Elect, North Jersey Section AIChE

Did You Know?

Venmo:

The North Jersey Section, AIChE now has **Venmo**! Monthly meeting and continuing education credit fees can be paid directly to the Section using **@aichenoj**

Member Awareness:

This past Fall, the North Jersey Section conducted a survey of its dues paying members, via SurveyMonkey, to determine how "aware" the membership is of Section activities, and gauge the general interest in resuming in-person dinner meetings. The results of the survey are below, and will be used to help with meeting planning and methods of sharing general Section-related information sharing.

- 92% of respondents were aware that the Section offers continuing education credits in the form of PDHs
- 71% of respondents were aware that the Section conducts virtual meetings
- How likely are you to attend a live, (i.e. in-person) meeting:
 - 21.4% - Very likely
 - 0.0% - Likely
 - 28.6% - Somewhat likely
 - 7.1% - neither likely nor unlikely
 - 14.3% - Somewhat unlikely
 - 21.4% - unlikely
 - 7.1% - Very unlikely

Elections:

This year, the North Jersey Section conducted its annual election for the **2023 Executive Committee** electronically, via Survey Monkey. Member participation exceeded expectations.

The results of this election are presented below. Congratulations to the **2023 Executive Committee!**

OFFICERS:

Chair: Thelma Manning, FAChE, PhD, P.E.

Chair Elect: Peter Sibilski, FAChE, P.E., CEM

Treasurer: Larry Rotter, FAChE, P.E.

Chair: Bob Rossi, FAChE

DIRECTORS:

Ara Barsamian, FAChE

Sonali Bhatnagar

Wayne Fieldhouse, P.E.

Viral Panchal

Gary Prager, FAChE

We are always looking for volunteers to help organize meetings, identify speakers, or even be a speaker. If you are interested in being part of the Executive Committee, please contact Peter Sibilski at psibilski@alzousa.com for more information.

Pandemic Update:

The North Jersey Section has continued to conduct virtual monthly meetings this past year. *(Please see the meeting summaries below)*. The Section did re-implemented occasional live Executive Committee meetings at Jim Johnston's Steakhouse in Roseland, NJ. In the short-term, particularly in bad weather months, we will continue utilizing the virtual ZOOM® meeting format when appropriate. For the long term, we will continue evaluating the situation with respect to the pandemic and will re-implement in-person meetings when/if appropriate. Please refer to the emailed monthly meeting notices for details.

2022 Meeting and Event Summaries:

February 2022

"Anomalies in Rocket Motor Propellants and How it Affects Performance, Safety and Reliability of the Munition"

Speaker: **Thelma G. Manning, PhD, P.E., FAChE - Research Chemical Engineer**

Picatinny Arsenal

Chemical engineering principles and chemical engineers are employed by the U.S. government to design and develop a variety of products to improve the effectiveness and safety of our fighting forces. Concerns common in the manufacturing industries, like lot-to-lot variations of raw materials, and reliable, reproducible and safe manufacturing are also in play when propellants for weaponry are concerned.

At this presentation, attendees were introduced to how anomalies in rocket motor propellants can affect the performance, reliability and safety of the munition, and how chemical engineers and chemical engineering principles are attacking this problem. **One (1) Professional Development Hour (PDH) of continuing education was awarded for this meeting.**

March 2022

Spring Symposium 2022 - Part 1

"Upgrading Biogas to Renewable Natural Gas (RNG)"

Speaker: **Peter J. Sibilski, P.E., FAChE, CEM – Plant Manager, Pharmetics Manufacturing Co., LLC**

Favorable policies and environmental benefits are earning renewable natural gas (RNG) market acceptance. Upgrading technologies are critical to producing RNG that is ready to serve the marketplace.

This presentation took a look at the technologies used to upgrade biogas to RNG. It also highlighted the environmental benefits of RNG and the state and federal policies that are helping it to earn market acceptance. Finally, this presentation discussed some of the downsides to the use of RNG as a replacement for natural gas. **One (1) Professional Development Hour (PDH) of continuing education was awarded for this meeting.**

April 2022

"AIChE Mid-Atlantic Regional Undergraduate Student Conference"

The NJIT student chapter of AIChE successfully hosted the AIChE Mid-Atlantic Regional Conference at their Newark, NJ campus. Members of the North Jersey Section Executive Committee participated as judges for the individual research poster contest.

The NJIT students gave a stellar performance:

- **1st Place** in the ChemE Car Poster contest. Team: Stephany Cabrejos (Captain), Allen Reed and Monica McEvoy (Co-Captains), Michael Maffucci, Mory Diane, Dennis Lema, Jennifer Quiros, Anh Tong (Coach), Irina Molodetsky (Safety Coordinator), Roman Voronov (Faculty Advisor)

- **2nd Place** in the ChemE Car Performance contest, which was [live-streamed on Youtube](#) by the NJIT Media team. Click to see the [1st and best attempt](#) that gave everyone quite a thrill and [2nd attempt](#). Here is the best attempt from [the point of view of the audience](#). Read more about the car [here](#).
- Individual Research Poster competition: **2nd place** Ahish Kokkula (Advisor: Prof. Kathleen McEnnis)
- AIChE awarded Stoles to the **top three student organizers**: Raagavi Manivannan, Stephany Cabrejos and Madison Cosgrove

Overall Event statistics:

- There were ~225 Attendees from 22 Universities and 64 Volunteers (NJIT Faculty, Staff, graduate and undergraduate students, as well as Chapter Advisors from other universities and AIChE staff)
- ChemE Jeopardy with 18 teams
- ChemE Car contest: 12 competing vehicles, 14 posters and an incredibly well-run "pit" with live-streams and chemical disposal stations.
- Oral and Poster Presentations: 9 and 16, respectively.
- Nine industrial and academic Sponsors, five of which attended our min-Career Fair
- Social Mixer which was so popular that attendees asked to book the Campus Center game room again for the second day of the conference. I only caught [the end here](#).
- An awards [ceremony](#) with 19 trophies.
- Keynote Speeches by Dean Moshe Kam, Prof. Kerri-lee Chintersingh and Prof. Donald Sebastian
- Workshops by our CME alumni Ms. Sydney Sweet and Ms. Sara Abdelhamid, as well as by our Assistant Professors Joshua Young and Mengqiang (Mark) Zhao

The overall feedback was that the event was very well organized, the NJIT campus is very high tech, and attendance at the conference was very much worth it.

April 2022

"AIChE Annual Scholarship Presentations"

At this event, held at Stevens Institute of Technology, the North Jersey Section formally recognized our 2022 Scholarship Awardees. *(Note: NJIT recipients were recognized at the AIChE Regional Undergraduate Student Conference described above.)* This event was chance to interact with, and get to know our fellow up-and-coming chemical engineers.

The North Jersey Section, AIChE is pleased to announce the recipients of the 2022 Annual Scholarships:

Stevens Institute of Technology (SIT)

- **Tan Dao** - Lee Parker Memorial Scholarship
- **Lizzie Harmon** - John Anderson Memorial Scholarship
- **Angel Burgos** - Herb Fried Memorial Scholarship
- **Caroline Montana** - Walter Schnyder Memorial Scholarship

New Jersey Institute of Technology (NJIT)

- **Jason Ogbebor** - Ralph Cohen / Oden Knight Memorial Scholarship
- **Khushbuben Patel** - Otto York Memorial Scholarship
- **Monica McEvoy** - Stanley S. Grossel Memorial Scholarship
- **Marcos Molina** - Outstanding Chemical Engineering Senior
- **Muhammad Sayedahmed** - Angelo J. Perna Memorial Scholarship

Refinery Automation Institute (RAI) Scholarships

- **Kristin Abraham (NJIT)** - RAI Outstanding ChE Senior
- **Amanda Mavricos (SIT)** - RAI Imaginative ChE Junior or Senior

April 2022

"Quantum Computing"

Speaker: David A. Bader, Distinguished Professor and Director, Institute for Data Science at NJIT

Quantum computing is the processing of information that's represented by special quantum states. By tapping into quantum phenomena like "superposition" and "entanglement," these machines handle information in a fundamentally different way to "classical" computers like smartphones, laptops, or even today's most powerful supercomputers.

Researchers have long predicted that quantum computers could tackle certain types of problems — especially those involving a daunting number of variables and potential outcomes, like simulations or optimization questions — much faster than any classical computer.

Quantum computing is a revolutionary new way to build computers that take advantage of Quantum circuits and promise to outperform classical supercomputers in several problem domains. David Bader presented an overview of Quantum Computing and discussed how it works, machine designs, the leading Quantum computers, and quantum applications. **One**

(1) Professional Development Hour (PDH) of continuing education was awarded for this meeting.

May 2022

Spring Symposium 2022 - Part 2

"Incorporating Renewable Natural Gas (RNG) into the Gas System"

Speaker: Peter J. Sibilski, P.E., FAChE, CEM – Plant Manager, Pharmetics Manufacturing Co., LLC

Part 1 of the 2022 Spring Symposium looked at what renewable natural gas (RNG) is, how it's produced, and how governmental policies and environmental benefits are earning it market acceptance.

Part 2 of the Symposium took a look at how gas utility providers are working to overcome the technical challenges of incorporating RNG into the existing natural gas infrastructure, and implement it as a clean energy source. **One (1) Professional Development Hour (PDH) of continuing education was awarded for this meeting.**