

North Jersey Section AIChE Newsletter

Year-End 2021 Edition

Volume 45 December 2021

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:**

As pandemic year 2020 rolled into pandemic year 2021, the Section was faced with the continuing challenge of remaining relevant and providing its members with expected, meaningful content, like interesting meeting topics, (e.g.; ***Cannabis Certification and The Chemistry of Cooking***), and continuing education credits. Although pandemic restrictions state-wide continued to be loosened, in-person meetings and other events would remain undesirable at the beginning of the year and we remained in the virtual world well into 2021. Additionally, we again suffered the (non-Covid related) loss of a long-time member of the Executive Committee, who had a significant impact on the continuity and vitality of the Section. (See "***In Memoriam***" section below.)

Despite these challenges, we continued to adapt, remaining active through the year. We conducted both Executive Committee meetings and monthly dinner meetings virtually via ZOOM® well into 2021, awarding a **total of 5 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, introducing three new scholarship awards funded by the **Refinery Automation Institute**, and **awarding 10 scholarships** via a virtually conducted scholarship meeting in March. (You can find the details in the **2021 Meeting Summaries** section below.)

We successfully supported one of our Executive Committee members, **Mr. Ara Barsamian**, helping him achieve the status of **Fellow of AIChE**.

And finally, we held a successful election for the 2022 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 2022 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.

2021 Chair, North Jersey Section AICHe

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### **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**

#### **AICHe Regional Conference:**

The NJIT student chapter AICHe is hosting the **AICHe Regional Conference, April 8-9, 2022** at NJIT. Please consider assisting our up-and-coming young chemical engineers make this a successful event. The Chapter is looking for help with the following:

- Reaching out to companies to obtain sponsorships
- Reaching out to companies to participate in a mini-career fair that will be hosted during the conference
- Volunteering for various judging positions at the conference
- Assisting in developing **Chem-E Jeopardy** questions

If you are interested in any of the above, please contact the Student Chapter faculty advisor, **Dr. Roman Voronov**, at [roman.s.voronov@njit.edu](mailto:roman.s.voronov@njit.edu)

#### **Elections:**

This year, the North Jersey Section conducted its annual election for the **2022 Executive Committee** electronically, via Survey Monkey. Member participation exceeded expectations. The results of this election are presented below. Congratulations to the **2022 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](mailto:psibilski@alzousa.com) for more information.

**Pandemic Update:**

Due to the continuing global pandemic, the North Jersey Section has continued to conduct virtual monthly meetings this past year. *(Please see the meeting summaries below)*. As pandemic restrictions continued loosening through the year, the Section re-implemented live Executive Committee meetings at Jim Johnston's Steakhouse in Roseland, NJ. In the short-term, particularly in bad weather months, we will utilize 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.

**2021 Meeting Summaries:**

**January 12, 2021**

**Cannabis Certification**

**ASTM International's**

## **Committee D37 on Cannabis**

### ***"A journey towards legitimacy through consensus standards"***

Speaker: **Robert J. Morgan**, ASTM International Director – Technical Committee Operations

ASTM International, formerly known as the American Society for Testing and Materials, has been helping industries ensure the quality and safety of materials, products, systems and services for the last 120 years by providing a forum for stakeholders to develop consensus standards. While primarily known for its standards for steel, concrete and petroleum, ASTM has evolved to include technical committees for medical devices, sports equipment and commercial space flight and cannabis. This presentation discussed the formation of Committee D37 on Cannabis, their structure, accomplishments and overall work plan. Already a multi-billion dollar market, the cannabis industry faces many challenges, including a robust black market and a Schedule 1 listing. While these obstacles exist, Committee D37 members are focused on raising the bar and creating legitimacy by shaping the content of marketplace relevant standards to ensure the quality and safety of cannabis products.

**March 2021**

## **Virtual Young Professionals and Annual Scholarship Event**

This virtual event allowed attendees to network with fellow professionals and recognize up-and-coming chemical engineering professionals and scholarship recipients. This event included an Introduction and Networking session with Ice-Breakers, followed by a Student Chapter Advisor Introductions & Recognition of Scholarship Recipients session. Scholarship recipients were formally recognized and invited to introduce themselves to the group with their "elevator pitch".

## **The North Jersey Section, AIChE**

### **2021 Scholarship recipients:**

#### **Stevens Institute of Technology (SIT)**

**Dongrum Ju** - Lee Parker Memorial Scholarship

**Michael Devita** - John Anderson Memorial Scholarship

**Zachary Hacklander** - Herb Fried Memorial Scholarship

#### **New Jersey Institute of Technology (NJIT)**

**Olamide Omisakin** - Ralph Cohen / Oden Knight Memorial Scholarship

**Christian Kielbowicz** - Otto York Memorial Scholarship

**Emma Hamza** - Stanley S. Grossel Memorial Scholarship



**Sara Abdelhamid** - Outstanding Chemical Engineering Senior

**Natalie Wilson** - Angelo J. Perna Memorial Scholarship

### **Refinery Automation Institute (RAI) Scholarships**

**Daniela Bushiri (NJIT)** - RAI Outstanding ChE Senior

**Amanda Mavricos** - RAI Imaginative ChE Junior or Senior

The North Jersey Section AIChE supports AIChE Student Chapters at both the New Jersey Institute of Technology, and Stevens Institute of Technology. During the 1970's the Section established scholarship funds for the outstanding chemical engineering students from each of the above institutions, who were also members of those school's AIChE Student Chapters.

Over the subsequent years the number of scholarships was increased, to include awards honoring North Jersey Section Charter Members, Past Chairpersons, and other Members of the Section who have made major contributions to AIChE and chemical engineering.

Newly introduced for 2021 are three new "at large scholarships", which are not school-specific. Instead, these scholarships are awarded to the student nominee who best meets the requirements for that particular scholarship. These new awards were created and funded by Mr. Ara Barsamian, President and CEO of Refinery Automation Institute (RAI), Fellow of AIChE, and member of the North Jersey Section Executive Committee.

All student nominees must fill out an application form for the scholarship award for which they are applying. All applications are then reviewed by the Executive Committee, who make the final determination on who is awarded a scholarship.

Although these awards are usually presented at the February monthly dinner meeting held during Engineer's Week, the on-going pandemic resulted in a "change of plans" for 2021. The Section worked with the student recipients and their Chapter Advisors, to organize and schedule this virtual event to recognize these up-and-coming new chemical engineers.

### **Spring Symposium Part I - March 2021**

#### ***"Steam Tracing vs. Electric Tracing - an Overview"***

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

Deciding which method of heat tracing is best for your application is a tough decision that involves many factors. Cost, effectiveness, environment and more are all different factors to consider when making the decision. Typically, it comes down to one of two forms of heat tracing: steam or [electric heat tracing](#). While steam tracing has historically been a more common form of heat tracing, advances in modern technology have made electric a desirable route to go as well. Attendees of this meeting were presented with an overview of both types of heat tracing, including a discussion of the pros and cons of each type, and a review of what considerations need to be addressed during any selection process. **One (1)**

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

#### **Spring Symposium Part II - April 2021**

##### ***"Preventing Disastrous Decisions - an Overview of RBDM (Risk-based Decision Making)"***

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

Risk-based decision making (RBDM), also referred to as risk-informed decision making, relies on timely incorporation of important risk-related information into an organization's decision-making processes. RBDM involves a series of basic steps. It can add value to almost any situation, especially when the possibility exists for serious or catastrophic outcomes. It is usually defined as a process that organizes information about the possibility for one or more unwanted outcomes into a broad, orderly structure that helps decision makers make more informed management choices. Attendees of this presentation were introduced to the fundamental steps of RBDM, and some risk assessment tool(s) to use, to provide the right information for appropriate decision making. **One (1) Professional Development Hour (PDH) of continuing education was awarded for this meeting.**

#### **May 2021**

##### ***"Electrostatic Spark Hazards:***

##### ***The Nature of the Problem and Practical Measures for its Control"***

Speaker: **Vahid Ebadat, PhD** - CEO Stonehouse Process Safety, Inc.

A key concern in facilities working with flammable liquids and powders is the initiation of a flash fire or explosion by electrostatic discharges. A flammable atmosphere is created when a critical amount of a fuel (flammable vapor/gas/aerosol/ and/or dust) is mixed with air. Ignition of flammable atmospheres can occur when the energy of the ignition source exceeds the minimum ignition energy of the flammable atmosphere under specific process condition.

This presentation discussed the nature of electrostatic ignition hazards and the practical measures that can be considered to prevent/control them based on the requirements of NFPA 77, *Recommended Practice on Static Electricity*.

##### **Learning Outcomes:**

1. Attendees learned how electrostatic charge is generated in industrial environments
2. Attendees learned how to recognize those electrostatic hazards that can trigger industrial fires and explosions
3. Attendees learned how to choose methods to evaluate and control electrostatic charge to reduce or eliminate flash fire and explosion hazards

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

**June 2021**

***"The Chemistry of Food - an Overview"***

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

If you really think about it, cooking itself is really just the application of chemistry to things that we eat. For example, eggs are rich in proteins that can be “chemically manipulated” in various ways to achieve various results. Yogurts and cheeses are the products of fermentation processes. The browning of fruit is an enzymatic reaction that can be controlled by various techniques. Simple sugars combine with proteins in the Maillard reaction, which is responsible for browning food and developing desirable flavors and aromas. And if you add a little more heat to the Maillard reaction, caramelization takes over, while adding too much heat for too long leads to burnt flavors. In this presentation attendees looked at some of the simple applications of chemistry that makes all cooks chemists too!

**September 2021**

**The 3rd Annual**

**NJIT AIChE / OXE**

**Chemical Engineering Networking Night:**

NJIT AIChE partnered with OXE (the chemical engineering honor society), to hold the **3rd Annual Chemical Engineering Networking Night** in NJIT's Campus Center Ballroom.

This year, this event was successfully hosted in person with the support of the AIChE / OXE alumni, industry representatives, company recruiters, and the NJIT faculty that attended.

**Fall Lecture Series Part 1 - October 2021**

***"Green Fuels for Marine Engines"***

Speaker: **Daniela Bushiri**, Chemical Engineer - Refinery Automation Institute

This presentation highlighted the results of an R&D study that looked at liquified natural gas, hydrogen, ammonia, methanol and biofuels as potential "green fuels" for marine engines, (i.e.; cargo ships, oil tankers, etc.). The aim of the study was to provide insight as to which of these "green fuels" is the most feasible alternative for short-term and long-term sustainability. These fuels were investigated on the comparison basis criteria of their energy densities, life-cycle analysis, availability, existing infrastructure, safety and cost. **One (1) Professional Development Hour (PDH) of continuing education was awarded for this meeting.**

**Fall Lecture Series Part 2 - November 2021**

**“Carbon Capture Technologies – An Overview”**

***with a closer look at Direct Air Capture by Carbon Engineering***

Speaker: **Robert Rossi**, FAIChE - Consultant, Carbon Engineering

This presentation featured a discussion of the cost of carbon reduction, and how Direct Air Capture (DAC) technology can "cap" this cost. Also included was a technical presentation on the technologies used for DAC and the particularly novel ways these existing technologies have been integrated into Carbon Engineering's DAC technology. **One (1) Professional Development Hour (PDH) of continuing education was awarded for this meeting.**