

**AIChE**^{NORTH}**NJ****WHERE
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North Jersey Section AIChE Newsletter

Volume 39

Winter 2016

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POSITIONS AVAILABLE

AIChE (American Institute of Chemical Engineers): A Professional Association of Chemical and Biochemical Engineers devoted to the advancement and growth of its members and promotion of Chemical and Biochemical Engineering as a career.

Winter Meeting Summaries

JANUARY

On **January 19, 2016**, at Jim Johnston's Restaurant in Roseland, NJ, **Thelma Manning, PhD, P.E.** of Picatinny Arsenal presented **"ARDEC Gun Propulsion Development"**.

Dr. Manning, an expert and recognized authority on the development of gun charges and cartridges, reviewed some of the work being done at Picatinny Arsenal, to develop gun propellant formulations to achieve improved ballistic performance and improved insensitive munitions properties for our military. She reviewed the basics of munitions manufacturing, including how sustainable concepts are now being utilized for those processes, and interesting concept that came as a bit of a surprise to the attendees.

Highlights of this presentation included several short films of actual ballistic testing, as well as many samples of the types of cartridge delivery systems being worked on, which were passed around for inspection by attendees.

FEBRUARY

On **February 16, 2016**, the North Jersey Section AIChE held its annual **Scholarship Presentations** at New Jersey Institute of Technology in Newark, NJ. **Peter Sibilski, P.E.** of Pharmetics Manufacturing, Co. LLC and **Sarah Ewing**, Student Program

Membership Associate at AIChE co-presented "***Standing Out is the New Fitting In***".

In the first part of the presentation, Peter reviewed how, in an environment of rapidly changing technologies, organizations are recognizing that they need to adapt in order to remain competitive. This ability to adapt is made possible by employees who are forward-thinking and capable of proactively implementing innovative ideas and solutions. Organizations now realize that to succeed, they need personnel who are willing and able to break from established employee conventions. Attendees at this meeting learned how they can be that "unconventional employee" and how organizations are adapting to attract them.

In the second part of the presentation, Sarah reviewed her employment experiences, and how being an "unconventional employee" helped her advance in her career, and get to where she is today. This was due in a large part to her activities with the student chapter of AIChE at U.C., Irvine. She briefed the attendees on how becoming active in AIChE can provide many opportunities that can boost collaborative skills, one of the more necessary skills needed in an "unconventional employee" in today's evolving work environments.

Scholarship presentations followed the speakers and the recipients' names can be found in the "**Did You Know?**" section below.

MARCH

On **March 15, 2016**, at Jim Johnston's Restaurant in Roseland, NJ, **Elbert Caravaca**, of Picatinny Arsenal presented on "***Additive Manufacturing (i.e.; 3D Printing) of Gun Propulsion Charges***".

In a follow up of sorts to our January meeting, Mr. Caravaca, Chief Scientist of Propulsion R&D at Picatinny, described how advances in additive manufacturing were being investigated as a potential way of manufacturing gun propulsion charges. Research into better ballistic performance is testing the limits of conventional charge manufacturing technologies. The use of 3D printing may allow these limits to be surpassed, and enable the more intricate geometries and chemistries of propulsion charges to be effectively and economically manufactured.

Upcoming Meetings - Save the Dates

APRIL 26, 2016

Gasoline Blend Optimization via Linear & Non-Linear Programming Optimizers

[*click here for details*](#)

MAY 17, 2016

Global Warming or Climate Change: Are they really the same?

[*click here for details*](#)

Did You Know?

The North Jersey Section, AIChE presents 9 scholarships every year,

to students of **New Jersey Institute of Technology** and **Stevens Institute of Technology**.

Please congratulate the 2016 scholarship recipients:

Representing NJ Institute of Technology:

Marcus Taylor - Oden S. Knight / Ralph Cohen Award

Justin Pinca - Stanley S. Grossel Award

Michelle Vasquez / Sohui Park - Otto York Award (shared)

Lydia Rodrigues - Outstanding Chemical Engineering Student

Dawid Lazar - Robert M. Brown Award

Representing Stevens Institute of Technology:

Ryan Tarnopoll - Lee Parker Memorial scholarship

Shawn Maguire - John Anderson Memorial scholarship

Stephanie Basile - Herb Fried scholarship

Alan Rempel - Walter Schnyder Memorial scholarship

For more information on the North Jersey Section, AIChE's scholarship program, [click here](#)

Special Recognition

Also recognized at the February meeting, current **Chair Bob Rossi** presents **Dr. Angelo Perna** of NJIT with a plaque acknowledging his past service as Chair of the North Jersey Section, AIChE.



Section Sponsors:

The North Jersey Section would like to recognize the following Section Sponsors:

PLATINUM Level Sponsors:

- **Infineum USA L.P.**
- **Pharmetics Manufacturing Co., LLC**

For information on how you can become a sponsor of the North Jersey Section AIChE, please [click here](#)

Engineer-Teacher Mentoring Program

Dear Fellow Engineer:

New education standards are being implemented that emphasize "Science, Technology, Engineering, and Math" (STEM). If you are concerned, as I am, about young people entering our profession, you may think "it is about time!" But there is a major problem, whereas virtually all teachers have taken courses in science and math, and they have been exposed to technology in their life and continuing education, virtually none have ever in their lives taken an engineering course. How can they teach what they have never been exposed to?

That is where I need your help. My wife is the current President of the NJ Science Teachers Association; I am active in the NJ Society of Professional Engineers. The science teachers, who typically teach the "engineering" part of STEM, are studying what they need to get up to speed. I am sending you this letter to ask you to join me in making a difference.

I am asking you to help the teachers as a resource by putting your basic contact information into a data base along with any limitations you may have and what county you might help in. Your involvement may be as simple as answering a teacher's question in a phone call. Google does not always provide the answer to a challenging question asked by a bright student. You might be asked to help the teacher in preparing a lesson (by phone, email, or in person), or at most talking to their class about your experiences. For any classroom time, we are working on PowerPoint lessons that you just fill in personal experience information. You can always say no, we won't send you out without help and preparation.

We will even send a letter to your boss asking for time away from the office for this project. This effort is needed to stop the erosion in the scope of engineering as a career. The Engineer's Creed asks that we "enhance the status and usefulness of the profession." You might convince a bright young student to become an engineer; at the very least, you will teach them and their teacher what value an engineer brings to their daily life. If not you, then who?

Michael Ernst P.E.
President, Professional Engineers' Society of Union County

Click on the link to enter your information:
<http://www.njsta.org/engineers-mentoring.html>

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