



January 2023 Newsletter

In-Person Meeting

February 2nd, 5:30 pm, Rutgers University

Jonathan Singer, Rutgers University

***“Bioactive Self-Limiting Electrospray for
Efficient Enhancement of Additive Manufacturing”***

Survey Results / Student Night / Corporate Sponsorship Drive

Sponsor of the Month

Evonik Corporation



[@SAMPE NJ Chapter](#)

<http://njsampe.org>

Our Speaker

Jonathan Singer obtained his PhD from MIT and MSc and BS from UPenn, all in Materials Science and Engineering. He researched hydrogen storage for fuel cell vehicles in collaboration with GM. His doctoral studies were on lasers for self-assembly of phoXonic metamaterials. Jonathan's postdoctoral research was at Yale University, where he investigated the nanoimprint of photovoltaics and bulk metallic glass alloys. He is currently Associate Professor and Mary W. Raisler Distinguished Teaching Chair of Mechanical Engineering at Rutgers University, where he continues to research the manufacturing of hierarchically-structured materials, with 47 peer-reviewed publications and 8 patents/active patent applications. Jonathan received the 2018 3M Non-Tenured Faculty Award and 2021 Office of Naval Research Young Investigator Program Award.

Bioactive Self-Limiting Electrospray for Efficient Enhancement of Additive Manufacturing

Electrospray deposition is a spray coating process utilizing high voltage to atomize a flowing solution into charged microdroplets, evaporating as they travel to a target grounded substrate, depositing the solids. In self-limiting electrospray deposition (SLED), manipulation of the electrostatic repulsion, hydrodynamic forces, and evaporation kinetics can be employed to microcoat 3D architectures. The coatings are hierarchical, possessing either nanoshell or nanowire microstructure. SLED is highly compatible with 3D printing due to its ability to coat re-entrant and shadowed features without masking. SLED is also a highly efficient tool for the additive manufacturing of bioactive coatings onto passive medical devices, including inks that incorporate proteins, biocompatible polymers, bioactive small molecules, and DNA vaccines.

Meeting Details

Date: February 2nd, 2023

Location: Rutgers University Busch Dining Hall
Piscataway, NJ

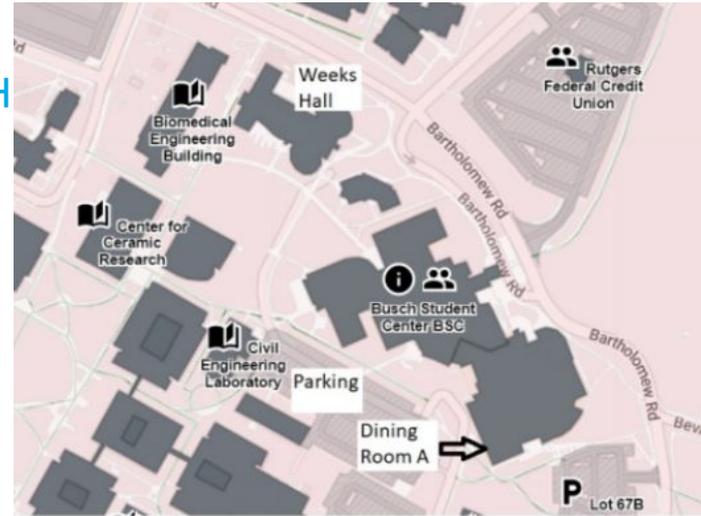
RSVP: [Click here](#)
RSVP by January 23, 2023

Agenda:

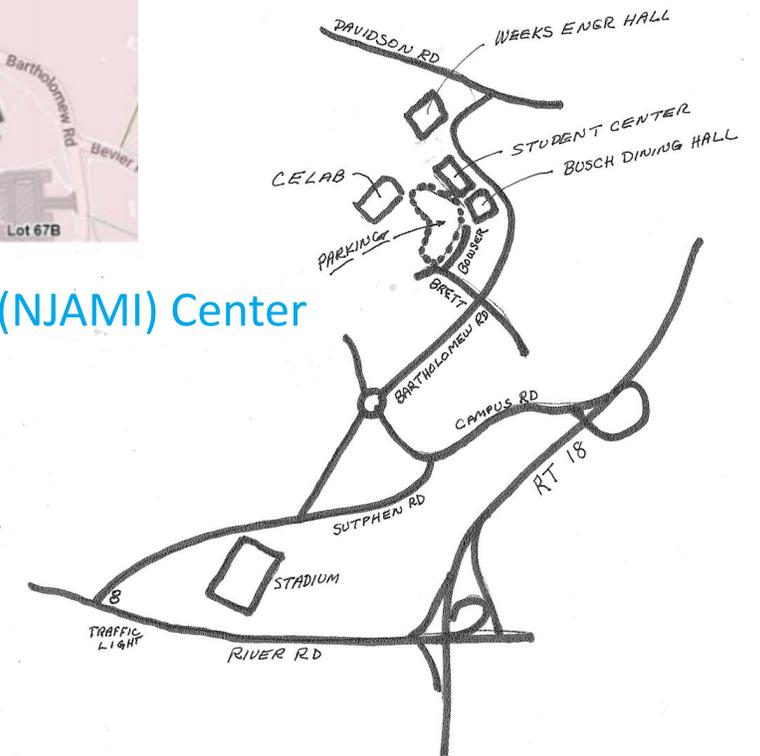
- 5:30 pm Networking
- 6:00 pm Dinner
- 6:30 pm Presentation
- 7:15 pm Tour of New Jersey Advanced Manufacturing Initiative (NJAMI) Center
- 8:15 pm Adjourn

Fee:

- General admission: \$30
- Corporate Sponsors: First attendee is free, then \$30 for all others
- Students: Always free
- Prepay via PayPal or cash/check at door



Visitor parking in
Lots 59, 60A, and 60B



Monthly Meeting Preview

Mark your calendar! Looking forward to seeing you!

We are pleased to preview our Spring 2023 schedule

March 2nd – Jeffrey Landau - Charting Your Roadmap For A Successful Career Change

Evonik Corporation, Piscataway, NJ

April 6th – Student Night - Seeking 3 student speakers. Contact joe@njsampe.org if interested.

Location TBA

May 4th – Suren Batra - Structural Maintenance of the World Trade Center and 9/11

Location TBA

June TBA – 3rd Annual Additive Manufacturing Symposium

Location TBA

Contact Howard Kliger howard@njsampe.org for speaker or sponsorship opportunities. All are welcome!

January 2023 News

Survey Results

Thank you for participating in our December survey on monthly meeting improvements. Results were clear:

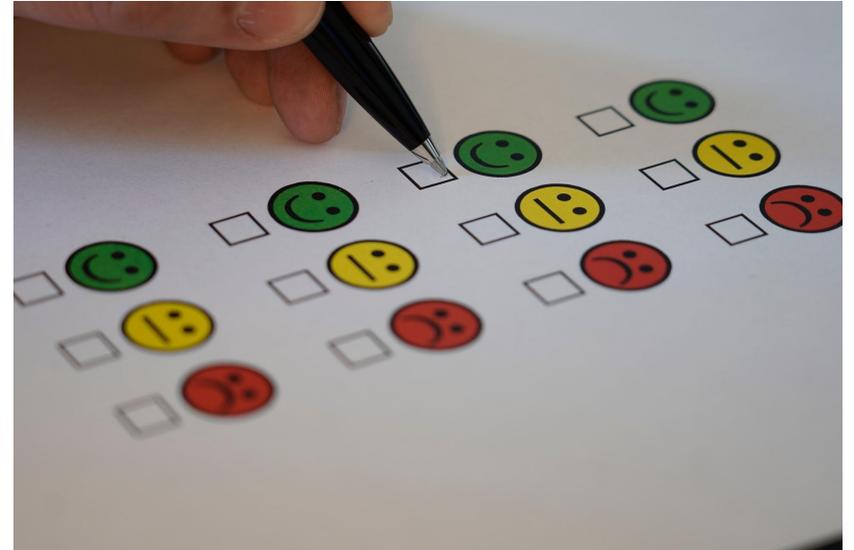
1. Composites and Additive Manufacturing are continuing topics of interest
2. Meetings within an hour's drive are preferred
3. \$30-40 fairly reflects the value of networking, a full-course dinner and speaker's presentation

The NJ SAMPE Board will strive to plan meetings and select venues to best accommodate our membership.

Further questions and comments can be submitted at any time to Melissa Jaime at melissa@njsampe.org

Student Night

Our Annual Student Night will be on Thursday, April 6th. Student Chapter members as well as high school and university students in the local community are most welcome to attend. We seek 3 student presentations and invite those interested to contact Joe Abrantes at joe@njsampe.org for details.



January 2023 News

Sponsorship Drive

We greatly appreciate our New Jersey Chapter Corporate Sponsors. These fine companies help us to continue our activities and programs. Our Annual Drive will begin shortly and we seek your continued support, as well as consideration of new members and friends. Please look for our mailing shortly and contribute generously.

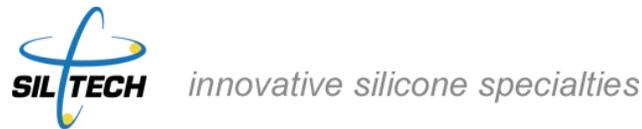


NJ SAMPE Scholarship Program

The Board is finalizing plans for our inaugural NJ SAMPE Scholarship Program, with awards to be conferred upon graduating high school and university students, beginning with the Fall 2023 semester. Application forms will be available shortly. Please begin to think about deserving students with an interest in pursuing degrees in STEM fields.

Thank You to Our Sponsors!

We are most pleased to acknowledge our New Jersey Chapter Corporate Sponsors. These fine companies help us to continue our activities and programs.



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Sponsor of the Month – Evonik Corporation



Evonik is one of the world's leading specialty chemicals companies. The strategy of Evonik focuses on specialty chemicals, customer-focused innovation, and a performance-oriented culture. Evonik supplies high performance materials for environmentally friendly as well as energy-efficient systems to the automotive, paints & coatings, adhesives, construction, and many other industries. While we often contribute only small amounts of material, those contributions are precisely what make the difference.

Evonik stands for attractive business and innovative prowess. Our corporate culture is geared toward results, profitable growth, and increasing the value of the company. Operating in over 100 countries, we benefit from close customer relationships and leading market positions. Over 32,000 employees are united by the understanding that no product is so perfect that you can't make it better.

For more information, contact

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New Jersey Chapter

2023

Support the NJ Chapter of SAMPE

***Celebrating our 46th year of service to the greater
NY/NJ/CT/PA area***

- Attend a meeting***
- Network with industry peers***
- Make a presentation***
- Become a Corporate Sponsor***
- Volunteer***



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