



Society for Analytical Chemists of Pittsburgh

JANUARY MEETING

Monday, January 8, 2018



DUQUESNE
UNIVERSITY



in Pittsburgh

Social Hour – 5:00 PM – Shepperson Suite
Dinner – 6:30 PM – Power Center Ballroom C
Technical Program – Power Center Ballroom C
Business Meeting – Power Center Ballroom C
Student Affiliate Meeting – Shepperson Suite

Deadline for Dinner Reservations: Thursday, December 28, 2017

[ONLINE RESERVATION FORM](#)

TECHNICAL PROGRAM



Jill E. Millstone
Associate Professor of Chemistry
The University of Pittsburgh

“Metal-Ligand Chemistry in Metal Nanoparticle Synthesis and Performance”

Metal-ligand chemistry impacts nearly every aspect of nanoparticle formation, physical properties, and utility. We develop methods to study and leverage these interactions to produce tailored multimetallic nanoparticles with dimensions spanning the nanoscale (1-100 nm). Here, we discuss how metal-ligand interactions may be used to mediate the incorporation and distribution of metals in and on discrete, colloidal nanoparticle substrates, as well as their optoelectronic properties once formed. In particular, we demonstrate that nanoparticle ligand chemistry may be used to access previously unobserved mixtures of metals, unique distributions of metals at the surface of a colloidal particle, as well as composition-tunable optoelectronic features. Underpinning these studies are the development of analytical techniques to quantitatively track and ultimately tune the surface chemistry of these nanoparticles in order to create translational insights into the role of nanoparticle surface chemistry in their performance downstream. Together, these results provide mechanistic platforms for the development of nanoscale alloys and other metallic structures that we investigate in a wide variety of applications ranging from light-driven catalysis to multimodal bioimaging.

BIOGRAPHY: Jill E. Millstone is an Associate Professor of Chemistry at the University of Pittsburgh with affiliated appointments in the Departments of Chemical Engineering and Mechanical Engineering and Materials Science. Before joining the University of Pittsburgh, she completed her Ph. D. at Northwestern University and post-doctoral research at the University of California, Berkeley. Since 2011, she has received awards including the NSF CAREER Award, the ACS Unilever Award for Outstanding Young Investigator in Colloid and Surfactant Science, and the Cottrell Research Scholar Award. She previously served as an associate editor for the RSC journal, *Nanoscale*, and is currently

an associate editor at *ACS Nano*. Her group studies the chemical mechanisms underpinning metal nanoparticle synthesis, surface chemistry, and optoelectronic behaviors.

DINNER RESERVATIONS: Please complete the [Online Dinner Reservation Form](#) NO LATER THAN Thursday, December 28, 2017. The form is also located under the Meeting Notice on website www.sacp.org. Should you not be able to access the form, please call 412-825-3220, ext 212 the SACP Administrative Assistant to make your dinner reservation. The entrée choices for January are **48 Hour Beef Short Ribs OR Roasted Vegetable Wellington**. Please let us know if you have any dietary restrictions. Dinner will cost \$10 (\$5 for undergraduate students). Checks can be made payable to the SACP.

PARKING: Duquesne University Parking Garage entrance is on Forbes Avenue. Upon entering the garage, you will need to get a parking ticket and drive to upper floors. Bring your parking ticket to the dinner or meeting for a validation sticker. Should any difficulties arise, please contact Duquesne University.