



Society for Analytical Chemists of Pittsburgh  
Spectroscopy Society of Pittsburgh



## October Joint Meeting With the AAAP

(Amateur Astronomers Association of Pittsburgh)

Wednesday, October 23, 2019

5:30 PM Social Hour — Shepperson Suite  
5:30 - 6:00 PM SSP Technology Forum – Power Center Ballroom  
6:30 PM Dinner – Power Center Ballroom  
Student Affiliate Meeting – Shepperson Suite  
7:30 PM Business Meeting – Power Center Ballroom  
8:00 PM Technical Program – Power Center Ballroom

**Deadline for Dinner Reservations: Monday, October 14, 2019  
before Noon**

### SSP TECHNOLOGY FORUM

Emily Ruby, Curator, Heinz History Center  
“From Pittsburgh to the Moon”



This talk focuses on the *Destination Moon* exhibition that the Heinz History Center hosted in the fall of 2018. A national touring exhibition put together by the Smithsonian Air and Space Museum, this exhibit marked the first time the Command Module *Columbia* left the Smithsonian since it was installed there in the early 1970s. This talk highlights the important contributions that Western Pennsylvania made to the success of the space program and to the Apollo 11 mission.

**BIOGRAPHY:** Emily Ruby has been a curator at the Heinz History Center for more than 11 years. She serves as the point of contact for those interested in donating artifacts to the collection as well as curating exhibitions as diverse as Heinz and Destination Moon.

Emily is a graduate of the Hagley and Museum Studies programs at the University of Delaware.

# SACP TECHNICAL PROGRAM

## Dr. Silvana Andreescu, Clarkson University “Chemical and Biological Sensors for Improving Food Quality through Sensitive Packaging”



The growing interest in food quality and safety requires the development of sensitive and reliable methods of analysis as well as technology for the preservation of freshness and quality of food. Portable and inexpensive biosensing devices show potential for addressing the need for rapid on-site measurements. A key issue in the development of these devices is creating suitable surface chemistry with recognition capabilities for the selective binding of target analytes. This presentation will discuss development, manufacturing, analytical characterization and deployment of portable biosensors incorporating receptor molecules and a smart redox active interface for monitoring active and functional ingredients in food, and their possible implementation in smart packaging. To fabricate the sensors, we use nanoparticles that have tunable redox activity, optical and catalytic properties and can transduce and catalytically amplify signals in chemical and biological detection schemes involving biomolecules. Examples of sensors that utilize printable paper as a functional (bio)sensing platform, modification of paper and procedures enabling roll-to-roll fabrication will be discussed. A unique feature of these devices is the built-in detection mechanism with all the sensing components needed for analysis fixed onto the sensing platform, functioning as a fully integrated reagentless biosensing device. The sensors have been interfaced with portable databases and user-friendly signal transduction methods, and have demonstrated excellent performance when used in the field. Several prototypes designed for food freshness, safety and quality monitoring will be discussed, with examples of applications.

**BIOGRAPHY:** Silvana Andreescu is the Egon Matijević Chair in Chemistry and Professor of Bioanalytical Chemistry in the Department of Chemistry and Biomolecular Science at Clarkson University in Potsdam, NY. She has received a PhD in Chemistry, specializing in biosensors from the University of Perpignan, France, and University of Bucharest, Romania in 2002, and has been a member of the Clarkson faculty since 2005. Between 2003 and 2005 she was a NSF-NATO postdoctoral fellow at the State University of New York at Binghamton. Her research interests are in analytical and bioanalytical chemistry, bio-nanotechnology, environmental nanotechnology and development of practical biosensors for clinical and environmental monitoring. Recent work involves the use of nano-impact methods to characterize surface properties and reactivity of nanoparticles for environmental and health safety assessment and sensing applications. She is the recipient of a French Government Graduate Fellowship, a NATO-NSF Postdoctoral Fellowship, the NSF-CAREER award, the John W. Graham Faculty Research Award, the Research Excellence Award and a Member of the Million Dollars Club at Clarkson University.

**DINNER RESERVATIONS:** Please complete the [Online Dinner Reservation Form](#) NO LATER THAN Monday, October 14, 2019, before Noon. The form is also located under the Meeting Notice on websites [www.sacp.org](http://www.sacp.org). & [www.ssp-pgh.org](http://www.ssp-pgh.org). Should you not be able to access the form, please call 412-825-3220, ext. 200 the SACP & SSP Administrative Assistant to make your dinner reservation. The entrée choices for October are **Wiener Schnitzel** or **Grilled Vegetable Stack**. 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 or the SSP, depending on membership.

**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 ticket. Should any difficulties arise, please contact Duquesne University.