



# Society for Analytical Chemists of Pittsburgh Spectroscopy Society of Pittsburgh



## January Meeting

**(PLEASE NOTE THE ROOM CHANGE: DUQUESNE UNION BLDG – AFRICA ROOM)**

**Wednesday, January 9, 2019**



**DUQUESNE  
UNIVERSITY**



in Pittsburgh

5:30 PM Social Hour — **Africa Room (Duquesne Union)**  
5:30 PM SSP Technology Forum – **Room 613 (Duquesne Union)**  
6:30 PM Dinner – **Africa Room (Duquesne Union)**  
Student Affiliate Meeting – Shepperson Suite  
7:45 PM Business Meeting – **Africa Room (Duquesne Union)**  
8:00 PM Technical Program – **Africa Room (Duquesne Union)**

**Deadline for Dinner Reservations: Wednesday, January 2, 2019**

### SACP TECHNICAL PROGRAM



**Dr. Barbara Methé**  
Department of Medicine, University of Pittsburgh

### “The Ecology Within – The Human Microbiome”

The human microbiome (microbial communities and their gene content) is composed of trillions of cells in multiple ecological niches that have evolved with their human host over evolutionary time. Despite their ubiquity, tremendous functional gene capacity and the array of biochemistry in which they participate, we are only now beginning to truly appreciate the importance of the microbiome in human health and disease. While traditional microbiology has emphasized the ability to culture and study microorganisms independently, advances in molecular biology, genomics and computational biology have revolutionized the manner in which scientists study microorganisms and their ecology, or relationships with one another and their environment. These advances, while challenging, are opening new opportunities to study the complex relationships between the human host and microbiome. This presentation will recap some of our current understanding of the microbiome and consider new directions of study as we begin to translate our knowledge of the microbiome to the realms of disease prevention, therapeutics and diagnostics in the 21<sup>st</sup> Century.

**BIOGRAPHY:** Dr. Methé is a Professor in the Department of Medicine at the University of Pittsburgh (U Pitt) and a Director of the U Pitt Center for Medicine and the Microbiome (CMM). She has extensive experience in microbial ecology, computational biology and the application of ‘omics technologies to study whole microbial communities. Previously she has led studies of microbial communities in diverse environments including the terrestrial subsurface and the deep seafloor and was a leader of the NIH supported Human Microbiome Project (HMP). Among current projects, she is studying the role of the microbiome in HIV-associated COPD to identify novel biomarkers of lung disease. She is also leading a project to develop methods to sort microbial communities based on their immunogenicity (ability to invoke an immune response) and methods applying metatranscriptomics and metabolomics to samples with low microbiome biomass. She is also involved in a personalized medicine and genomics initiative (University of Pittsburgh Medical Center MedBio Project) which seeks to generate and integrate microbiome and human genome data with medical electronic health records from individuals representing multiple health and disease phenotypes.

## SSP TECHNOLOGY FORUM

Dr. Josef P. Werne

Department of Geology & Environmental Science, University of Pittsburgh

### “Human Influence on Climate Change”



Warming of the climate system is now evident from observations of increases in surface air and ocean temperatures, widespread melting of glaciers and ice caps, and shrinking Arctic sea ice extent. Most of the observed increase in global average temperatures is due to the increase in atmospheric greenhouse gas concentrations associated with human activities (e.g., agriculture, industry, and land-use changes). Nonetheless, considerable debate surrounds the establishment of greenhouse gas emission limits, and informed government, corporate, and individual action to mitigate the extent and impact of warming has been limited. Improving our knowledge of the Earth's climate system is therefore a matter of urgency to better understand human impacts on the climate system. This presentation will examine the atmospheric and oceanic interactions that determine the nature of the global climate system, how humans have perturbed the system, and what likely impacts of these perturbations are and will be in the future.

**BIOGRAPHY:** Dr. Werne received his PhD in Geological Sciences at Northwestern University in 2000 with an emphasis in Biogeochemistry. He was a Postdoctoral Research Scientist at the Royal Netherlands Institute for Sea Research from 2000-2002 and on the faculty of the Large Lakes Observatory and Department of Chemistry & Biochemistry (Assistant/Associate Professor) at the University of Minnesota Duluth before joining the

Department in 2012. Dr. Werne spent a year in Perth, Australia as a Gledden Visiting Senior Fellow at the Institute for Advanced Studies of the University of Western Australia, as well as a visiting scientist in the Western Australia Organic and Isotope Geochemistry Centre at Curtin University (2009-2010). He joined the faculty in the Department of Geology & Environmental Science at the University of Pittsburgh in 2012 and was promoted to Full Professor in 2017. He was elected a Fellow of the Geological Society of America in 2018 for extraordinary accomplishments in developing and using molecular and isotopic paleolimnologic proxies to enable refined reconstructions of past continental climates and to improve understanding of the dynamics of climate, in publication of the results of this important research, and in nurturing and training of young scientists.

**DINNER RESERVATIONS:** Please complete the [Online Dinner Reservation Form](#) NO LATER THAN Wednesday, January 2, 2019. The form is also located under the Meeting Notice on website [www.sacp.org](http://www.sacp.org). Should you not be able to access the form, please call 412-825-3220, ext 212 the SACP & SSP Administrative Assistant to make your dinner reservations. The entrée choices for January are **Meat Lasagna** or **Vegetable Lasagna**. 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 sticker. Should any difficulties arise, please contact Duquesne University.