



# The Crucible www.pittsburghacs.org

Volume: C No.7 March 2015

### 89<sup>th</sup> American Chemical Society Colloid and Surface Science Symposium

June 14 – 17, 2015

## Hosted by Carnegie Mellon University Pittsburgh, Pennsylvania

### Symposium Website: http://colloids2015.org

The 89<sup>th</sup> annual technical meeting of the American Chemical Society Division of Colloid and Surface Chemistry will highlight the latest fundamental and applied advances in colloid and surface science, including its key roles in a diversity of related disciplines. Traditionally organized and hosted by a university that has a deep commitment to colloid and surface science, the Symposium thrives on strong international attendance by participants from academia, industry and national laboratories and has become established as a premier conference in this field. Approximately 500 oral and poster presentations are expected. Online abstract submissions will be accepted from January 5 – April 1, 2015.

In addition to 13 technical symposia and a poster session, this Symposium features two plenary lectures, the Unilever Award Lecture, the Victor K. LaMer Award Lecture, and an instrument exhibition. The social program includes the welcoming dinner reception on Sunday evening, June 14, the Monday afternoon poster session with refreshments, and the Tuesday evening Symposium Banquet at the Carnegie Museum of Natural History.

This year's plenary speakers are Professor Tejal Desai of the University of California at San Francisco and Professor David Pine of New York University. In addition, each of the technical symposia features two keynote speakers. The symposia, their organizers and keynote speakers can be found on page 12.

Please visit the Symposium website <a href="http://colloids2015.org">http://colloids2015.org</a> for more information and to submit an abstract, or contact one of the Symposium Co-Chairs, Stephen Garoff (sg2e@andrew.cmu.edu), James Schneider (schneider@cmu.edu) or Robert Tilton (tilton@cmu.edu).

### Contents ...

89 <sup>th</sup> American Chemical Society	1
Colloid and Surface Science Symposium	
C <sup>3</sup> Couture, Cosmetics & Chemistry	2
Call for Awards Nominations	3
Women Chemists Committee	
SACP Continuing Education	4
Committee Presents PhET	
New Insight into How Rubber is	5
Made Could Improve Tires, Reduce	
Air Pollution	
YCC Industry Night 2015	5
Society For Analytical Chemists	6
of Pittsburgh April Meeting	
The Spectroscopy Society of	7
Pittsburgh April Meeting	
University of Pittsburgh 2015	8
Chemistry Spring Seminars	
SSP Continuing Education Pittsburgh	9
Water and Sewer Facility Tour	
ISEF Call for Volunteers	10
Speakers Wanted	13
Application for Student Travel	13
Awards Now Being Accepted	
Advertiser's Index	15
Calendar	16



# Couture, Cosmetics, E Chemistry



The Greater Pittsburgh Area WCC will be sponsoring an event on Saturday, March 28th for Girl Scouts to earn their "Science of Style" badge.

This event is also open to 7-10<sup>th</sup> grade students in the Greater Pittsburgh Area who are interested in attending and expanding their understanding of science.

### When: March 28th from 9am-12pm

Refreshments available starting at 8:30am

### Where: Chevron Science Center

(Department of Chemistry, University of Pittsburgh 219 Parkman Avenue, Pittsburgh PA 15260)

### Cost: Free

(advanced registration required)

The Greater Pittsburgh Area WCC will lead local girl scouts, and local students, through 5 different stations, which were designed to meet the mandated requirements to earn the *Science of Style* badge.

Girls will complete projects such as creating lip balm, perfume, and homemade shrinky-dink pendants (amongst others) – all the while learning the science behind cosmetics and fashion.

NOTE: There are a limited number of spots available for this workshop. Anyone interested in attending should register by March 16<sup>th</sup> using the link available on the Upcoming Events page of our website: www.pghWCC.org.

Contact Michelle Ward (michelle.ward@pitt.edu) with any questions.

The Greater Pittsburgh Area Women Chemists
Committee is pleased to announce two awards
to recognize distinguished service in the field
of chemistry.



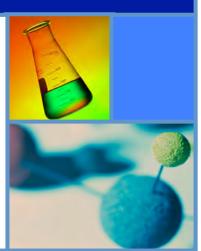


### Award for Encouraging Women into the Chemical Sciences

This award recognizes significant accomplishments by individuals, male or female, who have stimulated or fostered the interest of women in chemistry, promoting their professional developments as chemists or chemical engineers. Nominees for the award may come from any professional setting in the greater Pittsburgh area: academia, industry, government, clinical, or other independent facility. Nominees need not be a member of the WCC or the ACS.

### Award for Excellence in the Chemical Sciences

This award recognizes the achievements of female chemists and chemical engineers in the greater Pittsburgh area who have a record of accomplishment in their field. Nominees for the award may come from any professional setting in the greater Pittsburgh area: academia, industry, government, clinical, or other independent facility. Nominees need not be a member of the WCC or the ACS.



### Call for Nominations Deadline: April 1st

Nomination packets should include a minimum of two supporting letters, an up-todate copy of the nominee's CV/resume, your full contact information, and contact information for the nominee.

Please submit your packet (hard copy or electronic pdf) to: Dr. Michelle Ward at Room 107 / 219 Parkman Ave. / Pgh PA 15260 or michelle.ward@pitt.edu

Our mission is to be leaders to be leaders in attracting, developing, and promoting women in the chemical sciences.



### SACP Continuing Education Committee Presents:

### **PhET**

### (Physics Education and Technology-It is not only Physics)

PhET simulations provide fun, free, interactive, research-based science and mathematics. Each simulation is ensured educational effectiveness. All simulations are open source and free to all students and teachers.

### Activities Hand on Experiences

Workshop Facilitator: Julia M. Chamberlain

Date: Saturday, March 28, 2015

Time: 8:30AM – 1:00 PM (free lunch included)

**Location: Sewickley Academy** 

315 Academy Ave. Sewickley, PA 15143

\*\*ACT 48 credits available\*\*

**To register**, complete the form below, and send it with a check of \$10.00 (pay to the order of SACP) to Ms. Valarie Daugherty, c/o SACP, 300 Penn Center Blvd., Suite 332, Pittsburgh, PA 15235, no later than March 23, 2015.

Name	Phone No			
School	E-mail address			
ACT 48 credits needed? (Circle one) Yes	No			

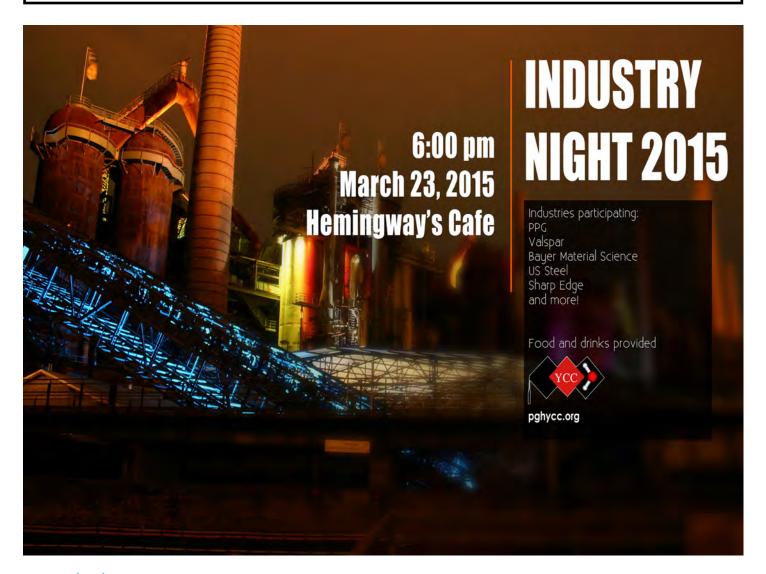
### New Insight Into How Rubber Is Made Could Improve Tires, Reduce Air Pollution

People have been making rubber products from elastic bands to tires for centuries, but a key step in this process has remained a mystery. In a report in the ACS journal Macromolecules, scientists have described this elusive part of rubber production that could have major implications for improving the material and its uses. Their findings, if used to improve tire performance, for example, could mean higher gas mileage for consumers and less air pollution.

Yuko Ikeda and colleagues note that a chemical process called vulcanization has been critical for the manufacturing of quality rubber since the second half of the 1800s. Chemists have improved the process, but progress has largely plateaued in recent years. If scientists could gain insight into the details of vulcanization, they could further tweak it to make even better rubber. Ikeda's team set out to uncover a key step in this process.

Using the latest analytical techniques, the researchers discovered a previously unknown structure that forms during vulcanization. The new observation could contribute to making the ubiquitous material even better. For the auto industry, resulting improvements in tire performance could translate to fuel savings and lower emissions, the researchers say.

The authors acknowledge funding from the Japan Society for the Promotion of Science and the Izumi Science and Technology Foundation.





### Society for Analytical Chemists of Pittsburgh



### **April Meeting - Former Chair Night**

### Monday, April 6, 2015 - 8:00 PM Duquesne University

"Desalination: Needs, Current State of the Art, and a New Electrochemical Approach"

Richard M. Crooks, Ph.D.
University of Utah
"Pittsburgh Analytical Chemistry Award Recipient"

**Abstract:** Fresh water is required to sustain life. However, the world is facing a global challenge to reliably supply its population with safe water due to shortages stemming from population growth, climate change, contamination of available fresh water supplies, and public policy. Presently, the United Nations estimates one-third of the world's population (~2.4 billion people) is living in water stressed regions, meaning the annual water supply is <1,700 m3 per person. Even more alarming, this number is expected to approach two-thirds of the world's population by 2025. Water shortages are not just limited to those living in arid or developing regions; the effects are now being acutely felt by those living in fresh water-rich environments.

Increasing the availability of fresh water is a complex problem that does not have one simple solution. Consequently, technological developments providing a synergy of solutions will likely be required to address the world's water challenges. The first step toward ensuring water for all is the efficient use and conservation of currently available fresh water supplies. Encouragingly, there are examples in the developed world of per-capita water use decreasing due to more efficient agricultural, industrial, and personal practices. Nevertheless, similar to petroleum reserves, continued economic development of populous countries like China and India will exert new stresses on world-wide water resources.

In this presentation I will discuss many of the underlying concepts guiding the development of desalination technologies, while highlighting a new electrochemical approach, electrochemically mediated desalination (EMD), that our group is currently developing. Although not comprehensive, this talk will provide an introduction to the broad field of desalination, including modern thermal, membrane, and electrochemical technologies.

Biograhy: Richard M. Crooks received a B.S. degree in Chemistry from the University of Illinois at Urbana-Champaign in 1981. During his undergraduate studies he was a member of Prof. Larry Faulkner's research group and studied adsorption of organic molecules onto mercury electrodes. His doctoral studies with Prof. Allen J. Bard at the University of Texas at Austin focused on the examination of electrochemical processes in supercritical fluids. He studied chemical sensors in the group of Prof. Mark S. Wrighton at MIT from 1987-1989. Prof. Crooks started his independent career in 1989 as an assistant professor of chemistry at the University of New Mexico and then moved to Texas A&M University in 1993. In 2005 he returned to the UT-Austin where he is presently the Robert A. Welch Chair in Materials Chemistry. His interests include synthesis, characterization, and electrocatalytic properties of nanoparticles, microelectrochemical sensors, and bioelectrochemistry. He has published ~260 peer-reviewed research papers and is the recipient of several awards including the Carl Wagner Memorial Award of the Electrochemical Society, the American Chemical Society Electrochemistry Award, the Society for Electroanalytical Chemistry C. N. Reilley Award, and the Pittsburg Award in Analytical Chemistry. In addition to his scientific and pedagogical interests, he enjoys detective fiction, distance running, and ranching (on a very small scale).

Dinner Reservations: Please email the SACP Administrative Assistant, Valarie Daugherty at daugherty@pittcon.org by Monday, March 30, 2015 to make dinner reservations. Should you not have email, please call 412-825-3220, ext 204. Dinner will cost \$10 (\$5 for students) and checks are to be made out to the SACP. If you have any dietary restrictions, please let Valarie know when you leave message. 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. Please contact Duquesne University, if any difficulties should arise.



### The Spectroscopy Society of Pittsburgh



### April Meeting Wednesday, April 15, 2015 Duquesne University – Laura Falk Hall located in Mellon Hall

Technology Forum Speaker's Presentation 5:30 PM
Social Hour 5:30 PM ● Dinner in the City View Café (6<sup>th</sup> Floor) 6:30 PM
Business Meeting 8:00 PM ● Technical Program Speaker's Presentation 8:15 PM

### **TECHNICAL PROGRAM - 8:15 PM**

"Smoke, Mirrors and Black Boxes Expanding our Understanding of Mars"

Rohit Bhartia, Ph.D., Planetary Chemistry and Astrobiology, JPL/NASA/Caltech

The next Mars mission is scheduled to launch in 2020. This mission includes a roving platform with a suite of spectroscopic and imaging instruments that will be used to explore the surface and near subsurface of Mars with the expressed goal to search for potential biosignatures. One of the instruments, SHERLOC, is an arm-mounted deep UV fluorescence and Raman spectrometer that enables non-contact, spatially resolved, high sensitivity detection and characterization of organics and minerals. This talk will discuss the overall mission, the development of SHERLOC, and how we will utilize deep UV spectroscopic methods to assess past aqueous history, detect the presence and preservation potential of biosignatures, and support the selection of samples for caching and potential return to Earth.

Rohit Bhartia is Research Scientist at the Jet Propulsion Laboratory where he has been leading research instrument development for deep UV fluorescence and Raman based instruments for both astrobiological science interests and defense related hazard/threat analysis since 1998. He holds a BS in Bacteriology from the University of Wisconsin-Madison, and an MS in Biomedical Engineering & Image Informatics and a Ph.D in Geological Sciences from the University of Southern California. He currently leads efforts in field deployable deep UV fluorescence/Raman instruments for subsurface organics and microbial analysis and research efforts in in-situ correlative microscopy for mineral, organic, and biological analyses and is the Deputy-PI on the Mars 2020 flight instrument SHERLOC.

#### **TECHNOLOGY FORUM - 5:30 PM**

Duquesne University - Laura Falk Hall located in Mellon Hall

"Broccoli and Your Health: Why It Might Be a Superfood"

Thomas Kensler, University of Pittsburgh

Health reflects the ability of an organism to adapt to stress. Stresses — metabolic, proteotoxic, mitotic, oxidative and DNA-damage stresses — contribute to the etiology of cancer and other chronic degenerative diseases. Our work demonstrates that activation of the Kelch-like ECH-associated protein 1 (KEAP1)—NF-E2-related factor 2 (NRF2)-signaling pathway is an adaptive response to environmental and endogenous stresses and serves to render animals resistant to chemical carcinogenesis, other forms of toxicity, and inflammation whilst disruption of the pathway exacerbates these outcomes. The Keap1-Nrf2 pathway can be induced by thiol-reactive small molecules including dithiolethiones (e.g., oltipraz), isothiocyanates (e.g., sulforaphane) and triterpenoids (e.g., CDDO-Im) that demonstrate protective efficacy in preclinical chemoprevention models and in clinical trials. Thus, targeting the pathway may provide important opportunities for disease prevention. Recent trials have focused on interventions with broccoli sprout-derived beverages (rich in sulforaphane) as modulators of environmental exposures to food contaminants such as aflatoxin and air pollutants.

Continued on Page 11

Please register on-line at <a href="http://www.ssp-pgh.org/monthly-meeting-rsvp">http://www.ssp-pgh.org/monthly-meeting-rsvp</a>/ to make dinner reservations NO LATER THAN Thursday, April 9, 2015 at noon. Dinner will cost \$10 (\$5 for students) and checks can be made out to the SSP. If you have any dietary restrictions, please indicate them when you RSVP. Parking Instructions: The Duquesne University Parking Garage is located on Forbes Avenue. Upon entering the garage, receive parking ticket and drive to upper floors. Pick up a parking chit at the dinner or meeting

### **University of Pittsburgh 2015 Chemistry Spring Seminars**

#### March 5, 2015

2:30pm, 150 Chevron
Craig Crews
Yale University
"Making the Problem Go Away:
Inducing Protein Degradation with
Small Molecules"

### March 6, 2015

4:00pm, 150 Chevron
Andrew Ewing
Vanderbilt University of
Gothenburg
"Electrochemistry and Mass
Spectrometry Imaging in Flies,
Cells, and Vesicles"

### March 9, 2015

4:00pm, 150 Chevron
5<sup>th</sup> Annual Henry Frank Lecture
Series
Joost VandeVondele
ETH Zurich
"Exploring Frontiers in Sampling,
Large Scale Models and Electron
Correlation Using Petascale Computing and CP2K"

### March 19, 2015

4:00pm, 150 Chevron
Keith Stevenson
University of Texas
"Electrochemistry of Nanocarbon
Materials: From Fundamentals to
Applications"

#### March 26, 2015

2:30pm, 150 Chevron
Jean-Francois Lutz
Institut Charles Sandron
Unnatural Information-Containing
Macromolecules

### April 2, 2015

2:30pm, 150 Chevron Christy Haynes University of Minnesota "Biological and Ecological Toxicity of Engineered Nanoparticles"

#### April 2, 2015

4:00pm, 150 Chevron
Hao Yan
Arizona State University
"Designer DNA Architectures for
Programmable Self-Assembly"

### **April 8, 2015**

19<sup>th</sup> Annual
Paul Dowd Lectures Series
4:00pm, 150 Chevron
Nathanael Gray
Harvard Medical School
"A Role for Academia in Modern
Drug Discovery"

### April 9, 2015

19<sup>th</sup> Annual
Paul Dowd Lectures Series
2:30pm, 150 Chevron
Nathanael Gray
Harvard Medical School
"Targeting Oncogenic Signaling
with Covalent Inhibitors: CDK7,
KRAS, HER3"

#### **April 16, 2015**

6<sup>th</sup> Annual Johannes F. Coetzee Memorial Lecture 4:00pm, 150 Chevron Jonathan Sweedler University of Illinois "Mass Spectrometry Approaches to Characterize Novel Brain Chemistry"

### April 23, 2015

2:30pm, 150 Chevron Dvira Segal University of Toronto "Quantum Transport: From Path Integral Techniques to Molecular Devices"

#### April 28, 2015

2:30pm, 150 Chevron Eric Anslyn University of Texas at Austin "Three Tales of Supramolecular Analytical Chemistry"

### April 30, 2015

2:30pm, 150 Chevron Kenny Gibbs National Cancer Institute "What Do I Want to Be With My PhD"

#### May 4, 2015

60<sup>th</sup> Annual Francis Clifford Phillips Lecture 4:00pm, 150 Chevron James Nowick University of California - Irvine "The Supramolecular Chemistry of Beta-Sheets"

#### May 5, 2015

60<sup>th</sup> Annual Francis Clifford Phillips Lecture 2:30pm, 150 Chevron James Nowick University of California - Irvine "Exploring the Structures of Amyloid Oligomers with Chemical Model Systems"

#### May 7, 2015

2:30pm, 150 Chevron Mary Watson University of Delaware "Metal Catalysis of Nontraditional Electrophiles"



### SSP presents:

# Continuing Education Facility tour to Pittsburgh Water & Sewer Authority



Date: Saturday, April 18, 2015 Time: 10:00 AM – 1:30 PM

Location: 900 Freeport Road, Pittsburgh, PA 15238

(Detail instruction to get into the location may be sent to the registered participants later)

### Agenda

10:00 am Registration open

10:15 am Tour to Pittsburgh Water & Sewer Authority

Noon Lunch at Walnut Grill, Fox Chapel

(Waterworks Mall, 911 Freeport Rd, Pittsburgh, PA 15238)

1:30 pm Closing

- Open to public but need advanced registration.
- ➤ Registration Fee is \$10.00 required in advance.
- ➤ Registration Deadline: April 3, 2015.

To register, complete the form below, and send it and a check for \$10.00, payable to SSP, to Ms. Shana Tokarski, c/o SSP, 300 Penn Center Blvd., Suite 332, Pittsburgh, PA 15235, no later than April 3, 2015.

## Lunch menu (choices for sandwiches, including a vegan option) will be available on side.

		detach here					
SSP Continuing Education PWSA Tour - Saturday April 18, 2015.  Please do not forget to mark the box if you can attend the lunch.							
Name	Nee	ed lunch: 🗆	E-mail	address			
Open to public but ple	ase mark your affiliation	n if you are a m	ember of:	□SSP □SACP □ACS			
Phone:		Affiliation					
Guest Name		Need lunch:	]				
Guest Name		Need lunch:					



### **Get Involved!**

Volunteer, Judge, Interpret at the Intel International Science and Engineering Fair Pittsburgh, PA, May 10–15, 2015

The Intel International Science and Engineering Fair (Intel ISEF), a program of Society for Science & the Public, and the world's largest international pre-college science competition, is coming to Pittsburgh.

### Why Volunteer at Intel ISEF?

- Network with more than 1,000 scientists and engineers from around the region and around the world
- Meet more than 1,700 of the best high school student scientists – your future employees!
- Gain personal satisfaction and inspiration by supporting the future of science and engineering
- Participate in the premier global science competition representing more than 70 countries, regions and territories
- Earn community service or outreach credit from your business, school or institution

## For more info and to register:

#### Judge registration:

student.societyforscience.org/grand-award-judges

### Volunteer/Interpreter registration:

student.societyforscience.org/volunteers

### You Can Help ...

Judge: Approximately 1,000 judges are needed for 17 scientific disciplines. Judging will take place at the David L. Lawrence Convention Center from the afternoon of Tuesday, May 12 through Wednesday, May 13, 2015. Judges must have a minimum of six years related professional experience beyond receiving a B.A., B.S., or Master's degree OR a Ph.D., M.D., or equivalent (D.O., Ed.D., D.D.S., D.V.M., etc.).

**Interpret:** About 200 interpreters will work with students for both conversational and technical interpretation. Greatest demand is for Spanish, Russian, Arabic and Mandarin.

**Volunteer:** More than 500 volunteers for a variety of general activities are needed during the week, in daytime and evening shifts.

### **Questions:**

judging@societyforscience.org isefvolunteer@societyforscience.org



\*\*2014 Society for Science & the Public. All rights reserved. Copyright \*\*2014 Intel Corporation. All rights reserved. Intel and the Intel logo are trademarks of Intel Corporation in the U.S. and other countries. 4 Please Recycle. Individual projects of Intel Education Programs are funded by the Intel Education and Intel Corporation and Intel Corporation.



### From Hydrogen to Ununseptium,

the Library is your solution!

- Find articles from more than 40 high-end journals and industry publications.
- Access the complete electronic subscription to all American Chemical Society publications.
- Discover databases and additional resources for professional research including CAS SciFinder and Science Direct.

#### Want to know more?

412.622.3114 info@carnegielibrary.org carnegielibrary.org

Resources made possible by the Pittsburgh Section -American Chemical Society - Endowment Fund of Carnegie Library of Pitsburgh.



carnegielibrary.org

# Spectroscopy Society of PittsburghTechnology Forum - Continued from Page 7

Thomas Kensler received his Ph.D. in toxicology from M.I.T. Following postdoctoral fellowships at the McArdle Laboratory for Cancer Research, University of Wisconsin and at the National Cancer Institute in Bethesda, MD, he joined the faculty of the Johns Hopkins Bloomberg School of Public Health, Baltimore MD in 1980. In 1992 he was promoted to the rank of Professor. From 2000 to 2006 he served as director of the Division of Toxicology. In 2010 he moved his primary appointment to the University of Pittsburgh and hold appointments as Professor in the Department of Pharmacology & Chemical Biology and the Department of Environmental and Occupational Health. He also holds several Visiting Professorships in China. His research interests are in environmental carcinogenesis and cancer prevention. He is a past chairman of the NIH Chemo/Dietary Study Section, served as the Cancer Prevention editor for the journal Carcinogenesis and is currently a Senior Editor for Cancer Prevention Research. He has received several honors including the 2007 AACR-American Cancer Society Award for Research Excellence in Cancer Epidemiology and Prevention, the 2009 Society of Toxicology Translational Impact Award and the 2011 Friendship Award from the People's Republic of China, their highest award for foreign civilians. He is a 2014 Thomson Reuters Highly Cited Researcher.

### 89<sup>th</sup> American Chemical Society Colloid and Surface Science Symposium

### **Symposium, Organizers and Keynote Speakers**

### **Continued from Page 1**

- Electrokinetics and Microfluidics: Aditya Khair (Carnegie Mellon) and Martin Bazant (MIT) oKeynotes: Sumita Pennathur (UC Santa Barbara) and David Saintillan (UC San Diego)
- •Self- and Directed Assembly of Molecules and Particles: Eric Furst (University of Delaware) and Ilona Kretzschmar (City College of New York)

oKeynotes: Emanuela Bianchi (TU Vienna) and Anand Yethiraj (Memorial University)

• Capillarity, Wetting and Particles at Fluid Interfaces: Sachin Velankar (University of Pittsburgh) and Alidad Amirfazli (York University)

oKeynotes: Heinrich Jaeger (University of Chicago) and Glen McHale (Northumbria University)

- •Structure and Dynamics of Suspensions, Emulsions and Foams: Lynn Walker (Carnegie Mellon) and Jan Vermant (ETH Zurich) oKeynotes: Dominique Langevin (CNRS and Université Paris Sud) and Michael Solomon (University of Michigan)
- Friction, Adhesion and Surface Forces: Orlando Rojas (Aalto University and North Carolina State University) and Noshir Pesika (Tulane University)

oKeynotes: Jacob Israelachvili (UC Santa Barbara) and Suzanne Giasson (University of Montreal)

• Colloidal Phenomena in Atypical Liquids: From Ionic Liquids to Low Dielectric Liquids: Paul Sides (Carnegie Mellon) and Dennis Prieve (Carnegie Mellon)

oKeynotes: Ian Morrison (Harvard University) and Norman Wagner (University of Delaware)

- Nanomedicine: Kathryn Whitehead (Carnegie Mellon) and Ashutosh Chilkoti (Duke University)
   oKeynotes: Suzie Pun (University of Washington) and Warren Chan (University of Toronto)
- •Biomembranes and Cellular Mechanics: Kris Noel Dahl (Carnegie Mellon) and Markus Deserno (Carnegie Mellon) oKeynotes: Jay Groves (UC Berkeley) and Peter Butler (Pennsylvania State University)
- •Colloidal Principles in Environmental Systems: Gregory Lowry (Carnegie Mellon) and Mark Wiesner (Duke University) oKeynotes: Navid Saleh (University of Texas) and Vijay John (Tulane University)
- Proteins and Polymers under Confinement or at Interfaces: Deborah Leckband (University of Illinois) and Per Claesson (Royal Institute of Technology)

oKeynotes: Wuge Briscoe (University of Bristol) and Christine Keating (Pennsylvania State University)

•Nanoscale Imaging and Spectroscopy of Interfaces: Miguel Salmeron (Lawrence Berkeley National Laboratory) and Eric Tyrode (Royal Institute of Technology)

oKeynotes: Franz J. Giessibl (University of Regensburg) and Colin Bain (University of Durham)

• Colloidal Properties of Graphene, Nanotubes and Low Dimensional Materials: Jeffrey Fagan (NIST) and Matteo Pasquali (Rice University)

oKeynotes: Ivan Smalyukh (University of Colorado) and Ming Zheng (NIST)

- •General Papers: Todd Przybycien (Carnegie Mellon) and Nicolas Alvarez (Drexel University) oKeynotes: Huda Jerri (Firmenich) and Matthew Lynch (Procter and Gamble)
- Poster Session: Teresa Kirschling (NIST) and Christopher Wirth (Cleveland State University)

### **Get Connected!**

Stay up-to-date on all the happenings of the Pittsburgh Section ACS

### **Section's Website:**

www.pittsburghacs.org

### **Facebook Page:**

Pittsburgh Section of the American Chemical Society

### Linked In:

Pittsburgh Section of the American Chemical Society



### **Attention: Speakers Wanted**

The Pittsburgh Section of the American Chemical Society is establishing a local speakers bureau and we would like for you to consider joining.

The speakers bureau will be available on our web site and will facilitate the connection between those organizing symposia and speakers from our area.

If you would like to be listed in the Bureau, please provide the following information:

- Name
- Affiliation
- Contact Information:

Mailing Address Website (if applicable) Email address Phone

- Keywords/categories related to expertise (up to 5)
- Current CV/Resume (in pdf format)

Any questions should be directed to Michelle Ward (muscat@pitt.edu or 412-624-8064)

### Applications for Student Travel Awards Now Being Accepted

The Pittsburgh Section of the American Chemical Society has budgeted funds to help encourage undergraduate/graduate student participation in national and regional ACS meetings. The awards are intended to help defray meeting registration and travel-related expenses (lodging, transportation, per diem) for eligible students. To apply for the funds, one should simply complete the application (available on our web site at www.pittsburghACS.org) and return it by the relevant deadline to:

Pittsburgh Section ACS
Travel Grants
Attn: Dr. Michelle Ward
Room 107 / Chevron Science
Center
219 Parkman Avenue
Pittsburgh, PA 15260

Each year, the Pittsburgh Section of the ACS will award up to four \$500 grants to aid our undergraduate/graduate student members in presenting papers or posters at ACS Meetings. Awards will be made based on the scientific merit of the paper/poster to be presented and financial need. The deadlines for receipt of applications are 06/01/2015 (for travel to be completed by 12/31/2015) and 12/01/2015 (for travel to be completed by 06/30/2016.)

Our Section is looking forward to helping increase the participation of local students in ACS conferences. If you have any questions, please do not hesitate to contact Dr. Michelle Ward, muscat@pitt. edu or 412-624-8064.

### **Business Directory**

**Services** 

**Services** 

**Services** 



### **Micron Analytical Services**

COMPLETE MATERIALS CHARACTERIZATION MORPHOLOGY CHEMISTRY STRUCTURE

SEM/EDXA • EPA/WDXA • XRD XRF • ESCA • AUGER • FTIR • DSC/TGA

Registered with FDA • DEA

**GMP/GLP Compliant** 

3815 Lancaster Pike Wilmington DE. 19805 E-Mail micronanalytical@ compuserve.com Voice 302-998-1184, Fax 302-998-1836 Web Page: www.micronanalytical.com \*Mass
\*Elemental Analysis
NuMega Resonance Labs
numegalabs.com P-858-793-6057



### **Robertson Microlit Laboratories**

Where speed and accuracy are elemental

Elemental CHN, S, X, Analysis (same day service)
Metals by ICP-OES, ICP-MS, A/A
FTIR, UV/VIS Spectroscopy
Ion Chromatography

GC-MS
Polarimetry
DSC, TGA, melting point
KF Aquametry, Titrimetry

1705 U.S. Highway 46 • Suite 1D • Ledgewood, NJ 07852 • 973.966.6668 • F 973.966.0136 www.robertson-microlit.com • email: results@robertson-microlit.com

Rapid Results • Quality • Accuracy • Competitive Pricing



Dues Only \$5.00, Call <u>Valarie Daugherty</u> 412-825-3220 Ext. 204 **Right Now!** 

### tell our adventisers

Membership surveys show that you want more articles in our newsletter. If you tell our advertisers that you saw their ad here, they will provide more financial support and this will allow us to add more articles.

#### WANT MORE ARTICLES

When you tell our advertisers that you saw their ads here they have more confidence in our newsletter's viability as an advertising medium. They advertise more. This supports our many activities.

### Spectroscopy Society of Pittsburgh

- Professional Networking within the Spectroscopy Community
- Monthly Symposia by Prominent Researchers
- Promoting Science Education

To join call Shana: 412-825-3220 ext 212

### **Get Connected!**

Stay up-to-date on all the happenings of the Pittsburgh Section ACS

Section's Website: www.pittsburghacs.org

Facebook Page: Pittsburgh Section of the American Chemical Society

Linked In: Pittsburgh Section of the American Chemical Society

### **Business Directory**

### **Services**

### **Services**

### **Career Opportunities**

### PITTSBURGH SECTION OFFICERS

#### Chair

Mackenzie Speer 941 Robinson Highway McDonald PA 15057 Mackenzie.speer@reaxis.com 814-316-5757

### Chair-Elect

Evonne Baldauff 51 W. College St. Waynesburg University Waynesburg, PA 15370 Office: 724-852-7627 Cell: 7654914425 ebaldauf@waynesburg.edu

### Secretary

Logan Miller
Duquesne University
Department of Chemistry
and Biochemistry
600 Forbes Avenue
308 Mellon Hall
Pittsburgh, PA 15219
miller.logant@gmail.com
814-657-0722

### **Treasurer**

Angelica Andreoli 600 Cliffside Mnr, APT 74 Pittsburgh, PA 15202 412-420-7705

angelica@borons.com

### **Volunteers Needed!**

There are a number of volunteer opportunities in the Pittsburgh ACS section! If you are interested in volunteering, please contact Heather Juzwa at hljuzwa@shimadzu.com!

### **Crucible Deadline**

The deadline for items submitted to The Crucible is the 1<sup>st</sup> of the month prior to publication.

For example, all items for the April 2015 issue must be to the editor by March 1, 2015.

### **SEARCHING FOR THAT SPECIAL JOB?**

There are many companies and organizations searching for chemical and biochemical personnel to fill important jobs in their organizations.

- Companies for laboratory and management positions
- Universities & Colleges for teaching positions and laboratory personnel
- Hospitals for technical and research personnel

There are several web sites that may help you search for these open positions.

- www.mboservices.net/ recr\_disp.php
- http://pubs.acs.org/chemjobs/

### The Crucible

The Crucible is published monthly, August through May. Circulation, 2,500 copies per month. Subscription price, six dollars per year. All statements and opinions expressed herein are those of the editors or contributors and do not necessarily reflect the position of the Pittsburgh Section.

Editor: Traci Johnsen 124 Moffett Run Rd. Aliquippa, PA 15001 Phone: 724-378-9334 tracijohnsen@comcast.net

Advertising Editor: Vince Gale

MBO Services P.O. Box 1150 Marshfield, MA 02050 Phone: 781-837-0424

Marshfield, MA 02050 Phone: 781-837-0424 cust-svc@mboservices.net

### ADVERTISERS INDEX

Carnegie Library of Pittsburgh	9
Micron inc.	14
NuMega Resonance Labs	14
Robertson Microlit Laboratories	14
Society for Analytical Chemists of	14
Pittsburgh	
Spectroscopy Society of Pittsburgh	14

### The Crucible

A newsletter of the Pittsburgh Section of the American Chemical Society 124 Moffett Run Rd. Aliquippa, PA 15001

#### Change of Address

If you move, notify the American Chemical Society, 1155 Sixteenth Street, N.W., Washington, D.C. 20036.

To avoid interruption in delivery of your CRUCIBLE, please send your new address to Traci Johnsen, 124 Moffett Run Rd., Aliquippa, PA 15001. Allow two months for the change to become effective.

### Pittsburgh Area Calendar

### Monday, March 23

Pittsburgh ACS YCC Industry Night 2015

Hemingway's Cafe, 3911 Forbes Ave., Pittsburgh, PA

### Saturday, March 28

**Women Chemists Committee** 

C<sup>3</sup> Couture, Cosmetics & Chemistry

Chevron Science Center, Department of Chemistry, University of Pittsburgh, 219 Parkman Ave., Pittsburgh PA 15260

#### Saturday, March 28

**SACP Continuing Education Committee Presents PhET** 

Sewickley Academy, 315 Academy Ave., Sewickley, PA 15143

### Monday, April 6

Society for Analytical Chemists of Pittsburgh

"Desalination: Needs, Current State of the Art, and a New Electrochemical Approach"

Richard M. Crooks, Ph.D., University of Utah, Pittsburgh Analytical Chemistry Award Recipient Duquesne University, Pittsburgh, PA

#### Wednesday, April 15

The Spectroscopy Society of Pittsburgh

"Smoke, Mirrors and Black Boxes Expanding our Understanding of Mars"

Rohit Bhartia, Ph.D., Planetary Chemistry and Astrobiology, JPL/NASA/Caltech Duquesne University – Laura Falk Hall located in Mellon Hall, Pittsburgh, PA

#### The Spectroscopy Society of Pittsburgh - Technology Forum

"Broccoli and Your Health: Why it Might be a Superfood"

Thomas Kensler, University of Pittsburgh

Duguesne University – Laura Falk Hall located in Mellon Hall, Pittsburgh, PA

#### Saturday, April 18

SSP Continuing Education Facility Tour to Pittsburgh Water and Sewer Authority

Pittsburgh Water & Sewer Authority, Lunch at Walnut Grill, Fox Chapel