



The Crucible

www.pittsburghacs.org

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October 2012



YOU ARE INVITED!!!

Join the Pittsburgh Section ACS
as We Celebrate

National Chemistry Week:
25th Anniversary!

Where: Carnegie Science Center

When: October 26-27, 2012

The 2012 National Chemistry Week (NCW) celebrations in Pittsburgh will be held on Friday, October 26 (9 AM to 3 PM) and Saturday, October 27 (10 AM to 5 PM), at the Carnegie Science Center.

Join in the NCW activities as we celebrate this year's NCW theme
"Nanotechnology: The Smallest BIG Idea in Science"

Hands-on Activities - Theater Shows – Prizes

- Visit over 20 tables with hands-on experiments, activities, and demonstrations.
- Visit the Drake Oil Well Museum's Mobile Energy Education Training Unit, located in the Carnegie Science Center's parking lot, on Friday, October 26.
- Catch special NCW-related theater shows throughout each day.
- Register to win a chemistry set or one of several prizes.

For more information about the NCW celebration contact the Carnegie Science Center at (412) 237-1640 or the Pittsburgh Section's NCW Coordinator Michael Mautino at (412) 777-4792 or michael.mautino@bayer.com

Find us on Facebook at Pittsburgh ACS NCW.

The Pittsburgh Section's 2012 NCW activities are sponsored by the Society for Analytical Chemists of Pittsburgh, the Spectroscopy Society of Pittsburgh, the PPG Industries Foundation, the PPG Science Education Council, the Carnegie Science Center, and Bayer Corporation.

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POWERING INNOVATIONS TO SEPARATE IDENTIFY & QUANTIFY

To enhance your Pittcon 2013 experience, we will be co-programming with The American Chemical Society's Division of Analytical Chemistry (ACS-DAC). Attend one of the many ACS-DAC sessions such as:

- Bioanalytical Chemistry - Advances in Analysis of Living Systems
- Metals in Biology - Characterization of Moeity and Function
- Supercritical Fluid Chromatography
- Understanding Analytical Method Variance and the Impact for QbD Filing for Pharmaceutical

For more information on technical sessions, exhibitors and short courses, visit www.pittcon.org.



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MARCH 17-21



Scan this or go to www.pittcon.org to save 50% on registration.

Pittcon App Coming Soon





Join the Greater Pittsburgh Area Women Chemists Committee in Raising Funds for Breast Cancer Awareness...

The WCC will be hosting a fundraising event to raise money for Magee Hospital's *Young Women's Breast Cancer Awareness Foundation*

Thursday, October 18th from 5-9 pm
(with happy hour specials from 5-7 pm)

Mario's Eastside Saloon
(5442 Walnut Street/Pittsburgh, PA 15232)

Mario's will donate 10% of the sales from anyone wearing one of our pink t-shirts or wristbands.
(Wristbands will be available that night to designate you as part of our group.)

Save the

5	10.81	8	15.999	8	15.999	83	208.98	99	(252)
B	O	O	Bi	Es					
Boron	Oxygen	Oxygen	Bismuth	Einsteinium					

support breast cancer awareness

See our website for information on pre-ordering your t-shirt.

\$10/shirt & all net proceeds will be donated.

A limited number of t-shirts will be available for purchase the night of the event.

www.pitt.edu/~pghwcc

*This event is open to the public. Spread the word to your family, friends, and colleagues.
The greater the participation, the greater the funds raised!*

National Chemistry Week 2012 Illustrated Poem Contest:

“Nanotechnology: The Smallest BIG Idea in Science”

The Pittsburgh Section of the American Chemical Society (ACS) is sponsoring an illustrated poem contest for students in Kindergarten - 12th grade.

Contest Deadline: Entries must be received at the address below by Friday, October 26, 2012.

Prizes: \$50 1st place and \$25 2nd place in each of 4 grade categories: K-2nd, 3rd-5th, 6th-8th and 9th-12th grades.

Mail entries to: Michael Mautino, 3485 Frye Ave., Finleyville, PA 15332 (For entry form: include student name, grade, school name, teacher name, teacher phone number and e-mail address on back of entry)

Winners of the Pittsburgh Section illustrated poem contest will advance to the ACS National Illustrated Poem Contest!

Write and illustrate a poem using the NCW theme, “**Nanotechnology: The Smallest BIG Idea in Science**”. Your poem must be **no more** than 40 words, and in the following styles to be considered:

HAIKU • LIMERICK • ODE • ABC POEM • FREE VERSE • END RHYME • BLANK VERSE

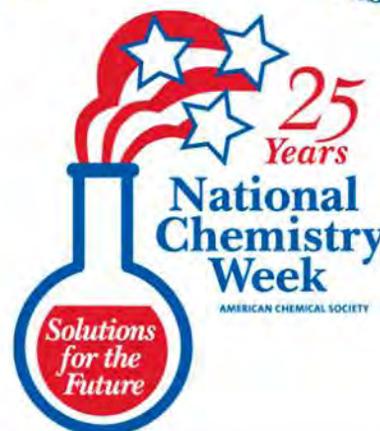
Participants are encouraged to explore the nanoscience related to the environment, energy, materials and health.

Possible topics include:

- Nano water filtration
- Nano medicine and drug delivery
- Solar cells
- Any other relevant topics
- Carbon nanotubes

Entries will be judged based upon:

- Relevance to and incorporation of the theme
- Adherence to poem style
- Word choice and imagery
- Originality and creativity
- Colorful artwork
- Overall presentation



Contest Rules:

- Poems must conform to a particular style. No poem may be longer than 40 words.
- The topic of the poem and the illustration must be related to the NCW 2012 theme, “**Nanotechnology: The Smallest BIG Idea in Science**”.
- All entries must be original works without aid from others.
- Each poem must be submitted and illustrated on an unlined sheet of paper (of any type) not larger than 11" x 14". The illustration must be created by hand using crayons, watercolors, other types of paint,

colored pencils or markers. The text of the poem should be easy to read and may be printed with a computer, before the hand-drawn illustration is added, or the poem may be written on lined paper which is cut out and pasted onto the unlined paper with the illustration.

- Only one entry per student will be accepted.
- All entries must include an entry form.
- All illustrated poems and/or digital representations of the poems become the property of the American Chemical Society.
- Acceptance of prizes constitutes consent to use winners' names, likenesses and entries for editorial, advertising and publicity purposes.



Society for Analytical Chemists of Pittsburgh



October Meeting

Monday, October 1, 2012

8:00 PM

**Duquesne University
Laura Falk Building**

**“Medicine That Imitates
Life Through Biomimetic
Drug Delivery”**

Dr. Steven Little

**McGowan Institute for Regenerative Medicine
University of Pittsburgh**

Abstract:

Dr. Little will discuss biomimetic strategies. According to Dr. Little, the act of mimicking a biological interaction or property using a synthetic materials is a logical way to enhance function. His group is exploring several techniques to make materials that act like biological matrices. They also are exploring delivery strategies that mimic the way that cells and tissues in the body would deliver signals to signal wound healing and immune responses. As their knowledge of biological interactions increases, they will be better able to mimic those interactions, creating better therapeutics.

Biography:

Steven R. Little, Ph.D., is the chair of the Department of Chemical and Petroleum Engineering, associate professor, and Bicentennial Alumni Faculty Fellow of the University of Pittsburgh Swanson School of Engineering. Dr. Little joined the McGowan Institute in 2006 after receiving his Ph.D. from the Massachusetts Institute of Technology under the mentorship of Dr. Robert Langer. Since joining the Institute, Dr. Little has received Career Development Awards from both the American Heart Association and the National Institutes of Health for his unique approach toward drug delivery based therapeutics. This year, Dr. Little has been named a Young Investigator by the Arnold and Mabel Beckman Foundation for his innovative research, the only University of Pittsburgh faculty to have ever received this award and also one of only two engineers in the country to receive it.

Dinner Reservations:

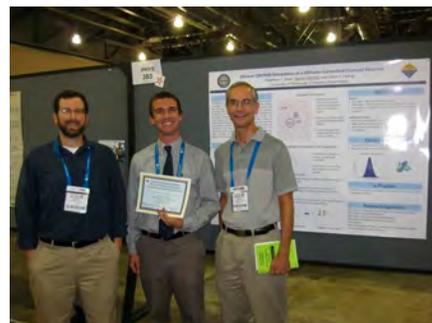
Please email the SACP Administrative Assistant, Valarie Daugherty at daugherty@pittcon.org by Wednesday, September 26, 2012 to make dinner reservations. Should you not have email, please call 412-825-3220, ext 204. Dinner will cost \$8 (\$4 for students) and checks are to be made out to the SACP. If 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.

Daniel Hatfield Receives Special Recognition for Outstanding Physical Chemistry Student Poster at National ACS Meeting

At each ACS national meeting, the Physical Chemistry Division of the ACS recognizes the top student poster presentations. Six outstanding Physical Chemistry student poster presentations were selected for special recognition at the Fall 2012 ACS national meeting in Philadelphia. Daniel Hatfield, an undergraduate in Lillian Chong's Group at the University of Pittsburgh, was one of the six selected. Daniel's poster was on "Efficient QM/MM simulations of a diffusion-controlled chemical reaction." Congratulations to Daniel, and all the winners at the Fall 2012 meeting.



Prof. Martin Gruebele (Program Chair) with poster-award winner, Daniel Hatfield (center), and poster judge/postdoc-award winner, Dr. Joshua Vura-Weis.

Congratulations to John Kitchin Presidential Early Career Award Recipient

Dr. John Kitchin from Carnegie Mellon University is one of 96 researchers chosen by President Barack Obama to receive the annual Presidential Early Career Award for Scientist and Engineers, the highest honor bestowed by the U.S. government on scientists and engineers in the early stages of their independent research careers.



Spectroscopy Society of Pittsburgh Announces a Continuing Education Symposium:



Where Does It All Go?

This symposium will explore the generation and management of household waste and stormwater. Can your household waste be hazardous or infectious? Can your household waste be used in other ways besides just disposal or incineration? Come to the symposium and find out. Of particular interest presented in this symposium is the management of stormwater. For 83 Allegheny County municipalities of this region this is accomplished by the Allegheny County Sanitary Authority (ALCOSAN) using a combined sewer system which in heavy rainfalls can lead to flooding and damage to property and concerns to human health and the environment. Due to this pervasive problem ALCOSAN is under a consent decree with the US EPA, PADEP and the Allegheny County Health Department in order to better manage stormwater. The “cure” for this may cost billions of dollars and increase sewage bills for those people utilizing ALCOSAN. It would also create the largest public works project in Allegheny County. Both gray and green technologies will be discussed for managing household waste and stormwater.

TIME: Saturday, October 27, 2012, 8:30 AM - 12:30 PM

PLACE: Duquesne University, Mellon Hall, Maurice Falk Auditorium

PARKING: Forbes Garage - Large 8 floor garage in front of Duquesne. Bring your ticket with you to receive a sticker for free parking. <http://www.duq.edu/about/campus/map-and-directions>

SCHEDULE

- 8:30 - 8:55 Registration {REFRESHMENTS}
- 8:55 - 9:00 Introduction
- 9:00 - 9:35 Mr. Robert Popichak, Environmental Chemist, PADEP, SW Region
Who knows what evil lurks—UNDER THE SINK?
- 9:35 -10:10 Ms. Michele Nestor, President, Nestor Resources, Inc.
Current trends in Municipal Solid Waste Waste Mgmt – New Opportunities from Modern Technology and an Evolving Waste Composition
- 10:10 - 10:25 BREAK {REFRESHMENTS}
- 10:25 - 10:50 Mr. Arthur Tamilia, Esq., ALCOSAN Deputy Executive Director and Director of Environmental Compliance
ALCOSAN's Plan
- 10:50 - 11:25 Mr. John Schombert, Executive Director, 3 Rivers Wet Weather
Regional Wet Weather Planning
- 11:25 - 12:00 Ms. Sara Powell, Education and Advocacy Coordinator, Nine Mile Run Watershed Assoc.
Sustainable Urban Stormwater Management – Learning from Green Infrastructure Implementation in the Nine Mile Run Watershed
- 12:00 - 12:20 Additional Questions/Answers
- 12:30 Lunch, City View Café, 6th Floor Student Union Building

To Register please complete the information below and send it and a Check or Money Order for \$10.00 payable to "SSP" to SSP - Continuing Education, 300 Penn Center Boulevard, Suite 332, Pittsburgh, PA 15235

REGISTRATION DEADLINE: OCTOBER 20, 2012

NAME: _____ AFFILIATION: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

EMAIL: _____ PHONE: _____



The Spectroscopy Society of Pittsburgh



Applications for Student Travel Awards Now Being Accepted

October Meeting Monday, October 15, 2012

Duquesne University – Power Center Ballroom
Social Hour 5:30 PM • Dinner in the Power Center Ballroom 6:00 PM
Business Meeting 7:15 PM • Film Showing 7:30 PM

A Special Screening of the Documentary, “UNDAUNTED: The Forgotten Giants of the Allegheny Observatory”

Dr. Dan Handley, Dan Handley Science Media LLC

We will be screening the film UNDAUNTED: The Forgotten Giants of the Allegheny Observatory, hosted by its writer, producer, and director, Dr. Dan Handley. The film chronicles the contributions that people associated with Pittsburgh's Allegheny Observatory have made to scientific discovery, including the birth of astrophysics and innovation in early flight. Dr. Handley will give a behind-the-scenes look at the production of the film, including discussing his experience with interviewing noted astrophysicist, Dr. Neil deGrasse Tyson. Dr. Handley will also discuss communicating science to the public and plans for future projects aimed at inspiring future generations of scientists and engineers.

Biography:

Dr. Handley has over twenty years' experience in engineering and biotechnology in both academia and industry. Previously, he has served as a nuclear engineer in the U.S. Navy, senior research management at the UCLA School of Medicine, and as a senior researcher in research and development at the Procter & Gamble Company. He has authored over two dozen research publications. He holds a B.A. in biophysics from Johns Hopkins University, an M.S. in logic and computation from Carnegie Mellon University, and a Ph.D. in human genetics from the University of Pittsburgh. In addition to being owner/producer of his science media production company, Dan Handley Science Media, LLC, Dr. Handley also serves as Chief Science Officer of Pittsburgh-based biotechnology company Brainstage, Inc.

Dinner Reservations: Please register on-line at <http://www.pittcon.org/misc/societies/ssprsvp.php> to make dinner reservations NO LATER THAN MONDAY, October 8, 2012. This month's entrée is Pork Tenderloin Medallions. Dinner will cost \$8 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. From the parking garage, take the elevator to the 8th floor level. At this level, go to the Right walk through the enclosed Skywalk to the Powers Center Ballroom. Once in the Power Center, you will be on the 5th floor where the Ballroom is located.

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 12/01/2012 (for travel to be completed by 06/30/2013) and 06/01/2013 (for travel to be completed by 12/31/2013).

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 ACS Chair, Dr. Michelle Ward, muscat@pitt.edu or 412-624-8064.

SURPRISE
our editor by calling and saying you appreciate the quality and content of our newsletter. Our editor works hard to maintain a publication of interest to our membership. Oh, and by the way you could also give credit to our advertisers who financially support us.

Chem Ed Group Pittsburgh Section ACS

Three area high school chemistry teachers attended the 2012 Biennial Conference on Chemical Education (BCCE) at The Pennsylvania State University in University Park, PA, July 29 – August 2, 2012 and wrote conference reports to share with our membership. Marion Carson of Riverview Area School District, Susan Zawacky of Sewickley Academy and Jeanne Campbell Suehr of Yough School District attended the conference and submitted the following reports.

Theresa C. Richards, PhD, The Ellis School. richardst@theellisschool.org

FIRST TIME, FIRST CLASS EXPERIENCE

With about 80 workshops, over 360 speakers, a tour and several social events, the choices available at my first Biennial Conference on Chemical Education were overwhelming! I came home with over 40 contacts, ranging from the owner of a publishing company to a teacher with students sounding similar to mine from Mexico. Some faces that may be familiar to Pittsburgh area folk included Drs. David Yaron from CMU, Elisabeth T. Bell-Loncella from UPJ and Mark Schraf from WVU; and Marion Carson from the Riverview School in Oakmont. I'd also like to take this opportunity to welcome Dr. Diane Miller to one of my alma mater, Seton Hill University. I was privileged to speak with Dr. Richard Moog of F&M who has greatly influenced my teaching over the years. Most everyone seemed willing to share emails and answer the questions of this curious high school teacher.

The opening Plenary Speaker was award winning Dr. Bassam Shakhashiri, who has treated many Pittsburghers to his demonstrations, courtesy of the SACP and SSP. We were treated to his philosophy, utilized to help rebuild the NSF, according to his bio. He started by telling us that our brains would be DIFFERENT when the lecture was over if we would pay attention – that our brains are PLASTIC. He shared that when asked what he teaches, he responds, "I teach students." What a great kick off for the 5 day conference!

Workshop and symposia speakers enlightened me on the following topics: The 2012 AP exam, the revisions expected for the NEW AP exam, samples of new AP labs, how to write Process Oriented Guided Inquiry Learning (POGIL) experiences, the new American Chemical Society Guidelines, and the background college professors expect from high school students. I was thrilled to tour the Priestly House in

Northumberland, a National Historic Landmark. I enjoyed the music of Al D. Hyde and the Keytones. Very importantly, I collaborated with teachers from Boston and Manhattan several evenings.

From my experience, I highly recommend the next BCCE to everyone. Although the focus is somewhat more on the college level, there is more than enough to saturate any high school teacher who is looking to refresh their teaching. Hope to see you at a future BCCE!

Jeanne Campbell Suehr, Yough High School AP/Honors Chemistry, 2010 Carnegie Science Award HS Educator

BCCE CONFERENCE REPORT

The 2012 BCCE was fantastic! There were almost too many outstanding symposia, a lot of valuable workshops on a multiplicity of topics, excellent plenary lectures every day, plus the usual excitement of networking with colleagues new and old. There was a lot of programming relating to using animations and other on-line materials, there were special events and talks relating to the 150th anniversary of the Morrill Act (which created land-grant universities to promote education for everyone), there were symposia about teaching AP chemistry, implementing the new science education standards, forensic chemistry, inquiry-based labs, favorite demos, and much, much more. Plus, of course, there was the usual ice cream social.

Leading off on Sunday evening in the first plenary lecture was our new ACS President Bassam Shakhashiri, who asked the audience to help him promote his four initiatives to inform the whole country more effectively about chemistry. The four initiatives are to encourage everyone to continue learning about chemistry, to include a chapter explaining their research to nonscientists in their thesis (for graduate

students), to use the ACS toolkit on climate change to help increase understanding of that issue, and to support funding for high school science teacher fellowships. True to his reputation, Dr. Shakhashiri finished off his lecture with a few colorful demonstrations featuring dry ice in solutions of indicators and a very strange candle. Other plenary speakers included former ACS President Joseph Francisco speaking about atmospheric chemistry, Dr. Subha Das of CMU speaking on molecular cuisine and serving the audience samples of microwaved chocolate cake topped with chocolate mousse, Dr. Stephen Pruitt explaining the new national science standards, and Dr. Henry Lee sharing his expertise on forensic chemistry.

Workshops featured many topics. How to use Legos to model elements, compounds, chemical reactions, and electron configurations on a particulate level; how to teach electrochemistry by playing card games; how to use wikis in teaching chemistry; how to implement POGIL; the chemistry of soap; the chemistry of food; how to make nanotech solar cells.

For me, there were three highlights from this BCCE. First, the Flipped Classroom. Before coming to this BCCE, I had never heard about the concept of sending an electronic version of the day's lesson to students as homework to prepare for a class spent working through problems and examples of that topic, but after talking to an AP chemistry teacher who had achieved excellent results with this method and hearing a couple of talks about it, it sounds like a great idea. Second, the Target Inquiry Symposium on inquiry-based activities. The work of the Grand Valley State University's group of professors and high school teachers in developing and sharing very effective inquiry-based lessons which include hands-on activities to promote conceptual learning by students is well known,

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National Historic Chemical Landmark Designation for The Legacy of Rachel Carson's Silent Spring

Rachel Carson's *Silent Spring*, published in 1962, was a landmark in the development of the modern environmental movement. Carson's scientific perspective and rigor created a work of substantial depth and credibility that sparked widespread debate within the scientific community and the broader public about the effect of pesticides on the natural world. The book promoted a paradigm shift in how chemists practice their discipline and helped to establish a new role for chemists in investigating the impact of human activity on the environment.

The Legacy of Rachel Carson's *Silent Spring* will be recognized as a National Historic Chemical Landmark by the American Chemical Society during the Rachel Carson Legacy Conference, hosted by Chatham University. The conference will explore the topic "Our Planet and Our Health—The Impact of *Silent Spring* after Fifty Years." ACS Immediate Past-President Nancy B. Jackson will present the Landmark award, and the ACS Committee on Environmental Improvement will host a panel on "The Impact of *Silent Spring*—Fifty Years of Chemistry Practice." Francisca Santoro of the UNESCO Intergovernmental Oceanic Commission will present the keynote address, titled "Messages from Our

Oceans: A Reflection on Rachel Carson's Predictions," and a second panel discussion will center on "Preventing Contamination of Our Planet."

The conference will take place on October 26, 2012, from 1:00 to 5:00 p.m., at the Eddy Theater on Chatham University's Shadyside campus. ACS members are invited to attend. Registration is \$50. Additional information is available at www.chatham.edu/rachelcarson.

The American Chemical Society created the National Historic Chemical Landmarks program in 1992 to enhance public appreciation for the contributions of the chemical sciences to modern life in the United States and to encourage a sense of pride in their practitioners. The program does this by recognizing seminal achievements in the chemical sciences, recording their histories, and providing information and resources about Landmark achievements. Other National Historic Chemical Landmarks in Western Pennsylvania include the Development of the Pennsylvania Oil Industry and the Hall Process for Production and Commercialization of Aluminum. For additional information about the Landmarks program, visit www.acs.org/landmarks.

Thank You for Bylaw Review and Votes!

"Thank you to all the members who took the time to review the proposed changes to our Section's bylaws and submit a mail ballot. The proposed changes were approved by a significant majority of votes received. The Committee on Constitution and Bylaws for National ACS finalized their certification of the revised bylaws. The revised bylaws (without all the markups) are now posted on the website. Thank you again to Dr. James Manner for his leadership of this effort and to our members for your participation!"

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 the Pittsburgh Section Chair, Michelle Ward (muscat@pitt.edu) or 412-624-8064)

**University of Pittsburgh
Chemistry Department
October Seminars**

October 4, 2012

4:00 pm, Chevron 150
Reinhard Bruckner
University of Freiburg
"TBA"

October 11, 2012

4:00 pm, Chevron 150
Michael Trakselis
University of Pittsburgh
"Unique Mechanistic Aspects and
Functionalities of Oligomeric Protein
Complexes Involved in DNA Replication"

October 12, 2012

4:00 pm, Chevron 154
Alumni Awards Seminar
Ned Seeman (Award Recipient)
New York University
"DNA: Not Merely the Secret of Life"

October 17, 2012

4:00 pm, Chevron 150
32nd Annual Pittsburgh Conference
Lectures (PITTCON)
R. Graham Cooks
Purdue University
"Mass Spectrometry for the Masses: in
the Field, the OR, the Shop, at Home"

October 18, 2012

2:30 pm, Chevron 150
32nd Annual Pittsburgh Conference
Lectures (PITTCON)
R. Graham Cooks
Purdue University
"Chemical Reactions, Chemical
Analysis, Chemical Synthesis with
Charged Microdroplets"

October 25, 2012

2:30 pm, Chevron 150
Tiffany Mathews
Wayne State University
"Electrochemistry: Dopamine and
Beyond"

October 25, 2012

4:00 pm, Chevron 150
Qisheng Zhang
University of North Carolina
"Chemical Tools to Monitor and
Regulate Lipid Signaling Network"

ACS Pittsburgh Chemists Club
Pittsburgh Section, American Chemical Society
Tuesday, October 30, 2012

"Medicinal Chemistry: There and Back Again"

Dr. Patrick Flaherty
School of Pharmacy, Duquesne University

Spaghetti Warehouse
26th & Smallman Streets, Strip District
Free parking behind the restaurant

Social Hour: 6:00 pm, Dinner: 6:40 pm, Presentation: 7:40 pm

Abstract : The academic discipline of Medicinal Chemistry is often housed in a College of Pharmacy. Although every person has taken a medication of synthetic origin, the design, identification, and -ideally- marketing that drug is seemingly done by mysterious Hobbit-like creatures. This is not the case. The presentation will cover the academic curricula for medical chemists in medicinal chemistry departments in the United States and analyze results with a first-person analysis of real-world drug design. Specific examples will be included.

Biography: Dr. Patrick Flaherty was born in the City of Pittsburgh, grew up in Dormont, obtained his B.S. in Chemistry (U. Pitt, 1987), obtained his Ph.D. in Medicinal Chemistry (U. Iowa, 1993, dissertation advisor Joseph Cannon), has worked in industry and academia, and is currently an Associate Professor of Medicinal Chemistry in the division of Medicinal Chemistry in the Mylan School of Pharmacy at Duquesne University. He has 19 peer reviewed publications, 17 patents, and 43 presentations. His teaching activities include biochemistry, heterocyclic chemistry, and medicinal chemistry. His research interests include alteration of post-translational processing of proteins by small molecules at relevant biological targets including kinases, isomerases, and epigenetic processing enzymes with the goal of developing disease-modifying therapies for neurodegenerative diseases and cancer.

Reservations: Please call Ed Martin by noon Friday, October 26, 2012 at (724) 335- 0904 or by e- mail at edwardmartin1046@verizon.net.



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Chem Ed. Group Continued from Page 8

and this year they presented lessons related to teaching equilibrium, periodic trends, dissolving of ionic compounds, and more. Finally, the food workshop. Dr. Subha Das and his colleagues showed teachers how to investigate the effect of pH on cooking green beans, the chemistry of popovers, and how to make a really yummy no-fail chocolate mousse in a microwave oven in three minutes. It was a very enjoyable and extremely rewarding experience!

Susan Zawacky, Sewickley Academy

BIENNIAL CONFERENCE ON CHEMICAL EDUCATION (BCCE) 2012

In late July, the 22nd Biennial Conference on Chemical Education was held at Penn State. This biennial conference is held to promote advances in chemical education and inform chemical education professionals from universities. High school education professionals also attend since there

are many workshops and sessions that apply directly to them. I attended as a high school chemistry teacher. This year, there were approximately 800 people in attendance. This report contains a summary of several of the topics presented at the conference.

Chemical Education Research - Many of the symposia focused on presentations by chemical educators regarding their area of research into various aspects of teaching, cognition and learning – methodologies used, data analysis employed, and conclusions. There were also presentations that focused on how to reach the non-science learner and using service learning to enrich chemistry courses.

Technology in Chemical Education - The use of technology as a tool for teaching chemistry permeated throughout the conference. The Touch Screen Technology symposium featured the use of interactive textbooks and tablets such as the iPad in the classroom. Specific apps were discussed as well as the ancillary hardware necessary for writing and projection. Web-based resources for chemical education were the topic of still another symposium. In a third symposium, techniques

employing technology (such as “flipping” and using Wimba and Google) were presented. And, a separate workshop was held on using Wikis in the classroom.

Environmental and Green Chemistry - Reflecting the national movement towards less toxic and safer processes in chemistry, the conference had multiple symposia on environmental and green chemistry and how these principles are incorporated into the chemistry curriculum.

Guided Inquiry - Guided inquiry is being promoted in national standards as a means for students to work and think like scientists as they learn chemistry. Research has determined that this pedagogy is more effective than the traditional lecture and cookbook lab experience of the past. A large part of both the workshops and symposia dealt with implementing guided inquiry into the chemistry curriculum at all levels of education from middle school through the university experience. Models of guided inquiry were presented such as POGIL (Process Oriented Guided Inquiry Learning) and Target Inquiry as well as

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2012 Eastern Analytical Symposium & Exposition

November 12–15, 2012
Garden State Exhibit Center
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Society for Analytical Chemists of Pittsburgh



November Meeting

Monday, November 5, 2012

8:00 PM

Duquesne University, Laura Falk Building

“Sensing Virus Capsids and Monitoring Their Assembly with Nanofluidic Devices”

Dr. Stephen Jacobson

Department of Chemistry, Indiana University

Abstract:

Substantial attention is being paid to ion transport, sensing, and separations in nanofluidic devices because of the unique transport properties these nanoscale conduits exhibit and their potential analytical applications. Of particular interest is developing label-free, nondestructive techniques for rapid sensing, characterization, and sorting of particles with nanometer dimensions. The resistive-pulse technique measures changes in ion current resulting from transit of particles through an electrically biased nanochannel filled with electrolyte. To develop devices to sense and characterize individual hepatitis B virus (HBV) capsids, two V-shaped microchannels are machined into a substrate by microfabrication techniques. Nanochannels are then fabricated to bridge the ~30- μ m gap between the microchannels. For resistive-pulse sensing of the virus particles, we use nanochannels with one, two, and three pores in series. With two or more pores in series, we can track individual particles and measure their physical properties, e.g., electrophoretic mobility. In other designs, we are able to mix dimers of the core protein and monitor the assembly of single HBV particles in real time and at biologically relevant concentrations.

Biography:

Stephen C. Jacobson received a B.S. in mathematics from Georgetown University in 1988 and a Ph.D. in chemistry from the University of Tennessee in 1992. After graduate school, Stephen was awarded an Alexander Hollaender Distinguished Postdoctoral Fellowship at Oak Ridge National Laboratory (ORNL), and in 1995, he became a research staff member at ORNL. In 2003, Stephen joined the faculty at Indiana University and is currently a professor in the Department of Chemistry. His research efforts are directed toward miniaturization of analytical instrumentation with an emphasis on micro- and nanofluidic devices. Stephen and his research group are currently working in the areas of microfluidic separations, nanofluidic transport, cancer screening, virus sensing, and bacterial adhesion.

Dinner Reservations:

Please email the SACP Administrative Assistant, Valarie Daugherty at daugherty@pittcon.org by Wednesday, October 31, 2012 to make dinner reservations. Should you not have email, please call 412-825-3220, ext. 204. Dinner will cost \$8 (\$4 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.

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CERM 2014

Save the Date!

The Central Regional Meeting of the ACS will be held from October 1-4, 2014 at the Doubletree by Hilton Green Tree, Pittsburgh.

For more information, visit the CERM website at www.acscerm2014.org.



ACS Energy Technology Group

Tuesday, October 9, 2012

“Ethylene Production Technology - What Goes Around Comes Around”

Jeffrey J. Siirola, Ph.D.

Purdue University, Carnegie Mellon University

Social Hour 6:00 PM, Dinner 6:30 PM, Talk 7:30 PM

Spaghetti Warehouse

26th & Smallman Streets, Strip District, Pittsburgh PA

Free parking behind the restaurant

Jeff Siirola retired in 2011 as a Technology Fellow at Eastman Chemical Company in Kingsport Tennessee where he had been for more than 39 years. He now holds half time positions as Professor of Engineering Practice at Purdue University and Distinguished Service Professor of Sustainable Energy Systems at Carnegie Mellon University. Siirola received a BS in chemical engineering from the University of Utah in 1967 and a PhD in chemical engineering from the University of Wisconsin-Madison in 1970. His areas of interest include chemical process synthesis, process development and technology assessment, sustainable development and growth, carbon management, and chemical engineering education. Siirola is a member of the National Academy of Engineering and was the 2005 President of the American Institute of Chemical Engineers.

Ethylene is the world's largest volume petrochemical but was first commercialized barely eighty years ago. How this molecule, derived from the least useful of the hydrocarbons, became the foundation of the entire petrochemical industry is another story. This talk will focus instead on the chemistry and engineering of ethylene production, how the principal feedstocks for producing ethylene have changed over time, and how the production processes have changed accordingly. Also to be mentioned are proposed new energy-efficient oxidative chemistries and processes. Finally, the national and regional impact of wet shale gas on the ethylene industry will be discussed. This matter is of particular importance to the economy of the tri-state area.

For reservations, please contact Elliott Bergman by 1:00 PM on Monday Oct. 8, 2012 at elliott.acstechnology@gmail.com. Our meetings are open to all. Cash or check payable to: Energy Tech Pgh Section ACS.

The cost of the dinner is \$17 including tax and gratuity. Alcoholic drinks cost extra. Please specify your preference from the following menu choices: Spaghetti with meatballs, 15-layer lasagna, Four-cheese manicotti, Fettuccini Alfredo, or Grilled chicken Caesar salad. Also indicate special needs such as vegetarian, gluten-free, etc.

Chem Ed. Group Continued from Page 11

individual presentations on other facets of guided inquiry.

ACS Guidelines for Teaching High School Chemistry - The ACS guidelines for teaching high school chemistry have been rewritten to reflect modern practice and technology. The document was written to be general enough so it could be applied across the country and to allow for the fluidity of technology development. This symposium reviewed each major section of the document: Pathways to Learning, The Physical Plant, and Professional Preparations and Responsibilities. Following the presentation of each section, the floor was opened for discussion about how to further support teachers and what resources would be useful to include in the document. The document can be downloaded from the ACS site under Education, Standards and Guidelines. Teachers are encouraged to use this important document to guide their own practice and to inform administrators of what is expected in properly designed and delivered courses. It could be especially useful if there is a problem with safe class sizes and laboratory settings.

AP Chemistry (High School) Curriculum - In a workshop, the new curriculum redesign was presented and specific changes discussed. In addition, the timeline for the roll-out of the new course requirements and exam was presented. The majority of what was discussed is available online; search for “Advances in AP Chemistry” in your browser. From the AP Chemistry page, select the “2012 AP Chemistry Open Forum” PDF seen under the Resources. In the George R. Hague Memorial AP Chemistry Symposium, the 2012 AP Chemistry Exam results were presented along with some of the statistical data available from the item analysis. In addition, some demonstration ideas were presented.

The summary above represents only a few of the myriad of topics presented at BCCE this year. As always, there was something for everyone at this conference. Its sister conference, ChemEd (which targets high school chemical education) will be held in 2013 at the University of Waterloo, Canada, and follows a similar agenda. Both are well worth attending.

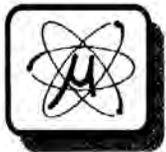
*Respectfully Submitted, Marion C. Carson,
Riverview Area Senior High School*

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Volunteers Needed!

There are a number of volunteer opportunities in the Pittsburgh ACS section! If you are interested in volunteering, please contact Jim Manner at manner1@comcast.net!

Crucible Deadline

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

For example, all items for the November 2012 issue must be to the editor by October 1, 2012.

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.

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- www.mboservices.net/recr_disp.php
- <http://pubs.acs.org/chemjobs/>

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The Crucible

A newsletter of the Pittsburgh Section of the American Chemical Society

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Pittsburgh Area Calendar

Monday, October 1

Society for Analytical Chemists of Pittsburgh

“Medicine That Imitates Life Through Biomimetic Drug Delivery”

Dr. Steven Little, McGowan Institute for Regenerative Medicine, University of Pittsburgh
Duquesne University, Laura Falk Building, Pittsburgh, PA

Tuesday, October 9

ACS Energy Technology Group

“Ethylene Production Technology - What Goes Around Comes Around”

Jeffrey J. Siirola, Ph.D., Purdue University, Carnegie Mellon University
Spaghetti Warehouse, 26th & Smallman Streets, Pittsburgh, PA

Monday, October 15

The Spectroscopy Society of Pittsburgh

A Special Screening of the Documentary, “UNDAUNTED: The Forgotten Giants of the Allegheny Observatory”

Dr. Dan Handley, Dan Handley Science Media LLC
Duquesne University, Power Center Ballroom

Thursday, October 18

WCC Fundraising Event

Supporting Magee Hospital’s Young Women’s Breast Cancer Awareness Foundation

Mario’s Eastside Saloon, 5442 Walnut St., Pittsburgh, PA

Friday, October 26

Rachel Carson Legacy Conference

Eddy Theater, Chatham University Shadyside Campus, Pittsburgh, PA

Friday, October 26 & Saturday, October 27

National Chemistry Week

Carnegie Science Center, Pittsburgh, PA

Saturday, October 27

The Spectroscopy Society of Pittsburgh Continuing Education Symposium

“Where Does It All Go?”

Duquesne University, Mellon Hall, Maurice Falk Auditorium, Pittsburgh, PA

Tuesday, October 30

ACS Pittsburgh Chemists Club

“Medicinal Chemistry: There and Back Again”

Dr. Patrick Flaherty, School of Pharmacy, Duquesne University
Spaghetti Warehouse, 26th & Smallman Streets, Pittsburgh, PA

Monday, November 5

Society for Analytical Chemists of Pittsburgh

“Sensing Virus Capsids and Monitoring Their Assembly with Nanofluidic Devices”

Dr. Stephen Jacobson, Department of Chemistry, Indiana University
Duquesne University, Laura Falk Building, Pittsburgh, PA