



The Crucible

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Volume: CI No.1

September 2015



National Chemistry Week is Coming!!!

Join the Pittsburgh Section of the American Chemical Society as we celebrate National Chemistry Week/ChemFest 2015 with the theme

“Chemistry Colors Our World”

Where: Carnegie Science Center

When: Friday, October 23rd (9 AM to 3 PM)

Saturday, October 24th (10 AM to 5 PM)

What’s Happening: Over 20 tables of hands-on experiments, activities, and demonstrations, hourly raffle prizes, and special theater-style shows.

The Pittsburgh Section ACS could use your help to make this year’s NCW celebration a success. Are you interested in volunteering to help with the event? Do you have an organization that would like to sponsor a hands-on activity at the event?

If you, or your organization, are interested in participating in this year’s NCW event, please contact: Michael Mautino, Phone: 412-777-4792, E-mail: michael.mautino@bayer.com

For more information about the NCW celebration in Pittsburgh, visit the Pittsburgh Section’s website at <http://www.pittsburghacs.org/outreach/national-chemistry-week/> or look us up Facebook at Pittsburgh ACS NCW. You can also find additional information about NCW on the ACS’s website at <http://www.acs.org/content/acs/en/education/outreach/ncw.html>

The Pittsburgh Section's 2015 NCW activities are sponsored in part by The Society for Analytical Chemists of Pittsburgh, The Spectroscopy Society of Pittsburgh, PPG Industries Foundation, and the PPG Science Education Council.

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

The goals of the WCC include:

- **Attracting women to a profession in the chemical sciences.**
- **Providing leadership for career development opportunities for women in the chemical sciences.**
- **Promoting and recognizing the professional accomplishments of women in the chemical sciences.**

Membership Dues: \$5 (students) \$15 (professional)



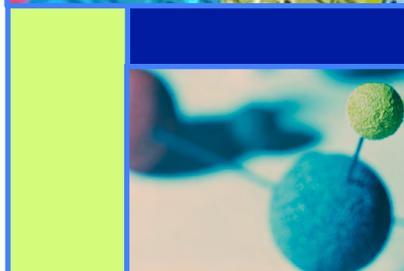
Who should be involved in the WCC?

Industrial	Government
Academic	Undergraduate
Graduate	Post-Doctoral

Planned Events for the 2015-2016 Year include:

- | | |
|---|--|
| <ul style="list-style-type: none"> • Grant/Fellowship Writing Workshop • Pirate Game / Tailgate Social • National Chemistry Week • High School Essay Contest • Adopt-A-Vet Holiday Stocking Drive • Science Festival for Children's Hospital of Pittsburgh • Careers in Chemistry Symposium for High School Students • Networking Dinners / Socials | <ul style="list-style-type: none"> • Scientific Presentation Skills Workshop • Scientific Writing Skills Workshop • Girl Scout Workshop • STEM-ulate Success High School Poster Session • Self-Defense Workshop • Achievement & Mentoring Awards • Professional Development Workshop for Undergraduates |
|---|--|

We encourage any gender from any institution that is interested in increasing diversity and excellence in the chemical sciences to become a part of the WCC.



Information about membership and upcoming meetings/programs can be found on our website, Facebook page, and LinkedIn page. See www.pghWCC.org

Project Seed at Duquesne University Features a Visit from the Pennsylvania Secretary of Education

As this year's Project SEED program at Duquesne University comes to a close, the SEED students' research experience culminated with three important events, including an unexpected event: a surprise visit from Pennsylvania Secretary of Education, the annual Undergraduate Research Program (URP) Summer Symposium, and a field trip to Bayer MaterialScience.

Throughout the summer, the Project SEED students took turns presenting their data to each other, in order to update their peers on the development and progress of their project. In return, they received advice, encouragement, and feedback from their peers. This year, three of the Project SEED students had a surprise visitor attend one of their presentations. The Pennsylvania Secretary of Education, Pedro Rivera, made an appearance at Duquesne University on July 13. He was on his "Schools That Teach" tour, and Duquesne's Project SEED program was on his list. The secretary, along with the Project SEED students, other staff members, and various local reporters, gathered in Richard King Mellon Hall to listen to three of the Project SEED students' presentations. Following the presentations, the SEED students guided Secretary Rivera through a few labs on the chemistry floor of the building. The secretary was very enthusiastic as he interacted with the students, often stopping to ask questions, or compliment them on their professionalism and work ethic. Overall, the secretary's visit turned out to be an excellent experience for the SEED students, and the secretary himself.

"Project SEED made me consider a career in chemistry," says Jordan Pestok, an upcoming senior at Sto-Rox high school. Jordan is a first year Proj-

ect SEED student, who is developing a laboratory module for upper-level undergraduate students as his summer research project. Jordan led the secretary through his lab and showed him what he researches, which is fragmenting peptides using the mass



Project SEED student Jordan Pestok shows Pennsylvania Secretary of Education, Pedro Rivera, the mass spectrometer in the laboratory of Dr. Michael VanStipdonk, Project SEED mentor and Associate Professor at Duquesne University.

spectrometer. In other words, Jordan "bombards peptides with helium atoms to make them break apart." He was pleased that the secretary seemed very interested in his project, despite only having a limited amount of time to talk. Jordan will be returning next summer to Project SEED to continue on this project.

At the end of July, the Project SEED students attended the annual Undergraduate Research Program (URP) Summer Symposium at Mellon Hall. A few weeks prior to the symposium, the students were required to write and submit an abstract, which is the summarization of their project, online to the URP coordinator/director. Then, in the weeks leading up to the symposium, the students created a poster that displayed the work that they have carried out throughout the summer. On the day of the symposium, the stu-

dents attended several seminars from former and current chemists in Bayer Hall. The keynote speaker, Charles F. Kahle II, spoke about his work and experience at PPG Industries. The students learned more about paint, and "the science behind it." At the end of the day, the students presented their posters to symposium guests who were interested in their projects. The Project SEED students benefited from the experience of presenting their research among college students. Having been immersed in a college-level atmosphere for eight weeks, the SEED students were able to confidently and professionally present their work.

"The symposium gave me experience as to what it would be like in college," says Jeramiah Jones, a first year Project SEED student, and an upcoming senior at Taylor Allderdice High School. Jeramiah's project focused on developing a cost-efficient procedure for the removal of arsenic from drinking water. Jeramiah's project, under the guidance of Professor Partha Basu, actually began in January 2015, when he began working on the project during the school year as a part of his Science Research Class taught by Taylor Allderdice teacher Dr. Janet Waldeck. His procedure included making standard concentrations by serial dilutions, running the standards through two sources of activated carbon, filtering the solutions through a membrane filter, and finally, using an I.C. (Ion Chromatography) system to analyze the sample. At the symposium, Jeramiah was confident while presenting his project, and being around experienced college students did not intimidate him.

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PROPOSAL WRITING SEMINAR

Saturday, September 12th 11 am – 12:30 pm

Room 150 Chevron Science Center
219 Parkman Avenue ♦ PGH, PA 15260

Cost: \$5

(money to be returned to those who register in advance when checking in at the registration table)



Seminar by Catalina Achim, Ph.D.

*Professor of Chemistry, Carnegie Mellon University.
(Former Program Director, NSF Chemistry Division)*

This Program will include:

- Brief overview of funding opportunities for graduate students
- NSF merit review criteria for proposals
- Characteristics of a “good” vs. a “bad” proposal

The focus of this interactive seminar will be on NSF proposal writing for graduate students. NSF proposals, including those submitted to the Graduate Research Fellowship Program at NSF, are reviewed using two merit review criteria: the intellectual merit and broader impacts of the proposed work. What type of work aspects answer the two criteria and ways in which the criteria can be addressed in a short proposal will be discussed.

To register in advance, please see the Upcoming Events page of our website: www.pghWCC.org.
Any questions should be directed to Dr. Michelle Ward (michelle.ward@pitt.edu).

This seminar is open to all genders – from any school/institution.

National Chemistry Week

2015 Illustrated Poem Contest:

“Chemistry Colors Our World”

The Pittsburgh Section of the American Chemical Society (ACS) is sponsoring an illustrated poem contest for students in Kindergarten - 12th grade. Contest is open only to students who live in the following Ohio, Pennsylvania, and West Virginia counties:

West Virginia: Brooke, Hancock, Jefferson and Ohio Pennsylvania: Allegheny, Armstrong, Beaver, Butler, Cambria, Clarion, Fayette, Greene, Indiana, Jefferson, Somerset, Venango, Washington, and Westmorland

Contest Deadline: **Entries must be received at the address below by Friday, October 23, 2015.**

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

Contact: Mail entries to: Michael Mautino, 3485 Frye Ave, Finleyville, PA 15332. Include on back of entry: student name, grade, school name, teacher name, teacher phone number and teacher e-mail address. For home school students please use parent/guardian information in place of teacher.

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

Write and illustrate a poem using the NCW theme, “**Chemistry Colors Our World**”. Your poem must be **no more** than 40 words, and in the following styles to be considered:

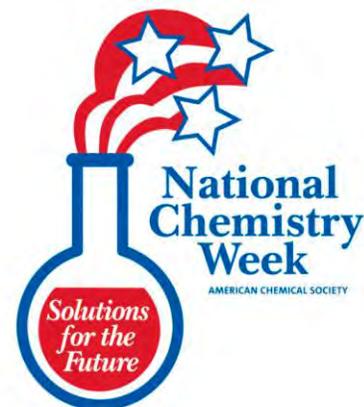
HAIKU • LIMERICK • ODE • ABC POEM • FREE VERSE • END RHYME • BLANK VERSE

Participants are encouraged to explore topics related to:

- Dyes and pigments
- Absorbed and reflected light
- The chemistry of fireworks
- Natural and artificial colors
- Any other relevant topics

Entries will be judged based upon:

- Relevance to and incorporation of the theme
- Word choice and imagery
- Colorful artwork
- Adherence to poem style
- Originality and creativity
- 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 2015 theme, “**Chemistry Colors Our World**”.
- 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.

**Pittsburgh Section ACS
Energy Technology Group**

Tuesday, September 8, 2015

“Pennsylvania’s Organic-rich Shales”

**Kristin Carter
Assistant State Geologist, Pennsylvania Geological
Survey-Economic Geology Division**

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**

Many organic-rich shales exist in Pennsylvania’s subsurface, from the Devonian Huron, Dunkirk, Pipe Creek, Rhinestreet, Middlesex, Geneseo/Burket and Marcellus formations to the Ordovician Utica Shale. Of these, the Marcellus and Utica shales are most widely known. The first modern Marcellus well in the Appalachian basin (Renz No.1) was completed in Washington County in 2004, and the commonwealth’s first Utica well (Marshlands No.2) was completed in Tioga County in 2007.

Both the drilling depth and thickness of prominent shale gas targets vary by formation and location. In general, these shales occur at depths ranging from about 3,000 to 12,000 feet. Pennsylvania’s Marcellus and Utica shales range from less than 25 feet to several hundred feet in thickness. These self-sourcing reservoirs have little to no visible porosity; here, micro- and nano-scale porosity are the norm.

Hydraulic fracturing (“fracing”) is essential to liberate petroleum hydrocarbons from shale reservoirs. Although oil and gas wells have been successfully fraced in Pennsylvania for more than sixty years, the application of large-volume fracing techniques to horizontally drilled shale gas wells are necessary to contact as much of the shale reservoir as possible and maximize the interconnectivity of pore spaces in the rock. In the end, it is important to note that petroleum production, whether oil or gas, shallow or deep, has been successful in Pennsylvania over the past 150+ years because of both favorable geology and fracing techniques.

Kristin Carter serves as Assistant State Geologist of the Pennsylvania Geological Survey and manages its Economic Geology Division. Kristin has worked as a petroleum geologist for the Survey since 2001; her current research efforts include unconventional petroleum reservoir characterization, deep brine injection opportunities and geological sequestration of carbon dioxide. Kristin holds a M.S. degree in Geological Sciences (Lehigh University) and a B.S. degree in Geology/Environmental Science (Allegheny College).

For reservations, please contact Elliott Bergman at elliott.acstechnology@gmail.com by 1:00 on Sept. 7, 2015. Walk-ins are welcome. Our meetings are open to all. Menu choices consist of spaghetti & meatballs, lasagna, fettuccini alfredo, four cheese manicotti, grilled chicken caesar salad, and chicken parmigiana. The meal includes a soft drink or iced tea. Alcoholic drinks cost extra.

The cost of the dinner is \$22 including tax and gratuity. Cash is accepted or make check payable to: Energy Tech Pgh Section ACS.



Society for Analytical Chemists of Pittsburgh



September Meeting

Wednesday, September 9, 2015, 2015

8:00 PM

Duquesne University

“Design And Application Of Analytical Measurement Systems Using Capillary Liquid Chromatography For Online Analysis Of Neurochemical Processes”

Stephen G. Weber, Ph.D.

Professor and Director of Graduate Studies

Professor of Clinical Translational Science

University of Pittsburgh

Abstract: Two related research projects will be described which are dedicated to making measurements in an awake rat's brain or cultured brain slices that require consideration of the “sample” and the measurement as a single unit. One is the determination of neurotransmitters, dopamine and serotonin, in specific areas of the rat brain. Such measurements have been made for decades by microdialysis sampling followed by quantitation by high performance liquid chromatography or HPLC. The limitation has been speed: typical data rates are 10 – 20 minutes per sample. This is not fast enough understand many important events occurring in the brain. By using capillary liquid chromatography to accommodate sub-microliter samples we have been able to improve the measurement speed to one minute per sample revealing unexpected phenomena.

While small molecule neurotransmitters have a specific function to carry a signal, neuropeptides have a variety of functions in the brain. While the production of neuropeptides and their interactions with receptors on neurons has been the focus of much attention, the fate of peptides in the extracellular space has been less studied. A method has been developed to determine the activity of enzymes, ectopeptidases that hydrolyze neuropeptides in the extracellular space of cultured brain slices. The method reveals for the first time significant differences in the activity of certain ectopeptidases that inactivate enkephalins in different brain areas. A major effort is underway to improve the throughput of this measurement by investigating multiple ectopeptidases at the same time. This has led us to the development of “temperature-assisted focusing” in capillary liquid chromatography. It improves sensitivity and chromatographic resolution without significant effort.

Biography: Stephen Weber received his BA with dual majors, Chemistry and Biology, from Case-Western Reserve University, in 1970. He did undergraduate research in gas chromatography with Dr. Irving Sunshine in the Forensic Toxicology group at the Cuyahoga County Coroner's Office. He then enlisted in the U.S. Navy. After Hospital Corps School at the Great Lakes Naval Station he was recruited to the clinical lab at the Naval Hospital there where he, among other things, helped to establish a drug analysis lab. He went to the University of Maryland in 1974 to work with Prof. William Purdy, an early pioneer in bioanalytical chemistry. Following Prof. Purdy to McGill, he received his PhD in Chemistry in 1979 for developing

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Dinner Reservations: Please email the SACP Administrative Assistant, Valarie Daugherty at daugherty@pittcon.org by Wednesday, September 2, 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



September Meeting
Wednesday, September 16, 2015
Duquesne University, Power Center Ballroom Section C

5:30 PM Technology Forum Speaker's Presentation – Power Center Ballroom Section C
5:30 PM Social Hour – Power Center Fides Shepperson Suite • 6:45 PM Dinner – Power Center Ballroom Section C
8:00 PM Business Meeting – Power Center Ballroom Section C • 8:15 PM Technical Program Speaker's Presentation – Power Center Ballroom Section C

TECHNOLOGY FORUM - 5:30 PM

“Permitting a Major Industrial Facility in SW PA”

Hear the fascinating story of what goes in to permitting a major industrial facility in our region.

Ronald A. Schwartz, PA Department of Environmental Protection, Southwest Region

TECHNICAL PROGRAM - 8:15 PM

“Multi-Dimensional NMR And NMR/MS Hybrid Approaches For Metabolomics”



Rafael Bruschweiler

Department of Chemistry & Biochemistry and Department of Biological Chemistry and Pharmacology, The Ohio State University, Columbus, OH

The field of metabolomics has become a key discipline to study metabolism of living organisms, including biofluids and tissue samples, in a wide range of contexts, including health and disease. Most metabolomics studies seek information about both the identity and the quantity of dozens to hundreds of different metabolites present in a biological sample. The two main analytical techniques in metabolomics are nuclear magnetic resonance spectroscopy (NMR) and mass spectrometry (MS), which both allow the detection of many different metabolites directly in complex mixtures with little or no prior purification. I will discuss recent progress using 2D NMR, which includes the development of customized NMR databases and de novo approaches for the reconstruction of molecular structures of unknown metabolites. Both NMR and MS are successful methods in their own right, but only very few applications make synergistic use of the complementary information they provide. We recently developed two new methods, which combine NMR and MS for the more accurate identification of catalogued metabolites by translating the NMR information into masses ('NMR/MS translator') and for the determination of the structures of unknown metabolites by translating accurate mass information into NMR spectra ('SUMMIT approach'). These methods will be explained and demonstrated for different types of samples and applications.

Professor Bruschweiler received his MS degree in Physics from the Department of Physics and Mathematics, ETH Zurich, Switzerland. He received his Ph.D. in Chemistry from the Laboratorim für Physikalische Chemie, ETH Zurich, Switzerland. He had his Post-doc training in Structural Biology at the Department of Molecular Biology, Scripps Research Institute, La Jolla, CA.

Professor Bruschweiler holds many positions, some of which are mentioned as follows. From December 2004 to current, he is a Professor at Florida State University, Tallahassee. At the same time, he is the Associate Director for Biophysics, National High Magnetic Field Laboratory, Tallahassee. In August 2013, he joined the Ohio State University, Department of Chemistry and Biochemistry and Department of Biological Chemistry and Pharmacology as Professor of Ohio Research Scholar.

He has won many honors and awards. Four of them are the Alfred Werner prize of the Swiss Chemical Society (1996), Günther Laukien Prize (2006), Chair of Golden Research Conference on “Computational Aspects-Biomolecular NMR” (2008), and Professeur invité at IBS, Grenoble, and École Normale Supérieure, Lyon (2013).

Dinner Reservations: Please register on-line at <http://www.ssp-pgh.org> to make dinner reservations NO LATER THAN Wednesday, September 9, 2015 at noon. Dinner will cost \$10 (\$5 for students) and checks must be made payable to the SSP. This month's entrées will be Almond-Crusted Chicken with Maple Glaze OR Sun-dried Tomato & Mascarpone Ravioli. 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.



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Congratulations to St. Vincent's Matthew Fisher 2015 ACS Fellow

Pittsburgh Section Member and St. Vincent Associate Professor Matthew Fisher has been named a 2015 ACS Fellow. The Fellows Program was created by the ACS Board of Directors in December 2008 to recognize members of ACS for outstanding achievements in and contributions to science, the profession, and the Society. Congratulations, Matthew!

Congratulations to Krzysztof Matyjaszewski 2015 Dreyfus Prize in the Chemical Sciences

Carnegie Mellon University's Krzysztof Matyjaszewski has won the 2015 Dreyfus Prize in the Chemical Sciences. The Dreyfus Prize in the Chemical Sciences is awarded to an individual in a selected area of chemistry to recognize exceptional and original research that has advanced the field in a major way. The prize is awarded biennially and consists of a monetary award of \$250,000, a medal, and a citation. The 2015 Topic: Making Molecules and Materials. Congratulations, Kris!

Project SEED Continued from Page 2

In the final week of the Project SEED program, the students took a field trip to Bayer MaterialScience Corporate Headquarters in Pittsburgh, PA for a tour of the facility, and an additional opportunity to present their posters.

The students learned that Bayer is known not only for its production of pharmaceuticals, but also its production and development of polycarbonates. In addition to being the leader of the production and development of polycarbonates, Bayer is also the global market leader in polyurethanes. After their tour, the Project SEED students set up their posters and presented to members of the Bayer MaterialScience company. The Project SEED students were also able to meet the Project SEED fellows from Bayer MaterialScience: Tyler Coleman, from Winchester Thurston High School, Brian Foster, from Shady Side Academy, and Onyãh Sheely, from Imani Christian Academy. The trip was beneficial for the Project SEED students because not only were they able to see what it would be like to work in a facility that manufactures materials that are used globally, but they were also able to make friends with a few

students that are involved in the same program as they are.

“I think I did really well today, I knew what I was talking about, so I felt good,” says Angel Williamson-Wheat, a first year Project SEED student, and

next summer to further her research. “I got a firsthand experience at something that I want to do, especially since I want to go into Forensic Science after I graduate.”

This summer marks the 12th year that Duquesne University has participated in the Project SEED program. Four of the students have just completed their 2nd summer in the program, and have a better idea about what kind of career they would like to pursue. The remaining five students have just completed their 1st summer of the Project SEED program, and plan on returning next summer, to further their knowledge and research on their topic. During their eight weeks, the students formed friendships and made memories that will last a lifetime. While they are all different and unique in their own way, all of the students can agree on one thing: they are grateful to have participated in the Project SEED fellowship.

Submitted by Sarine McKenzie, Project SEED Student and rising junior at Carrick High School



Project SEED students from Duquesne University and Project SEED students from Bayer MaterialScience pose for a photograph after the “Celebrating Project SEED” poster session at Bayer MaterialScience.

an upcoming senior at Taylor Alderdice High School. Under the guidance of her mentor Dr. Stephanie Wetzel, Angel investigated the transfer of GSR (gunshot residue) through a handshake. She enjoyed the trip to Bayer MaterialScience, and thought that the tour was very interesting. Overall, she believes that she benefitted from Project SEED, and she plans on returning

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

Boosting Gas Mileage By Turning Engine Heat Into Electricity Acs Applied Materials & Interfaces

Automakers are looking for ways to improve their fleets' average fuel efficiency, and scientists may have a new way to help them. In a report in the journal ACS Applied Materials & Interfaces, one team reports the develop-

ment of a material that could convert engine heat that's otherwise wasted into electrical energy to help keep a car running — and reduce the need for fuels. It could also have applications in aerospace, manufacturing and other sectors.



A new material could convert engine heat into electric power— and help reduce our reliance on fossil fuels. Credit: mashurov/iStock/Thinkstock

other power systems and turning it into electricity. Many compounds can do this but are heavy, costly, toxic or only operate at high temperatures. Ian A. Kinloch, Robert Freer and colleagues sought new alternatives.

The researchers started with a material called strontium titanium dioxide and added a small amount of graphene, a stable material with excellent conductive properties. The resulting composite was able to capture and convert heat

into electric current efficiently over a broad temperature range.

The authors acknowledge funding from the University of Manchester Intellectual Property, Engineering and Physical Sciences Research Council and the European Union Seventh Framework Programme.

In 2012, the Obama administration announced fuel-efficiency standards that would require U.S. vehicles to average 54.5 miles per gallon by 2025. Improving gas mileage could help reduce greenhouse gas emissions and global dependence on fossil fuels. One approach scientists are exploring to help address these issues involves capturing waste heat from engines and

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 12/01/2015 (for travel to be completed by 06/30/2016) and 06/01/2016 (for travel to be completed by 12/31/2016.)

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.

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 October 2015 issue must be to the editor by September 1, 2015.

University of Pittsburgh Fall Chemistry Seminars

August 21, 2015

2:30pm
150 Chevron
Dr. Martin Oestreich
Technical University of Berlin
“Synthetic Chemistry with Unconventional Silicon Compounds”

August 27, 2015

2:30pm
150 Chevron
Dr. David Masiello
University of Washington
“A taxonomy of the Magneto-Optical Responses of Cyclic Plasmon-Supporting Metal Oligomers”

September 9, 2015

37th Annual
Bayer Lecture Series
4:00pm
O’Hara Student Center
Dr. Naomi Halas
Rice University
“Solar Steam Generation and Application”

September 10, 2015

37th Annual
Bayer Lecture Series
2:30pm
150 Chevron
Dr. Naomi Halas
Rice University
“Plasmonics: From Noble Metals to Sustainability”

September 17, 2015

2:30pm
150 Chevron
Dr. Thomas Kodadek
Scripps Research Institute
“Chemical Methods to Monitor and Manipulate the Immune System”

September 17, 2015

4:00pm
150 Chevron
Dr. Lasse Jensen
Penn State University
“Theoretical and Computational Tools for Addressing Fundamental Questions Relevant to Optical Spectroscopy of Bio- and Nano-Systems”

September 23, 2015

34th Annual
Pittsburgh Conference Lectures Series
4:00pm
O’Hara Student Center
Dr. James Jorgenson
University of North Carolina
“Exploring the Limits of Resolution in Liquid Chromatography and Capillary Electrophoresis”

September 24, 2015

34th Annual
Pittsburgh Conference Lectures Series
2:30pm
150 Chevron
Dr. James Jorgenson
University of North Carolina
“Capillary Liquid Chromatography at Ultra-High Pressures”

September 24, 2015

4:00pm
150 Chevron
Dr. Bradley Moore
University of California – San Diego
“Lessons from Nature- Biosynthetic Halogenation Inspires New Chemistry”

September 29, 2015

4:00pm
150 Chevron
Dr. Haitao Liu
University of Pittsburgh
“Wetting the Nanoscale”

October 1, 2015

4:00pm
150 Chevron
Dr. Stefan Stoll
University of Washington
“Mapping Conformational Changes in Proteins using EPR Spectroscopy”

October 8, 2015

2:30pm
150 Chevron
Dr. Sarah Tolbert
University of California – Los Angeles
“Self-Assembled Nanomaterials – Using Basic Science to Move Toward Solutions to Practical Problems in Energy Harvesting and Storage”
4:00pm
150 Chevron
Dr. Scott Phillips
Penn State University
“Design and Application of New Reagents for Signal Amplification”

October 14, 2015

29th Annual Frederick Kaufman Memorial Lecture Series
4:00pm
O’Hara Student Center
Dr. Susan Solomon
Massachusetts Institute of Technology
“Ozone Depletion: A Science and Policy Success Story”

University of Pittsburgh Fall Chemistry Seminars

October 15, 2014

29th Annual
Frederick Kaufman Memorial
Lecture Series
2:30pm
150 Chevron
Dr. Susan Solomon
Massachusetts Institute of
Technology

***"Emerging Signals of Climate
Change: Where in the World will
Local Climate Change First?"***

October 22, 2015

2:30pm
150 Chevron
Dr. Kevin Brown
Indiana University

***"No Strain, No Gain: Advances
in the Synthesis and Use of
Cyclobutanes"***

October 29, 2015

2:30pm
150 Chevron
Dr. Shana Kelley
University of Toronto

***"Targeting Mitochondrial DNA
with Organelle-Specific Peptides"***

4:00pm
150 Chevron
Dr. Theodore Goodson III
University of Michigan
"TBA"

November 3, 2015

2:30pm
150 Chevron
Dr. Gavin Reid
University of Melbourne
***"Quantitative Mass Spectrometry-
Based Clinical Analysis of Hetero-
geneous Peptides, Proteins and
Post Translational Modifications"***

November 5, 2015

4:00pm
150 Chevron
Dr. Peng Chen
Cornell University
***"Single- Molecule Nanocataly-
sis: From Fundamentals to Solar
Energy Conversion"***

November 12, 2015

2:30pm
150 Chevron
Dr. Ben Lear
Penn State University
***"The Influence of Surface Chemis-
try Over the Electronics of Metallic
Electrons"***

November 19, 2015

2:30pm
150 Chevron
Dr. Anne Co
Ohio State University
"TBA"
4:00pm
150 Chevron
Dr. Michael Green
Penn State University
***"Capture and Characterization of
Reactive Intermediates in P450
Catalysis: Insights into Biological
C-H Bond Activation"***

Volunteers Needed!

*There are a number of
volunteer opportunities
in the Pittsburgh ACS sec-
tion! If you are interested
in volunteering, please
contact Heather Juzwa at
[hljuzwa@shimadzu.com!](mailto:hljuzwa@shimadzu.com)*

SACP September Meeting Bio Continued From Page 7

an electrochemical immunoassay using an electrochemical detector. He began his independent career in 1979 at the University of Pittsburgh in the Department of Chemistry where he is today Professor and Director of Graduate Studies and Professor of Clinical Translational Science. The research of Steve's graduate students and postdocs has encompassed electroanalytical chemistry as well as separations including microextractions, molecular recognition, capillary electrophoresis and liquid chromatography. He has over 200 publications and has given nearly 250 invited presentations on his research group's work. He has served on the Editorial Board of Analytical Chemistry for a three-year term and is currently on the Editorial Board of Trends in Analytical Chemistry and the Journal of Chromatography A. Recent awards include the Pittsburgh Award of the ACS (2008), the University of Pittsburgh Provost's Award for Excellence in Mentoring (2012), the Palmer Award from the Minnesota Chromatography Forum (2015), and the Dal Nogare Award of the Chromatography Forum of the Delaware Valley (2016)

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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 1st of the month prior to publication.

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

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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The Crucible

A newsletter of the Pittsburgh Section of the American Chemical Society

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Pittsburgh Area Calendar

Tuesday, September 8

Pittsburgh ACS Energy Technology Group

"Pennsylvania's Organic-Rich Shales"

Kristin Carter, Assistant State Geologist, Pennsylvania Geological Survey-Economic Geology Division
Spaghetti Warehouse, 26th and Smallman Streets, Strip District, Pittsburgh, PA

Wednesday, September 9

Society for Analytical Chemists of Pittsburgh

"Design and Application of Analytical Measurement Systems Using Capillary Liquid Chromatography for Online Analysis of Neurochemical Processes"

Stephen G. Weber, Ph.D., Professor and Director of Graduate Studies, Professor of Clinical Translational Science, University of Pittsburgh
Duquesne University, Pittsburgh, PA

Saturday, September 12

Greater Pittsburgh Area Women Chemists Committee

Proposal Writing Seminar

Catalina Achim, Ph.D., Professor of Chemistry, Carnegie Mellon University
Room 150 Chevron Science Center, 219 Parkman Ave. Pittsburgh, PA

Wednesday, September 16

The Spectroscopy Society of Pittsburgh

"Multi-Dimensional NMR and NMR/MS Hybrid Approaches for Metabolomics"

Rafel Brusweiler, Department of Chemistry & Biochemistry and Department of Biological Chemistry and Pharmacology, The Ohio State University, Columbus, OH
Duquesne University, Pittsburgh, PA

Friday, October 23 and Saturday, October 24

National Chemistry Week

"Chemistry Colors Our World"

Carnegie Science Center, Pittsburgh, PA