EXPOSITION AND TECHNICAL SYMPOSIA
COVERING CUTTING EDGE TECHNOLOGY IN ANALYTICAL, INORGANIC, ORGANIC, PHYSICAL, BIOCHEMICAL, POLYMER, PROTEOMICS, ENERGY, AND CHEMICAL EDUCATION

PITTSBURGH SECTION ACS
The Crucible
www.pittsburghacs.org
Volume: C No.1 September 2014

2014 ACS Central Regional Meeting
www.acscerm2014.org

THE 45TH CENTRAL REGIONAL MEETING
OCT. 29 – NOV. 1, 2014
DOUBLETREE BY HILTON
PITTSBURGH - GREEN TREE

Bradley D. Smith, Ph.D.
University of Notre Dame

Vicki H. Wysocki, Ph.D.
The Ohio State University

Sara E. Skrabalak, Ph.D.
Indiana University Bloomington

WEDNESDAY 10/29
THURSDAY 10/30
FRIDAY 10/31

EXPOSITION EVENTS:
• Vendor Exposition
• Pittsburgh Award
• Distinguished Service Award
• High School Teaching Awards
• Former Chairman Dinner

SPECIAL EVENTS:
• Leadership Institute
• Career Workshop
• Student Affiliate Workshop
• Teacher Training Workshop
• And More ...

FOR MORE INFORMATION CONTACT:
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General Co-Chair
jpauses@pitt.edu

HEATHER JUZWA
General Co-Chair
hljuzwa@shimadzu.com

ADRIAN MICHAEL
Program Co-Chair
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MICHELLE WARD
Program Co-Chair
muscat@pitt.edu

ELI ABSEY
Exposition Co-Chair
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BRIAN STROHMEIER
Exposition Co-Chair
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Contents . . .

2014 ACS Central Regional Meeting 1
CERM 2014 ACS Leadership Institute 2
CERM 2014 Registration 3
CERM 2014 - Workshop 4
Descriptions
Regional Awards for Excellence in High School Teaching 5
Fox Chapel Student Mihir Garimella Chosen as Finalist for Google Science Fair 5
National Chemistry Week Team USA Brings Gold and Silver from Hanoi, Vietnam 6
E. Ann Nalley Award for Volunteer Services to the American Chemical Society 7
Rosemary and Oregano Contain Diabetes-Fighting Compounds 7
WCC and YCC Joint Networking Social Hour 8
Women Chemists Committee Professional Writing Seminar 9
Women Chemists Committee STEM-ulate Success Mentoring Program 10
Womens Chemists Committee Call for Nominations National Chemistry Week 11
Illustrated Poem Contest Society For Analytical Chemists of Pittsburgh September Meeting & Technology Forum 12
University of Pittsburgh Fall Chemistry Seminars 13
Pittsburgh Section ACS Travel Grant Recipient Report 14
ACS Energy Technology Group 16
Advertiser’s Index 17
Calendar 20
ACS Leadership Institute

Thursday, October 30, 2014

Join us to learn essential skills and strengthen your competitive edge in today's global economy. The first 9 people who register are free with additional scholarships available!

Fostering Innovation

8:00 AM – 12:00 PM                Westinghouse Room
The very basis of Chemistry, your profession, and ACS challenge you to advance your thinking, identify new solutions, and design new approaches continuously. In this four-hour course you will learn that innovation doesn’t happen by chance but can be managed. The understanding and tools you gain will help you learn how to tap into your own innovation style as well as learn how to stimulate innovative thinking for different circumstances.

Leading Change

1:00 PM – 5:00 PM                 Westinghouse Room
Almost any initiative today in the workplace involves change and can often meet resistance. This four-hour course provides leaders with a step-wise process to lead change and guide volunteers more effectively through the change process to achieve greater results and efficiency. Participants will gain a skill that can be used in many common workplace and professional situations.

For more information contact: Julianne Wolfe, Leadership Development Chair, jwolfe@rjleegroup.com
**REGISTRATION FEES**

<table>
<thead>
<tr>
<th>Event</th>
<th>ADVANCE Until October 3</th>
<th>ONSITE After October 3</th>
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</thead>
<tbody>
<tr>
<td>01. ACS Member</td>
<td>$125</td>
<td>$175</td>
</tr>
<tr>
<td>02. Nonmember</td>
<td>$200</td>
<td>$250</td>
</tr>
<tr>
<td>03. Graduate Student/Post-Doc</td>
<td>$50</td>
<td>$65</td>
</tr>
<tr>
<td>04. Undergraduate Student</td>
<td>$35</td>
<td>$50</td>
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<tr>
<td>05. High School Teacher*</td>
<td>$60</td>
<td>$75</td>
</tr>
<tr>
<td>06. Retired/Emeritus</td>
<td>$25</td>
<td>$40</td>
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<tr>
<td>07. Unemployed</td>
<td>No Charge</td>
<td>No Charge</td>
</tr>
<tr>
<td>08. 50+ Year ACS Member</td>
<td>No Charge</td>
<td>No Charge</td>
</tr>
<tr>
<td>09. High School or Project Seed Student</td>
<td>No Charge</td>
<td>No Charge</td>
</tr>
</tbody>
</table>

- Registration must be accompanied by payment in order to be processed.
- Request for refunds must be submitted in writing prior to October 3rd in order to receive a refund minus the $25 administrative fee.
- Questions can be directed to ACS Regional Meetings at 1-800-333-9511 or by contacting Lauren Stewart via email at L_stewart@acs.org.
- Please contact Lauren Stewart to advise of any dietary or physical restrictions at L_stewart@acs.org.
- *High School Teacher registration fee includes one Project Seed Luncheon Celebration ticket.
- **Receive a 20% refund off payment for the Rum Science Event on Wednesday and/or Friday just for staying at the Double Tree Green Tree. Refunds will be issued after conference and upon verification of reservation.
- Conference Registration is not required to attend this event.

**SOCIAL EVENTS**

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Time</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>YCC Luncheon</td>
<td>Wednesday, October 29</td>
<td>12:00 PM – 1:20 PM</td>
<td>$15.00</td>
</tr>
<tr>
<td>Welcome Reception – Wine, Wii &amp; ‘Wiches*</td>
<td>Wednesday, October 29</td>
<td>7:00 PM – 9:00 PM</td>
<td>$12.00</td>
</tr>
<tr>
<td>Rum Science – Pittsburgh Style**</td>
<td>Wednesday, October 29</td>
<td>7:30 PM – 9:15 PM</td>
<td>$45.00</td>
</tr>
<tr>
<td>WCC Luncheon</td>
<td>Thursday, October 30</td>
<td>11:40 AM – 12:50 PM</td>
<td>$25.00</td>
</tr>
<tr>
<td>Central Regional Awards Reception &amp; Dinner*</td>
<td>Thursday, October 30</td>
<td>Cash Bar: 5:00 PM</td>
<td>$40.00</td>
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<tr>
<td></td>
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<td>Dinner: 6:00 PM</td>
<td></td>
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<tr>
<td></td>
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<td>Awards: 7:00 PM</td>
<td></td>
</tr>
<tr>
<td>Undergraduate Network and Resume Luncheon</td>
<td>Friday, October 31</td>
<td>11:30 AM – 12:50 PM</td>
<td>$10.00</td>
</tr>
<tr>
<td>Ice Cream Social with ACS Governance</td>
<td>Friday, October 31</td>
<td>2:00 PM – 3:00 PM</td>
<td>Complimentary</td>
</tr>
<tr>
<td>Rum Science– Pittsburgh Style and a View**</td>
<td>Friday, October 31</td>
<td>5:30 PM – 10:20 PM</td>
<td>$55.00</td>
</tr>
<tr>
<td>Project SEED Celebration Luncheon</td>
<td>Saturday, November 1</td>
<td>11:30 AM – 1:30 PM</td>
<td>$20.00</td>
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</table>

**WORKSHOPS**

<table>
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<tr>
<th>Event</th>
<th>Date</th>
<th>Time</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>ACS Career Workshop: Finding Your Pathway</td>
<td>Wednesday, October 29</td>
<td>8:00 AM – 12:00 PM</td>
<td>Complimentary</td>
</tr>
<tr>
<td>ACS Career Workshop: Individual Resume Reviews</td>
<td>Wednesday, October 29</td>
<td>1:30 PM – 5:00 PM</td>
<td>Appointments will be scheduled.</td>
</tr>
<tr>
<td>ACS Leadership Institute: Fostering Innovation***</td>
<td>Thursday, October 30</td>
<td>8:00 AM – 12:00 PM</td>
<td>Members: $150 Non-Members: $300</td>
</tr>
<tr>
<td>ACS Leadership Institute: Leading Change***</td>
<td>Thursday, October 30</td>
<td>1:00 PM – 5:00 PM</td>
<td>Members: $150 Non-Members: $300</td>
</tr>
</tbody>
</table>

**TOTAL FEES:**

- Registration $________
- Social Events and Workshops $________

**TOTAL AMOUNT ENCLOSED** $________

**Method of Payment:**
- American Express
- Master Card
- Visa
- Check

**Signature:**

www.pittsburghacs.org
1. Finding Your Pathway - Learn about the four main career pathways available to chemical professionals: Higher education, industry, government, and entrepreneurial careers and why each one may or may not be the right choice for you. This workshop is not only ideal for graduate students and recent grads, but also experienced professionals who are considering a career change. In addition to learning about which types of careers are available in each pathway, you’ll also learn about the job market and hiring trends to help you make your choice. The workshop allows time for you to inventory your own values, interests, background, strengths and weaknesses so that you can select which career pathway you’d like to explore in detail. This course is being offered on Wednesday, October 29th from 8:00 AM – 12:00 PM

2. Fostering Innovation *** - We are constantly challenged to come up with new ideas, approaches, and solutions, yet most of us feel ill-equipped to do this effectively. With a systematic and proven process to generate ideas you can lead your team to develop new ideas. Gain the understanding and tools to tap into your own innovation style and stimulate innovative thinking among your team members. This course is being offered on Thursday, October 30th from 8:00 AM – 12:00 PM

3. Leading Change *** - Change is a constant today, yet it is often met with resistance. Leading change—whether it is a change in priorities, direction, or people—is critical to your success as a leader in your profession. This course provides leaders with a step-wise process to lead change and guide committee members, division members, and local section members more effectively through the change process for greater results and efficiency. This course is being offered on Thursday, October 30th from 1:00 PM – 5:00 PM

***You MUST go to www.acs.org/professionaladvancement to register and pay in order to reserve your seat for any of the ACS Leadership Courses being offered. The first nine people to register for any one of the Leadership Courses are complimentary and the next eleven registrants will receive a 50% discount.

SPECIAL EVENTS AND ATTRACTIONS

Rum Science – Pittsburgh Style, Wednesday, October 29th
Learn a little rum science the old-fashioned way – through a tasty sampling of rum and a tour of Pittsburgh’s only rum distillery in the city’s Historic Strip District! You’ll also learn the story behind Maggie’s Farm Rum Distillery. Transportation to Maggie’s leaves from the DoubleTree at 7:30 pm with tasting and a tour from 8-9 pm. Round-trip transportation for this event is included in the ticket price.

Rum Science – Pittsburgh Style and a View, Friday, October 31st
Take a taste and a ride as the science lesson includes Maggie’s Farm Rum Distillery, a tour & tasting and then a ride up the historic Duquesne Incline where you will get a behind-the-scenes tour of the incline and discover the science of funiculars! Transportation to Maggie’s leaves the DoubleTree at 5:30 pm with the tasting starting at 6 pm. Afterwards, you will be transported to the incline for a tour beginning at 7:20 pm. The view of downtown from the top of Mount Washington is one of the most beautiful in the city! After the tour, there will be free time to dine in Station Square before bus transportation back to the DoubleTree at 10 pm. All transportation for this event is included in the ticket price.

CERM 2014 registrants and guests will receive a 20% discount on the ‘Burgh, Bits and Bites Pittsburgh Food Tour, Saturday, November 1st. Transportation is NOT included. While you’re here, come learn Pittsburgh history by sampling the ethnic foods that represent the many immigrants that came over and worked in the steel mills. Gain some insight while eating your way through a neighborhood and discover its history! Tours begin at either 10 am or 1:30 pm. For more information about Burgh, Bits and Bites check out their website http://burghfoodtour.com/. See the CERM website, www.acscerm2014.org, under ‘Events’ for more information on how to get your 20% discount!

CERM 2014 registrants and guests will receive a 20% discount on the Carrie Blast Furnace Tour, Saturday, November 1st. Transportation is NOT included. Learn about Pittsburgh history as the former steelmaking capital of the world. The Carrie Blast Furnace tour is a two-hour retired steelworker guided tour of the only blast furnace left in Pittsburgh. Towering 92 feet over the Monongahela River, constructed of 2.5. thick steel plate and lined with refractory brick, Carrie Furnaces 6 and 7 are extremely rare examples of pre World War II iron-making technology. Since the collapse of the region’s steel industry in the 1970’s and 1980’s, these are the only non-operative blast furnaces in the Pittsburgh District to remain standing. Tours begin at 10 am. For more information visit Carrie Blast Furnace Tour. See the CERM website, www.acscerm2014.org, under ‘Events’ for information on how to receive your 20% discount.

Advance Registration ends Friday, October 3rd • All refunds are subject to the $25 Administrative Fee
• Make your hotel reservation at the DoubleTree Green Tree Hotel and receive 20% off the Whiskey Science Events
• Visit www.acscerm2014.org for up-to-date programming information

September 2014 / The Crucible
Regional Awards for Excellence in High School Teaching

Call for Nominations
CERM 2014

Sponsor: Division of Chemical Education

Purpose: To recognize, encourage, and stimulate outstanding teachers of high school chemistry in the ACS Regions.

Nature: The Region Award consists of a cash award and a plaque. Reasonable travel expenses to the Regional Meeting at which the award will be presented will be reimbursed. A certificate/plaque may also be provided to the recipient’s institution for display. In some cases, the awardee may be asked to give a keynote address and/or participate in a symposium with other teachers.

Eligibility: Any individual, except a member of the award selection committee or currently enrolled student of the nominee, may submit one nomination or support form in any given year. The nominee must be actively engaged in the teaching of chemistry or a chemical science in a high school (grades 9-12) on at least a half-time basis. The nomination should clearly demonstrate as many of the following attributes as possible:

- The quality of the nominee’s teaching; unusually effective methods of presentation should be emphasized;
- The nominee’s ability to challenge and inspire students;
- Extracurricular work in chemistry or a chemical science by the nominee, including science fairs, science clubs, and activities that stimulate the interest of young people in chemistry and related sciences;
- A willingness to keep up-to-date in the field, as evidenced by the pursuit of a higher degree in chemistry or a chemical science, enrollment in refresher courses and summer institutes, regular attendance at scientific meetings, membership in professional organizations, and other means of self-improvement;
- Evidence of leadership and/or active involvement within the profession.

Establishment & Support: The Division of Chemical Education (DivCHED) established an endowment in 2004 to support Regional Awards for Excellence in High School Teaching in each of the ACS Regions.

Contact Information: All nomination materials should be emailed to CERM 2014 Awards Co-Chairs Fu-Tyan Lin and Huayun Yu (ftlfml@comcast.net and huayun.yu@ferro.com). Nomination forms and additional information can be found at the CERM website www.acscerm2014.org.

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Fox Chapel Student Mihir Garimella Chosen as Finalist for Google Science Fair

Mihir Garimella from Fox Chapel Area High School has been selected as one of 15 global finalists for the Google Science Fair. Mihir placed 1st in the PRSEF Engineering/Robotics Senior Division in March. He will be traveling to the Google HQ in September to present his research.

Visit https://www.googlesciencefair.com/projects/en/2014/6d1893c2059f3eda04a13d6bda68a553f7760148ff92ff3c97f30725ef1b195 to learn more.
**National Chemistry Week is Coming!!!**

Join the Pittsburgh Section of the American Chemical Society as we celebrate National Chemistry Week 2014 with the theme

**“Great Chemistry is Everywhere!”**

Where: Carnegie Science Center  
When: Friday, October 24th (9 AM to 3 PM)  
Saturday, October 25th (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](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’ website at [http://chemistry.org/ncw](http://chemistry.org/ncw)

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**Team USA Brings Gold and Silver from Hanoi, Vietnam!**

![Photo of Team USA](image)

From left to right: Stephen Li, Andrew Chen, Robert Kao, Derek Wang  
Photo by: Melissa Barranger Mathys

U.S. National Chemistry Olympiad program would like to proudly announce the success of the Alpha Eta Team at the 46th International Chemistry Olympiad competition, which concluded July 29, 2014 in Hanoi, Vietnam.

**U.S. Team students:**

**Andrew Chen**, West Windsor Plainsboro High School South, NJ, won silver medal  
**Robert Kao**, Edwin O. Smith High School, CT, won gold medal  
**Stephen Li**, Troy High School, MI, earned silver medal  
**Derek Wang**, North Allegheny Senior High School, PA, received silver medal

The USA Team students competed against students from 74 countries.

Congratulations to Team USA for this great achievement!

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The Pittsburgh Section’s 2014 NCW activities are sponsored by The Society for Analytical Chemists of Pittsburgh, The Spectroscopy Society of Pittsburgh, PPG Industries Foundation, PPG Science Education Council, Carnegie Science Center, and Bayer Corporation.
E. Ann Nalley Award for Volunteer Service to the American Chemical Society

Call for Nomination
CERM 2014

DEADLINE: SEPTEMBER 5, 2014

Purpose: To recognize the volunteer efforts of individuals who have served the American Chemical Society, contributing significantly to the goals and objectives of the Society through their Regional activities.

Nature and Establishment: This award was instituted in 2006 by ACS President E. Ann Nalley as part of her presidential initiative to recognize ACS volunteerism. It was Dr. Nalley’s wish that the award continue in perpetuity at each regional meeting. The award consists of a plaque honoring the recipient with an imbedded medallion commemorating Dr. Nalley.

Rules of Eligibility: A nominee must be a member of the American Chemical Society residing in a local section within the region, and will have made significant contributions to their Region of the American Chemical Society. The volunteerism to be recognized may include a variety of activities, including but not limited to the initiation or sponsorship of a singular endeavor or exemplary leadership in the region. Past and present members of the ACS Board of Directors and staff are ineligible for this award.

Selection of Recipient: Nominations will be solicited from individuals, using the channels customary for other awards in the region. The awards committee of the region, or its equivalent, will select the recipient.

Submitting a nomination: Submit each of the following: (1) nomination form, (2) up to two support forms, and (3) biographical sketch (or curriculum vitae) by September 5. All nomination materials should be emailed to CERM 2014 Awards Co-Chairs Fu-Tyan Lin and Huayun Yu (ftlfml@comcast.net and huayun.yu@ferro.com). Nomination forms and additional information can be found at the CERM website www.acscerm2014.org.

Rosemary and Oregano Contain Diabetes-Fighting Compounds

Journal of Agricultural and Food Chemistry

Rosemary (above) and Mexican oregano could be good natural sources of anti-diabetic compounds.
Credit: Volosina/Stock/Thinkstock

The popular culinary herbs oregano and rosemary are packed with healthful compounds, and now lab tests show they could work in much the same way as prescription anti-diabetic medication, scientists report. In their new study published in ACS’ Journal of Agricultural and Food Chemistry, they found that how the herbs are grown makes a difference, and they also identified which compounds contribute the most to this promising trait.

Elvira Gonzalez de Mejia and colleagues point out that in 2012, type-2 diabetes affected more than 8 percent of Americans and cost the country $175 billion. Some people can manage the disease with exercise and changes to their diet, and others take medication. But not everyone can stick to a new lifestyle or afford the prescription drugs necessary to keep their blood-sugar level in check. Recent research has shown that herbs could provide a natural way to help lower glucose in blood. So Gonzalez de Mejia’s team decided to take a closer look.

Continued on Page 16
Join the WCC and YCC for a Joint Networking Social Hour

The Steel Cactus
(5505 Walnut Street • Pittsburgh, PA 15232)

Thursday, September 18th 5:30-7:30 pm

Come enjoy this opportunity to network in a social setting with members of the Greater Pittsburgh Area Women Chemists Committee, Younger Chemists Committee and Guests.

This event is open to the public, and we welcome all those from any level in academia or industry.

Limited appetizers will be provided.

Please RSVP using the link on our website (www.pghWCC.org) or Facebook page so we know how many people to plan for. Hope to see you there!
Proposal Writing Seminar

Thursday, August 28th 4-6pm

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

Cost: FREE
(advanced registration required to guarantee your spot)

Seminar by Catalina Achim, Ph.D.
Program Director, NSF Chemistry Division
Chemistry of Life Processes Program

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 (muscat@pitt.edu).
STEM-ulate Success Mentoring Program

Call for mentor volunteers!!!!

Students enter general chemistry courses with a broad range of backgrounds and experiences. Some students enrolled in general chemistry have very little chemistry background and weak mathematics skills. To address this diversity in background and provide students with an enhanced opportunity for success in general chemistry, the WCC is initiating the STEM-ulate Success Mentoring Program.

The first component of this program will involve a math camp, in the hopes of helping students “bridge” their preparation with the required mathematical skills to be successful with the content they will encounter in their general chemistry course. In addition to math camp, students will be assigned mentors that they can turn to for support throughout the semester.

This is where you come in ... we need volunteers (male and female) to serve as mentors to the students. The number of students we can help will be decided by how many mentors we can enroll.

If you are interested in serving as a mentor to a general chemistry student, please sign up using the link on the Upcoming Events page of the WCC website (www.pghWCC.org).

Any questions about this program, or the Greater Pittsburgh Women Chemists Committee should be directed to Dr. Michelle Ward (muscat@pitt.edu).
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 SEPTEMBER 15th
Nomination packets should include a minimum of two supporting letters, an up-to-date 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 muscat@pitt.edu

Our mission is to be leaders in attracting, developing, and promoting women in the chemical sciences.
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 24, 2014.

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. On back of entry include student name, grade, school name, teacher name, teacher phone number, and teacher e-mail address.

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

Write and illustrate a poem using the NCW theme, “The Sweet Side of Chemistry–Candy”. 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:
- Physical properties of candy
- Ingredients in candy and candy making
- Sugar vs. alternative sweeteners
- 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 2014 theme, “The Sweet Side of Chemistry–Candy”.
- 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 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.

American Chemical Society
Society for Analytical Chemists of Pittsburgh

September Meeting

Monday, September 8, 2014
8:00 PM
Duquesne University

“Increasing Proteomics Throughput to Study Aging and Alzheimer’s Disease”

Renã Robinson
Assistant Professor
University of Pittsburgh

Abstract: Aging is associated with a decline in many processes such as immunity and leads to an increased risk of developing disease in older individuals. Notably, elderly individuals over the age of 65 are more susceptible to infections and age-related neurodegenerative disorders. To-date a detailed understanding of the processes that result in this age-related decline of the immune system are still not clear.

Proteomics research has enabled and provides better understanding of biology and disease. Due to the complexity of cellular pathways and signaling, the ability to measure thousands of proteins simultaneously allows a wealth of information to be obtained with proteomics in a high-throughput fashion. Specifically, insight to the role of individual proteins or pathways implicated in aging and age-related disorders is possible.

The Robinson group develops and applies quantitative proteomics methodology to investigate aging, immunity, and Alzheimer’s disease. Her strategies to increase efficiency center on enhancing sample multiplexing for mass spectrometric (MS) analysis. This presentation will highlight their global and cysteine-selective approaches and relevant biological applications.

Bio: Dr. Renã Robinson is currently an Assistant Professor in the Department of Chemistry at the University of Pittsburgh where she started in the fall of 2009. She received her Bachelor’s of Science degree in Chemistry from the University of Louisville in her hometown Louisville, KY and her PhD in Chemistry at Indiana University, Bloomington, IN under the auspices of Prof. David Clemmer in 2007. Dr. Robinson received Lyman T. Johnson and UNCF/Merck postdoctoral fellowships to study Alzheimer’s disease using redox proteomics in Prof. D. Allan Butterfield’s laboratory at the University of Kentucky. Currently, her research group is investigating the molecular basis of aging in the immune system and Alzheimer’s disease using novel proteomics techniques. She has published over 30 peer-reviewed articles and reviews and has authored 4 book chapters.

Dinner Reservations: Please email the SACP Administrative Assistant, Valarie Daugherty at daugherty@pittcon.org by Monday, September 1, 2014 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.
September Meeting
Wednesday, September 17, 2014
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 (6th Floor) 6:30 PM
Business Meeting 8:00 PM • Technical Program Speaker’s Presentation 8:15 PM

TECHNICAL PROGRAM - 8:15 PM
“Dynamic Organization in Biological Membranes: Resolving the Mobility and Clustering of Membrane Proteins and Lipids In Situ”
Adam W. Smith, PhD, The University of Akron Department of Chemistry

Abstract: Fluorescence microscopy is a powerful tool for imaging membrane proteins, yet it remains challenging to quantify the assembly and dynamics of protein complexes in model membranes and live cells. This is because protein clusters undergo complex translational dynamics and are smaller than the optical diffraction limit. Recent breakthroughs in sub-diffraction-limit fluorescence imaging make it possible to study membrane organization at higher resolution, but it is still difficult to measure correlated, dynamic assembly. I will present my lab’s recent work with time-correlated single photon counting (TCSPC) and pulsed interleaved excitation fluorescence cross-correlation spectroscopy (PIE-FCCS) to measure the oligomerization state of membrane proteins in live cells. With this approach it is possible to quantify monomer-dimer equilibria with high accuracy and observe functional dimerization during cell signaling. I will also present our recent investigation of dynamic organization of anionic lipids in the presence of a membrane-associated cationic macromolecule. Overall this combined spectro-microscopy approach will build a more complete picture of molecular structure and dynamics in biological membranes.

Bio: Adam W. Smith is an assistant professor of chemistry at the University of Akron. He graduated with an honors bachelor’s degree from the University of Utah, where his undergraduate research was on laser-induced fluorescence spectroscopy of diatomic metal carbides with Michael D. Morse. He earned a Ph.D. from MIT working with Andrei Tokmakoff on the 2D IR spectroscopy of proteins and isotopically labeled peptides. His postdoctoral work was with Jay T. Groves at the University of California, Berkeley where he did live cell fluorescence microscopy and developed new tools for quantitative imaging. He joined the Chemistry Department at the University of Akron in 2012, where the overall theme of his research program is to decode the molecular mechanisms of cell signaling.

TECHNOLOGY FORUM - 5:30 PM
Duquesne University – Laura Falk Hall located in Mellon Hall
Fred Baldassare, Senior Geoscientist, Owner, ECHELON Applied Geochemistry Consulting

Fred Baldassare is a Senior Geoscientist and owns ECHELON Applied Geochemistry Consulting. He has more than 25 years of experience as a geologist, and 20 years of experience investigating more than 200 reported incidents of stray gas migration. Fred previously worked for the Pennsylvania Department of Environmental Protection (PADEP) as the statewide authority on isotope geochemistry, and stray gas incident response and mitigation.

Fred is an experienced researcher who has helped pioneer the application and advancement of isotope geochemistry to identify and distinguish the origin of different microbial and thermogenic gases in the Appalachian Basin. He was the lead author for the Marcellus Shale Coalition’s technical guidance manual for stray gas investigations, the Pennsylvania’s Oil & Gas regulations (25 PA. CODE CH. 78, §78,89) for stray gas incident response, and co-authored the Department of Interior’s Technical Measures For The Investigation And Mitigation Of Fugitive Methane Hazards In Areas of Coal Mining. Fred has taught and lectured internationally and at his alma mater, The University of Pittsburgh, and Penn State University on the application of isotope geochemistry and protocols for stray gas incident response. Fred has authored and co-authored professional papers for peer reviewed journals on the application of isotope geochemistry since 1997.

Dinner Reservations: Please register on-line at http://www.ssp-pgh.org/monthly-meeting-rsvp/ to make dinner reservations NO LATER THAN Thursday, September 11, 2014 at noon. Dinner will cost $10 ($5 for students) and checks can be made out to the SSP. This month’s entrée will be Lamb Chops w/Mint Demi Glace as well as a Vegetarian Option. 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 Fall Chemistry Seminars

August 28, 2014
2:30pm, 150 Chevron
Dr. Ksenija Glusac, Bowling Green State University
“Towards Catalysis of Uphill Reactions: Light as the Energy Source”

September 4, 2014
2:30pm, 150 Chevron
Dr. Seth Horne, University of Pittsburgh
“Biomimetic Agents and Designer Materials from Protein-like Molecules Beyond Nature’s Covalent Structures”

September 10, 2014
2:30pm, 150 Chevron
Dr. Aaron Esser-Kahn, University of California – Irvine
“Chemical Biology Approaches to Immunity – Probing a Code Without a Key”

September 11, 2014
2:30pm, 150 Chevron
Dr. Amanda Hummon, University of Notre Dame
“Imaging Mass Spectrometry of 3D Cell Culture”

4:00pm, 150 Chevron
Dr. Nicholas Kotov, University of Michigan
“TBA”

September 18, 2014
2:30pm, 150 Chevron
Dr. Scott Snyder, The Scripps Research Institute
“Strategies to Create Diverse Collections of Natural Products”

Chemistry Department/Pittsburgh Quantum Institute Joint Seminar
4:00pm, 150 Chevron
Dr. Gregory Scholes, University of Toronto
“Photosynthetic Light Harvesting and Ultrafast Energy Transfer”

September 23, 2014
36th Annual Bayer Lecture Series
4:00pm, 150 Chevron
Dr. Joseph Desimone, University of North Carolina – Chapel Hill
“Translating Basic Science into Products and the Role of Diversity in Making that Happen”

September 24, 2014
36th Annual Bayer Lecture Series
9:00am, 150 Chevron
Dr. Joseph Desimone, University of North Carolina – Chapel Hill
“Breakthroughs in Imprint Lithography and 3D Additive Fabrication to Advance Next Gen Drug Delivery Technologies”

September 25, 2014
2:30pm, 150 Chevron
Dr. Xiangfeng Duan, University of California – Los Angeles
“Two-Dimensional Layered Materials”

October 2, 2014
4:00pm, 150 Chevron
Dr. Michael Burkart, University of California – San Diego
“Protein-Protein Interactions in Acetate Biosynthetic Pathways”

October 6, 2014
4:00pm, 150 Chevron
Dr. Joel Harris, University of Utah
“TBA”

October 9, 2014
2:30pm, 150 Chevron
Dr. Steven Corcelli, University of Notre Dame
“Solvation Dynamics and Vibrational Spectroscopy in Ionic Liquids”

October 23, 2014
2:30pm, 150 Chevron
Dr. Robert Haddon, University of California - Riverside

October 30, 2014
2:30pm, 150 Chevron
Dr. Hao Xu, Georgia State University
“Searching for New Reactivity: Iron-Catalyzed Stereoselective Olefin Aminohydroxylation and Aminofluorination Reactions through N-O Bond Activation of Functionalized Hydroxylamines”

November 6, 2014
2:30pm, 150 Chevron
Dr. Todd Krauss, University of Rochester
“Semiconductor Nanocrystals for Robust and Efficient Solar Hydrogen Production”

Continued on Page 17
I would like to thank the ACS Pittsburgh section for giving me the privilege to attend the 247th ACS National Meeting & Exposition held in Dallas, Texas from March 16-20, 2014. Due to the funds I received from the ACS Pittsburgh Section student travel grant, I had the opportunity to travel to the conference. As a graduating senior chemistry major at Saint Francis University, the conference helped me broaden my professional connections and perspectives of the field of chemistry. My main purpose for travelling was to present my research, but I also used the opportunity to attend talks related to my research interests. I presented a poster entitled “Powder Analysis of Acid Mine Drainage Precipitate” co-authored by Dallas Mosier (SFU undergrad), Taylor Spangler (SFU undergrad), Edward P. Zovinka (research advisor), and William Strosnider (co-advisor). As my research advisor’s research interest is in inorganic chemistry and green chemistry, I became involved in studying the chemistry of Acid Mine Drainage and the remediation types both in Pennsylvania and in Potosi, Bolivia, focusing on the study of mine wastes to determine the identity and concentrations of toxic pollutants. I presented the analysis of soil samples and precipitates that were collected from Acid Mine Drainage remediation and an old silver mine waste landfill. The soil samples were analyzed using Powder X-Ray Diffraction (PXRD), and Scanning Electron Microscope with Energy Dispersive Spectroscopy (SEM-EDS).

My poster presentation went as well as I planned it and I also had a chance to meet professionals in the field, who gave me their suggestions that would help me in my future work. While at the meeting I was able to attend some of the talks that I thought would help me in my research and other areas in which I am interested. In particular, I found out about the grant program for submitting samples to Argonne National Laboratory 11-BM for high resolution powder diffraction. The information will be useful as other undergraduates continue on my project. While attending the talks, I was able to meet some of the highly respected chemists in their field. This type of opportunity is very rare, where all the professionals in my field of interest would be at the same place. Also at the meeting there were workshops and a job fair where students can apply for a job and get a chance to see what type of opportunities there are in the field of chemistry.

At the ACS meeting I met students from different schools, who had different experiences. Thus, I had the opportunity to interact and get positive ideas that could benefit me and the SFU Chemistry department.

While in Dallas, TX I also walked over to Dealey Plaza, the John Fitzgerald Kennedy Memorial, and the Sixth Floor Museum at Dealey Plaza. Overall my travel to the ACS National Meeting & Exposition was full of educational, historical and entertaining events. The opportunity that the ACS Pittsburgh section provides students is not limited to funding the travel to the conference, but also it gives the opportunity for students like me to experience the professional world, expand their professional network, and explore. So I would like to thank the ACS Pittsburgh section for a memorable and valuable opportunity through the travel grant.

Rosemary and Oregano Contain Diabetes-Fighting Compounds
Continued from Page 7

They tested four different herbs, either greenhouse-grown or dried commercial versions, for their ability to interfere with a diabetes-related enzyme, which is also a target of a prescription drug for the disease. They found that greenhouse herbs contained more polyphenols and flavonoids compared to the equivalent commercial herbs. But this didn’t affect the concentration required to inhibit the enzyme. Commercial extracts of Greek oregano, Mexican oregano and rosemary were better inhibitors of the enzyme, required to reduce risk of type-2 diabetes, than greenhouse-grown herbs. The researchers say more studies are needed to understand the role of these compounds in reducing the risk of type-2 diabetes in humans.
The notion of anthropogenic global warming continues to distort American energy policy. Public understanding of the issue is beset with numerous areas of conflict and confusion. Mr. Tupi will address what he considers to be ten falsehoods (or, to be kind, debatable assertions) that stifle a reasoned approach to this topic. Among them are: Is there really a scientific consensus about man-made global warming? Are computerized climate models reliable? Are the ice caps melting? Are polar bears drowning? Are global temperatures rising or not? Are projected temperature increases really occurring? Would they be catastrophic if they did?

Brad Tupi is an environmental lawyer with a Pittsburgh law firm. His practice routinely involves scientific issues in various disciplines. He has handled cases involving environmental contamination, wind energy, toxic chemical exposures and oil & gas development. Mr. Tupi obtained his education at Columbia College (B.A. 1975) and Columbia Law School (J.D. 1978). He offered provocative talks to the ACS Energy Technology Group on two prior occasions.

For reservations, please contact Elliott Bergman at elliott.acstechnology@gmail.com by 1:00 on Sept. 8. Walk-ins are welcome. Our meetings are open to all. Cash or check payable to: Energy Tech Pgh Section ACS.

The cost of the dinner is $20 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, Pesto Pasta, or Grilled chicken Caesar salad. Please indicate special needs such as vegetarian, gluten-free, etc.
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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 Heather Juzwa at hjuzwa@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 2014 issue must be to the editor by September 1, 2014.

The Crucible
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Pittsburgh Area Calendar

Thursday, August 28
Women Chemists Committee
Proposal Writing Seminar
Room 150, Chevron Science Center, 219 Parkman Ave.,
Pittsburgh, PA

Monday, September 8
Society for Analytical Chemists of Pittsburgh
“Increasing Proteomics Throughput to Study Aging and Alzheimer’s Disease”
Renã Robinson, Assistant Professor, University of Pittsburgh
Duquesne University, Pittsburgh, PA

Tuesday, September 9
ACS Energy Technology Group
“A Reality Check on Global Warming Hysteria”
Brad Tupi, Shareholder at the Pittsburgh Law Firm Tucker Arensberg
Spaghetti Warehouse, 26th & Smallman Streets, Strip District, Pittsburgh, PA

Wednesday, September 17
The Spectroscopy Society of Pittsburgh
Technical Program
“Dynamic Organization in Biological Membranes: Resolving the Mobility and Clustering of Membrane Proteins and Lipids In Situ”
Adam W. Smith, PhD, The University of Akron Department of Chemistry

Technology Forum
Fred Baldassare, Senior Geoscientist, Owner, ECHELON Applied Geochemistry Consulting
Duquesne University, Laura Falk Hall located in Mellon Hall, Pittsburgh, PA

Monday, October 6
Society for Analytical Chemists of Pittsburgh
TBA
Duquesne University, Pittsburgh, PA

Friday, October 24 & Saturday October 25
National Chemistry Week
Carnegie Science Center, Pittsburgh, PA

Tuesday, October 28 - Saturday, November 1
CERM 2014
Doubletree by Hilton, Green Tree, PA