



# The Crucible



www.pittsburghacs.org

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January 2013

## The Pittsburgh Section ACS Welcomes New Chair, Jay Auses

The Pittsburgh Section ACS welcomes Jay Auses as Chair for 2013.

John P. (Jay) Auses is Assistant Chair of the Department of Chemistry at the University of Pittsburgh, Oakland campus. A native of Johnstown, PA, Jay received his BS in Chemistry in 1970 from St. Francis University, Loretto, PA, where after graduation he served briefly as Assistant Director of the Upward Bound program. He then took a position as an analytical chemist at Glyco Chemicals in Williamsport, PA. With some industrial experience in hand, Jay decided to pursue graduate studies. He entered West Virginia University, Morgantown, WV and, under the direction of Dr. Joseph T. Maloy, he conducted research on "A Chemiluminescent Enzyme Method for Glucose", earning his MS degree in Chemistry in 1974. A rewarding 34 year career at the Alcoa Technical Center, near New Kensington, PA followed, where Jay's roles included Scientist, Process Analytical Chemist, Environmental Chemist, Laboratory Supervisor, and Quality Manager in the Analytical Chemistry Division. Jay retired from Alcoa in 2008. Before accepting the Assistant Chair position at Pitt, Jay taught two semesters of general chemistry at the Community College of Allegheny County, Boyce campus.

Jay joined ACS in 1968. He is a member of the Society for Analytical Chemists of Pittsburgh (SACP), where he served

as Chairman in 1987. He is also a member of the Spectroscopy Society of Pittsburgh (SSP). Jay has been a committee member of the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy since 1976. He was president in 1992 and, during his tenure with the Pittsburgh Conference, he served on and has been chair of numerous committees.

### 2013 Pittsburgh Section ACS Election Results

#### Chair-Elect

Artrease Spann

#### Secretary

Evonne Baldauff

#### Treasurer

Amy Rupert

#### Treasurer-Elect

Angelica Andreoli

#### Director

Huayun Yu

#### Councilor

Michelle Ward - 3 Year Term

Rich Danchik - 1 Year Term

Joe Jolson - Alternate

Rob Mathers - Alternate



## Greater Pittsburgh Area WCC Membership Drive!

The Greater Pittsburgh Area Women Chemists Committee is having a **MEMBERSHIP SPECIAL** through January 31, 2013. \$10 student membership and \$20 professional membership. See our website for membership forms, contact information, and the ability to pay dues online. A member-get-a-member drive is also running... see the website for details [www.pitt.edu/~pghwcc](http://www.pitt.edu/~pghwcc).

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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](http://www.pittcon.org).



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## Society for Analytical Chemists of Pittsburgh January Meeting



Monday, January 7, 2013

8:00 PM

Duquesne University, Maurice Falk Hall

### “Petroleomics: Chemistry of the Underworld”

Alan G. Marshall, Ph.D., Florida State University  
“2012 Pittsburgh Analytical Chemistry Award Recipient”

**Abstract:** Fourier transform ion cyclotron resonance mass spectrometry (FT-ICR MS) offers 10-100 times higher mass resolving power ( $m/\Delta m > 1,000,000$  over a wide mass range) than any other mass analyzer, and is thus the mass analyzer of choice for complex mixture analysis. First, viewed only as a separation device, FT-ICR MS has 500x higher peak capacity than the best single-stage wet chemical separation (GC, LC, CE, gel, etc.). Thus, it becomes possible to separate complex mixtures without prior chromatographic or gel separation. Second, elemental composition may be determined from accurate (sub-ppm) mass measurement alone for unknown molecules up to  $\sim 1,200$  Da. The chemical formula in turn reveals the numbers of N, O, and S (hetero) atoms (i.e., the compound “class”), the number of rings plus double bonds (DBE, or “type”), and the carbon number distribution (a measure of the degree of alkylation). More than 100,000 peaks have been resolved in a single petroleum FT-ICR mass spectrum, and even more become accessible by new atmospheric pressure ionization techniques. Such vast data sets are best visualized from various graphical images scaled according to ion relative abundance: e.g., class distribution, Kendrick plot, van Krevelen plot, DBE vs. carbon number, etc.

Rapid advances in FT-ICR mass spectrometry have spawned a new field, Petroleomics, which aims to correlate and ultimately predict petroleum properties and behavior based on its detailed chemical composition. Applications include production deposit characterization, crude oil fingerprinting, crude oil compositional comparisons, heavy ends and asphaltene characterization, identification of naphthenic acids in crude oil and bitumen, biodegradation indices, emulsion stability, and polar compound speciation in the distillation process. The same principles apply to analysis of biofuels: e.g., 2nd generation (non-food crop sources) and 3rd generation (algae, whose body mass can contain up to 50% lipids).

In this talk, I shall review various technique developments and applications of FT-ICR mass spectrometry, with particular attention to petroleum and its products, and the Macondo oil spill.

**Biography:** Alan G. Marshall completed his B.A. degree with Honors in Chemistry at Northwestern U. in 1965, and his Ph.D. in Physical Chemistry from Stanford U. in 1970. He joined the Chemistry faculty at the University of British Columbia (Vancouver, Canada) in 1969. He moved to Ohio State University in 1980 as Professor of Chemistry and Biochemistry and Director of the Campus Chemical Instrument Center. In 1993, he moved to Florida State University, where he is Robert O. Lawton Professor of Chemistry and Biochemistry and Director of the Ion Cyclotron Resonance (ICR) Program, an NSF national user facility for mass spectrometry.

He co-invented and leads the continuing development of Fourier transform ICR mass spectrometry. His current research spans FT-ICR instrumentation development, fossil fuels and environmental analysis, and mapping the primary and higher-order structures of biological macromolecules and their complexes.

*Continued on Page 7*

**Dinner Reservations:** Please email the SACP Administrative Assistant, Valarie Daugherty at [daugherty@pittcon.org](mailto:daugherty@pittcon.org) by Wednesday, January 2, 2013 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



# The Spectroscopy Society of Pittsburgh



## January Meeting

Wednesday – January 16, 2013

Duquesne University – Mellon Hall (Laura Falk Lecture Hall)

Technology Forum Speaker's Presentation 5:30 PM

Social Hour 5:30 PM • Dinner in the City View Café (6<sup>th</sup> Floor) 6:30 PM

Business Meeting 8:00 PM • Technical Program Speaker's Presentation 8:15 PM

### TECHNOLOGY FORUM - 5:30 PM

#### *"Medical Advances in the Civil War"*

George Wunderlich, Executive Director, National Museum of Civil War Medicine

Included in the talk will be discussions involving the scientific advances of the American Civil War including:

- Early use of microscopy
- Blind studies of new medical treatments
- Advances in specialty hospitals and specialized medicine
- Advances in medical communications and medical journals

This will all be put in the context of modern practices that find their roots in the Civil War.

**Bio:** George Wunderlich is currently the Executive Director of the National Museum of Civil War Medicine where he formerly held the position of Director of Education. George came to Museum in 2000 after moving from Missouri where he was Founder and Director of the Historical Education Center of St. Louis. In 1995 Mr. Wunderlich was awarded the Daughters of the American Revolution National Medal of Honor for his work in public history. After receiving his Master of Arts Degree in American History from Concordia University, he went on to develop new historically-based training programs for the National Park Service, Joint Medical Executive Skills Institute Capstone Symposium, The United State Army Medical Department (AMEDD) and other civilian and government organizations. In October 2011, he was the inducted into the Order of Military Medical Merit(O2M3) by the AMEDD. He is a nationally known speaker on various Civil War topics and can be regularly seen on the History Channel, A&E, CBS, PBS and the British Broadcasting Corporation.

### TECHNICAL PROGRAM - 8:15 PM

#### *"Evolution of Protein Structure: From Solution to the Gas Phase"*

Dr. David Clemmer, Indiana University

The structures of macromolecules are often described as native or denatured. While the native state implies a key structural feature that is capable of biological function, much less is implied from the term denatured. In their 1954 paper "Conformations of Proteins", Lumry and Eyring inferred that the term denatured had "...acquired so many other meanings as to become virtually useless". In large part, the lack of progress in the last 50 years in understanding non-native structures is the dearth of analytical techniques for probing them. In this talk we describe the development of multidimensional ion mobility spectrometry techniques for following transitions between conformations of macromolecular ions in the gas phase. The approach is to inject a short pulse of ions produced by electrospray ionization into a drift tube containing an inert buffer gas. The distribution of structures separates based on differences in the mobilities. It is possible to select specific states, expose these to energizing collisions, and then follow the new structures that are established by monitoring their mobilities in additional drift tubes. This talk will highlight the ubiquitin system. It is possible to follow many different conformational changes. Recently we have been able to map these gas-phase data back to populations of structures that are present in solution. The ability to follow pathways between structures appears to be useful for refining mobility-based structural assignments. Finally, understanding how structures change will be important for developing next generation mobility instruments that are capable of higher resolving powers.

**Bio on Page 9**

**Dinner Reservations:** Please register on-line at [www.ssp-pgh.org](http://www.ssp-pgh.org) to make dinner reservations NO LATER THAN FRIDAY, January 11, 2013. This month's entrée is Salmon. 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.

## ACS Recognizes Rachel Carson's Silent Spring for Landmark Contributions to Chemistry

Rachel Carson's 1962 classic, *Silent Spring* — a book that forever changed the way society and science relate to the world around us — was recognized as a National Historic Chemical Landmark by the American Chemical Society on Oct. 26 during the Rachel Carson Legacy Conference at Chatham University in Pittsburgh, Pa.

"Rachel Carson could not have imagined that her words and ideas would so profoundly change the way modern Americans think today," said Nancy B. Jackson, Ph.D., immediate past-president of ACS. "*Silent Spring* presented a new perspective on humans' role in the world around them, and the quality, rigor and compelling tone of her book caught the attention of readers nationwide, including policy makers and journalists at the highest levels of influence. *Silent Spring* led to a paradigm shift of great significance that set the stage for the more sustainable science we practice today."

On behalf of ACS, Jackson presented a plaque honoring Carson's *Silent Spring* to Wenying Xu, Ph.D., vice president of academic affairs for Chatham University.

A Springdale, Pa., native, Carson was a life-long naturalist with scientific degrees from Chatham University (formerly Pennsylvania College for Women) and the Johns Hopkins University. *Silent Spring*, written by Carson in 1962, caused national controversy by challenging the widespread indiscriminate use of agricultural pesticides that was common at the time and arguing for stricter governmental regulations of chemicals. The years following the publication of *Silent Spring* saw the

establishment of the U.S. Environmental Protection Agency and the passing of numerous laws protecting the environment and human health, including a ban on domestic use of DDT in 1972



Nancy B. Jackson, Ph.D., Immediate-past President of the American Chemical Society, presents the National Historic Chemical Landmark plaque to Wenying Xu, Ph.D., Vice President of Academic Affairs for Chatham University. Photo courtesy Chatham University.

due to its widespread overuse and harmful impact on the environment.

Carson's ecological perspective — a belief in the interconnectivity of insects, birds, animals and mankind with the environment — provided a new framework of understanding where humanity is not the center of life on Earth, but a part of nature. Her work has had profound implications on the practice of chemistry, including the advent of green chemistry, and the design, development and implementation of chemical products and processes that reduce or eliminate the use or generation of substances hazardous to human health and the environment.

The ACS Committee on Environmental Improvement presented a panel during the conference titled, "*The Impact of Silent Spring — Fifty Years of Chemistry Practice.*" Panelists discussed perspectives on the evolution of the practice of chemistry in aca-

demic, industrial and public arenas over the last 50 years.

ACS established the National Historic Chemical Landmarks program in 1992 to recognize seminal events in the history of chemistry and to increase awareness of the contributions of chemistry to the well-being of society. Other events recognized through this program have included the home and laboratory of Joseph Priestley, discoverer of oxygen and other gases, who moved from Great Britain to Pennsylvania in 1794; the development of diagnostic test strips by Al and Helen Free, which today help millions of diabetics to self-monitor and manage their diseases; and the pioneering work of Alice Hamilton, whose experiences with Chicago's immigrant workers in the early 1900s led to the origins of occupational hygiene and medicine. For more information about the program, visit [www.acs.org/landmarks](http://www.acs.org/landmarks).

### CERM 2014 Save the Date!

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

For more information, visit the CERM website at [www.acscerm2014.org](http://www.acscerm2014.org).



## NCW 2012: Nanotechnology: The Smallest BIG Idea in Science!

For the 14<sup>th</sup> consecutive year, the Pittsburgh Section's National Chemistry Week (NCW) celebration was held at the Carnegie Science Center on Friday and Saturday, October 26-27 featuring the theme "Nanotechnology: The Smallest BIG Idea in Science!" Major sponsors for the event included the Society for Analytical Chemists of Pittsburgh (SACP), the Spectroscopy Society of Pittsburgh (SSP), PPG Industries Foundation, and the PPG Science Education Council (PPG SEC). Major in-kind sponsors included the Carnegie Science Center and Bayer Corporation.

A total of 298 volunteers, from 34 groups and organizations, conducted hands-on experiments, activities, and demonstrations. Of the 298 volunteers, 142 volunteers (48%) were ACS members or affiliates. Total attendance for the two-day event was 3,760.

For the 2012 NCW celebration, the Pittsburgh Section reached out to underrepresented minorities in the Southwestern Pennsylvania area to promote science education and literacy. Through financial support provided by the SACP, SSP, PPG Industries Foundation, and PPG SEC, 1,170 students from 17 schools were provided an opportunity to participate in the NCW celebration. Without the generous support from the above mentioned financial sponsors, these students would not have participated in a science-related school field trip during the 2012-13 school year. In all, 1,268 students from 19 schools attended the NCW event.

The Pittsburgh Section wishes to thank its financial and in-kind sponsors, the organizations that sponsored hands-on experiments and activities at the NCW celebration, and the 298 volunteers who dedicated their time and efforts to make the event a success. Working together with these dedicated partners, the Pittsburgh Section is able to accomplish the mission of the NCW program; to communicate to the public positive messages about the contributions of chemistry to our quality of life.

**Submitted by V. Michael Mautino,  
NCW Coordinator**

## ACS Energy Technology Group

**Tuesday, January 15, 2013**

### ***"Regs, Rigs, Retrofits, and Retirements: An Evaluation of Factors Affecting the Future of Electric Power Generation from Coal and Natural Gas in the United States"***

**Dan Connell  
CONSOL Energy Inc.**

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

**Spaghetti Warehouse  
26<sup>th</sup> & Smallman Streets, Strip District, Pittsburgh PA  
Free parking behind the restaurant**

Dan Connell is a Research Engineer with CONSOL Energy Inc., where his work focuses on the environmental implications of fossil fuel production and utilization. He has substantial experience in the techno-economic analysis of energy systems, and he leads CONSOL's research on emerging water treatment technologies, carbon dioxide capture technologies, multi-pollutant control, and ambient air quality. Dan earned a B.S. in chemical engineering, summa cum laude, from the University of Notre Dame, and he is a member of the Electric Power Conference advisory board, the American Institute of Chemical Engineers, the Air and Waste Management Association, and Tau Beta Pi. He has authored or co-authored more than 40 journal articles and conference proceedings on air pollution and emissions control.

During the past several years, the U.S. Environmental Protection Agency has promulgated or proposed a number of regulations affecting coal-fired power plants, including the Mercury and Air Toxics Standards, Cross-State Air Pollution Rule, Carbon Pollution Standard for New Power Plants, Coal Combustion Residuals Rule, and standards for cooling water intake structures. At the same time, rapid growth in shale gas production has resulted in a sustained period of low natural gas prices and dramatically improved prospects for domestic natural gas supply. These developments, combined with an aging coal fleet and recent recession, have altered the outlook for coal- and gas-fired electricity generation in the United States. Already, coal's share of net generation has fallen from an annual average of ~50% in 1990-2010 to less than 40% in 2012, and generating companies have announced plans to retire about 30 GW of coal-fired capacity, with recent projections suggesting that total retirements could reach 50-80 GW by 2018. This presentation (1) reviews regulatory, economic, and technical factors affecting new and existing coal-fired power plants, (2) surveys announced unit retrofits and retirements, and (3) evaluates the impact of various retirement scenarios on coal and natural gas demand.

**For reservations, please contact Elliott Bergman at [elliott.acstechnology@gmail.com](mailto:elliott.acstechnology@gmail.com) by 1:00 on January 14. 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.



**MARK YOUR CALENDARS NOW  
FOR A  
"CAREERS IN CHEMISTRY"  
SYMPOSIUM**

**Saturday, January 26<sup>th</sup> from 9am-12pm**  
(Registration/Refreshments at 8:30am)

**Chevron Science Center / University of Pittsburgh**  
219 Parkman Avenue / Pittsburgh, PA 15260

**Cost: \$5**

(free for undergraduate WCC members and high school students)

This symposium will consist of 3 sessions focussed on facilitating the success of undergraduate students (also open to high school students):

- 1.) Jobs in Industry: panel will consist of women working in R&D, sales, business, and bench positions
- 2.) Jobs in Academia: panel will consist of women working in university faculty (primarily graduate), college faculty (primarily undergraduate), postdoctoral, and graduate positions
- 3.) Breakout Session focussing on preparation/applications/interviews for (a) those interested in industrial positions, (b) those interested in academic positions, or (c) high school students interested in majoring in chemistry

**Society for Analytical  
Chemists of Pittsburgh  
January Meeting Marshall  
Bio Continued from Page 3**

His major recognitions include: Fellow, American Physical Society, American Association for the Advancement of Science; Society for Applied Spectroscopy, and American Chemical Society; three American Chemical Society national awards (Chemical Instrumentation, Field-Franklin Award, and Analytical Chemistry Award); three Spectroscopy Society of Pittsburgh Awards (Hasler Award, Spectroscopy Award, and Analytical Chemistry Award); American Society for Mass Spectrometry Distinguished Contribution Award; International Society for Mass Spectrometry Thomson Medal; Chemical Pioneer Award from American Institute of Chemists, Eni Frontiers in Hydrocarbon Research Award, ABRF Award, and the William H. Nichols Medal of the ACS New York Section. He is a former President of the American Society for Mass Spectrometry, and serves on several editorial boards. He has published 4 books, 7 patents, and 562 refereed journal articles, and has presented more than 1,800 talks/posters at conferences, universities, government labs, and industry. His papers have been cited more than 23,000 times. Of his 120 former Ph.D.'s and post-docs, 33 have gone on to academic positions.

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## Society for Analytical Chemists of Pittsburgh

### February Meeting

Monday, February 4, 2013

8:00 PM

Duquesne University, Maurice Falk Hall

### "Measuring Immune Cell Response to Inflammatory Cytokines"

Christy L. Haynes, Ph.D., University of Minnesota

2012 Pittsburgh Conference Achievement Award Recipient

**Abstract:** Disruption of immune system function is manifested as a wide range of inflammatory diseases and is mediated by multiple cell types, including mast cells, T-cells, neutrophils and eosinophils. Each of these cell types receives input signals that determine how the cells change morphology, chemotax, or secrete inflammatory mediators. While understanding these processes would lend significant insight into treating inflammatory diseases, characterizing the cell responses is challenging based on the time scale of events as well as the complexity of the secreted species. Herein, multiple platforms and measurement methods are employed to characterize the behavior of primary culture mast cells and neutrophils in response to inflammatory cytokines. The methods employed include UPLC/MS/MS analysis of mast cell-secreted lipid mediators, single cell electrochemical measurement of mast cell-secreted small molecules, and microfluidic-enabled chemotaxis analysis of neutrophils. Taken together, these studies yield fundamental understanding of inflammation at the cellular level as well as significant insight into inflammatory conditions such as sickle cell disease and asthma.

**Biography:** Christy Haynes is an Associate Professor of Chemistry at the University of Minnesota. Haynes began her academic career with undergraduate work at Macalester College, followed by graduate work with Prof. Richard P. Van Duyne at Northwestern University. Her doctoral thesis, which focused on plasmonics and surface-enhanced Raman scattering, earned her significant recognition, including the Nobel Laureate Signature Award from the ACS. Haynes was a NIH NRSA postdoctoral fellow with Prof. R. Mark Wightman at the University of North Carolina, Chapel Hill, where she learned to perform single cell microelectrochemistry measurements in the context of inflammation and Huntington's disease. Haynes began her independent career in 2005 and has received numerous honors based on the work done by her group, including the Searle Scholar Award, a Camille and Henry Dreyfus Teacher-Scholar Award, a NIH New Innovator Award, and an Alfred P. Sloan fellowship, among others. She currently supervises 12 graduate students along with numerous undergraduate and postdoctoral mentees. Her group collaborates across many departments and universities to explore bioanalytical- and biomaterials-related research questions.

**Dinner Reservations:** Please email the SACP Administrative Assistant, Valarie Daugherty at [daugherty@pittcon.org](mailto:daugherty@pittcon.org) by Wednesday, January 30, 2013 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.

## Greater Pittsburgh Younger Chemists Committee



The Younger Chemists Committee (YCC) is a group within the American Chemical Society (ACS) that advocates for and provides resources to early-career chemists (under 35) and professionals in the chemical sciences and related fields in both academia and industry.

### January Meeting

January 31

6:30 pm

Room TBA

University of Pittsburgh

Ivan White from Synergy Fitness by Ivan will be presenting on fitness for graduate students and professionals.

**For meeting details and other upcoming events please see the ycc website at [www.pghycc.org](http://www.pghycc.org).**



The Greater Pittsburgh Area Women Chemists Committee will be hosting a NETWORKING POTLUCK MEETING on Monday, January 14<sup>th</sup>.

More information related to all WCC events can be found at the WCC website: [www.pitt.edu/~pghwcc](http://www.pitt.edu/~pghwcc)

## Organic Chemistry Workshops



The University of Pittsburgh Department of Chemistry, ACS Chemical Education Group, and Spectroscopy Society of Pittsburgh sponsored The Organic Chemistry Workshops - a series of Saturday lectures/labs in organic chemistry for high school students from 9 am to 12 pm on the following dates: Oct. 13, 20, 27 and Nov. 3. Twenty-six local high school students attended all 4 sessions. Drs. Bandik and Huston along with several undergraduate students taught lectures and labs. Students who completed all sessions will receive a certificate of completion and a molecular model kit.

*Photo provided by George Bandik*

### Ask an ACS Chemist

Do you remember being a student, and searching for an answer to a relatively simple question for a term paper, homework or maybe project of some sort? Rather than spending copious amounts of time perusing periodicals and journals, it would have been much easier to pose your question directly to someone who has expertise in the field, right? Well, there are many students now facing the same dilemma and ACS National would like you – the expert – to lend them a helping hand.

ACS National is launching a new program called “Ask an ACS Chemist”. Their Publications Division technical support for ACS journals receives roughly 10-15 science-related inquiries each week, typically from high school and undergraduate students. The questions are usually along the lines of:

- How does the microscopic method determine particle size?
- Which enzyme is inhibited by zinc in Alzheimer’s?
- What is chemical equilibrium?

Currently when they receive these questions, one of the staff members will direct them to a host of journals where the student may or may not find an answer. They would like to offer the students a more personal touch by funneling those questions to a collective of scientific professionals, such as yourself, and allowing you to share your expertise on the subject matter.

ACS National anticipates that this initiative will require very little commitment on your end; you may contribute as often as you choose. The format will be a forum of threaded posts in an ACS Network group to which you would be invited to join. You would then begin receiving the notifications as new questions are posted and can log in to view and/or comment where you feel comfortable. All they would need from you to participate is to send an email to [outreach@acs.org](mailto:outreach@acs.org) letting them know you are interested and they will invite you to join the Network group.

Just think how immensely such a modest connection between yourself and a student could impact their future in chemistry. Please consider participating! Any questions regarding this program should be directed to [outreach@acs.org](mailto:outreach@acs.org).

### Spectroscopy Society of Pittsburgh January Meeting Clemmer Bio Continued from Page 4

**Bio** - Professor Clemmer grew up in the southwest where he received a B.S. in Chemistry from Adams State College (1987) and a Ph.D. from the University of Utah (1992). He was a Japan Society for the Promotion of Science Fellow and did postdoctoral work at the Himeji Institute of Technology in Himeji Japan. He continued his postdoctoral work in Martin Jarrold’s laboratory at Northwestern University before joining the Chemistry faculty at Indiana University in 1995. From 2002 to 2006 he served as the chair of the Chemistry Department and he is currently the associate dean for the Natural and Mathematical Sciences.

Clemmer’s research involves the development of analytical methods for studying the structures of complex low-symmetry systems. His group is especially interested in measurements that allow rapid characterization of complex mixtures of biological molecules. Some of the methods have been commercialized and now are being used to address a range of scientific problems, including: elucidation of fundamental issues associated with how proteins fold and aggregate; characterization of the human proteome; and, assessment of molecules that may be used as markers for following specific disease states.

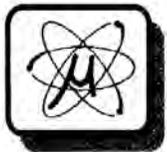
Professor Clemmer’s research group has published more than 175 papers and their work has been recognized with awards from the Sloan, Dreyfus, and National Science Foundations, the American Chemical Society, and the American Society of Mass Spectrometry. He is an AAAS and FRSC fellow. He was also a member of the Defense Science Study Group.

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### Spectroscopy Society of Pittsburgh

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



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# Business Directory

## Services

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## Services

### Volunteers Needed!

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

### Crucible Deadline

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

For example, all items for the February 2013 issue must be to the editor by January 1, 2013.

### 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

124 Moffett Run Rd.  
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## Change of Address

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

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

## Pittsburgh Area Calendar

### Monday, January 7

#### Society for Analytical Chemists of Pittsburgh

##### *"Petroleomics: Chemistry of the Underworld"*

Alan G. Marshall, Ph.D., Florida State University, 2012 Pittsburgh Analytical Chemistry Award Recipient  
Duquesne University, Maurice Falk Hall, Pittsburgh, PA

### Monday, January 14

#### Greater Pittsburgh Area Women Chemists Committee (WCC)

##### *Networking Potluck Meeting*

See Website for Location - [www.pitt.edu/~pghwcc](http://www.pitt.edu/~pghwcc)

### Tuesday, January 15

#### ACS Energy Technology Group, Pittsburgh Section

##### *"Regs, Rigs, Retrofits, and Retirements: An Evaluation of Factors Affecting the Future of Electric Power Generation from Coal and Natural Gas in the United States"*

Dan Connell, Consol Energy Inc.  
Spaghetti Warehouse, 26<sup>th</sup> & Smallman St., Strip District, Pittsburgh, PA

### Wednesday, January 16

#### Spectroscopy Society of Pittsburgh

Duquesne University - Mellon Hall (Laura Falk Lecture Hall)

#### Technology Forum

##### *"Medical Advances in the Civil War"*

George Wunderlich, Executive Director, National Museum of Civil War Medicine

#### Technical Program

##### *"Evolution of Protein Structure: From Solution to the Gas Phase"*

Dr. David Clemmer, Indiana University

### Saturday, January 26

#### Greater Pittsburgh Area Women Chemists Committee (WCC)

##### *"Careers in Chemistry Symposium"*

University of Pittsburgh, Chevron Science Center

### Thursday, January 31

#### Greater Pittsburgh Younger Chemists Committee (YCC)

##### *January Meeting*

University of Pittsburgh

### Monday, February 4

#### Society for Analytical Chemists of Pittsburgh

##### *"Measuring Immune Cell Response to Inflammatory Cytokines"*

Christy L. Haynes, Ph.D., University of Minnesota, 2012 Pittsburgh Conference Achievement Award Recipient  
Duquesne University, Maurice Falk Hall, Pittsburgh, PA

Additional chemistry related seminars and events in the Pittsburgh area can be found on the Pittsburgh Section's website at [www.pittsburghacs.org](http://www.pittsburghacs.org)