

The Crucible



<http://membership.acs.org/P/Pitt>

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February 2009

Pittsburgh Section Welcomes New Chair Nick Tsarevsky

The Pittsburgh Section of the American Chemical Society welcomes Nick Tsarevsky as 2009 Chair.

Nick received his Ph.D. in Chemistry from Carnegie Mellon University in 2005, and became a visiting assistant Professor until 2007 when he accepted the position of chief science officer at ATRP Solutions, Inc. He has been an ACS member for 10 years and has also been a member of the Society for History of Alchemy and Chemistry and the History of Science Society. He was actively involved in the Polymer group of the Pittsburgh Section of the ACS and was the group's secretary (2005) and chair (2006).



2009 Pittsburgh Section Chair, Nick Tsarevsky.

For years he has been interested in science education and has co-authored a textbook to help high school students prepare to participate in chemistry Olympiads and competitions, and he has also written scripts for educational TV programs shown on National TV in his native Bulgaria.

Nick is excited about the opportunity to work very closely with the numerous dedicated members, volunteers and officers of the ACS Pittsburgh Section and be its chair. The Section has been very active and consists of the Executive Committee, Councilors, 10 Standing Committees, 7 Groups, 12 additional Committees, The Crucible, and a Web Master. The Pittsburgh

Section recently received two major awards, namely a National Historic Chemical Landmark Award for the first oil refinery in the US, as well as the award for the first oil well. It is exciting to learn about and celebrate events of importance for chemistry and technology that were happening long ago in our back yards. We will be celebrating these events in the summer.

Nick will strive to make the Society more "visible" and to recruit more volunteers to participate in existing or even start new programs. He feels it is essential to involve the local teaching institutions (from high schools to graduate schools) in ACS. One of his goals for the year is to assist young chemists from the area to form a Younger Chemists Committee (YCC), which has been long overdue in Pittsburgh. Various outreach programs already exist in the area, and they

should certainly continue and be improved with the help and ideas of ACS members; many of these programs involve work with kids and high school students.

Nick is looking forward to working with all of you and to make the Pittsburgh section even better and stronger. Your suggestions, comments, and feedback will be of tremendous help and Nick is looking forward to hearing from ACS members throughout 2009.

**Thank You
Fu-Tyan Lin
for your service as
2008 Pittsburgh
Section Chair!**

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JOB SEARCHING FOR CHEMICAL TECHNICIANS

Presented by

The Society for Analytical Chemists of Pittsburgh
The American Institute of Chemical Engineers, Pittsburgh Section
The American Chemical Society, Pittsburgh Section
The Spectroscopy Society of Pittsburgh

Friday, February 6, 2009

Pre-Registration Required

Harbor Gardens, Student Services Area Conference Rooms
Bidwell Training Center, 1650 Metropolitan Street, Pittsburgh, PA 15233
412-323-4000

Free On Street Parking Is Available

PROGRAM

- 8:30 A.M. Registration
- 9:00 A.M. **MANAGING AN EFFECTIVE JOB SEARCH**
Daniel J. Eustace, Ph. D.
Career Consultant, American Chemical Society
- 11:30 A.M. **OVERVIEW OF THE LOCAL JOB MARKET**
Joseph D. Jolson, Ph. D.
Career Consultant, American Chemical Society
- 12:00 Noon **CLOSE**

Pre-Registration

Job Searching for Chemical Technicians Workshop

Send an email to:
Iesha Griffin (412-323-4000 Ext. 165)
at: igriffin@mcg-btc.org

Your pre-registration must be received by Tuesday, February 3, 2009 and include your full name and complete contact information including address, phone number and email address.



JOB SEARCHING FOR CHEMICAL PROFESSIONALS

Presented by

The Society for Analytical Chemists of Pittsburgh
The American Institute of Chemical Engineers, Pittsburgh Section
The American Chemical Society, Pittsburgh Section
The Spectroscopy Society of Pittsburgh

Saturday, February 7, 2009

Ashe Auditorium University Of Pittsburgh
219 Parkman Ave. (off Bigelow Blvd.)

Lunch and Parking at Soldiers and Sailors Parking Garage Provided
Pre-Registration Required

PROGRAM

- 8:30 A.M. Registration
- 9:00 A.M. Welcome and Introduction
- 9:30 A.M. **MANAGING AN EFFECTIVE JOB SEARCH**
Daniel J. Eustace, Ph.D.
Career Consultant, American Chemical Society
- 12:10 P.M. **OVERVIEW OF THE LOCAL JOB MARKET**
Joseph D. Jolson, Ph. D
Career Consultant, American Chemical Society
- 12:30 P.M. Networking Lunch
- 1:00 P.M. Resume Review, Personal Consultation, and Local Job Opportunities
- 4:00 P.M. Close

Bring your parking ticket for validation and your resume to participate in the afternoon program

Pre-Registration

Job Searching for Chemical Professionals Workshop
Send an email to Professor Toby Chapman
at: tchapman@pitt.edu

Your pre-registration must be received by Tuesday, February 3, 2009 and include your full name and complete contact information including address, phone number, email address and whether or not you expect to participate in the resume review. Academic registrants - please include university affiliation and university department. Let us know when you expect to complete your B.S., M.S., Ph.D., post-doc, or other assignment.



Society for Analytical Chemists of Pittsburgh



February Meeting

8:00 PM

Duquesne University, Laura Falk Hall

Monday, February 2, 2009

“New Technologies for Biomolecular Analysis: Surfaces Meet Mass Spectrometers”

Lloyd Smith, Ph.D.

University of Wisconsin-Madison

Abstract: Two of the most powerful platforms in modern bioanalytical chemistry are surfaces (as in DNA, protein, carbohydrate, cell, and small molecule arrays) and mass spectrometry. Although both platforms routinely provide invaluable molecular information not accessible by any other means, both are also characterized by significant limitations. In this presentation recent work from our laboratory will be presented, in which we seek to address these issues, extend the performance and versatility of the platforms, and to develop the synergies between them. Topics to be addressed include: the development of carbon-based substrates and attachment chemistries for greatly increased surface stability, permitting novel applications such as combinatorial chemistry with label-free detection on surfaces; studies using acoustically levitated microdroplets as MS ion sources; and new approaches to address the chronic problem of ionization suppression in mass spectrometry.

Biography: Lloyd M. Smith is Professor of Chemistry and Director of the Genome Center at the University of Wisconsin-Madison, where he has been since 1988. He received an A.B. degree in Biochemistry from the University of California at Berkeley (1977) and a Ph.D. in Biophysics from Stanford University (1981). In 1982 he moved to the California Institute of Technology, where he developed the first fluorescence-based automated DNA sequencing instrument. He has been named one of Science Digest's Top 100 Innovators and has received the Presidential Young Investigator Award, Eli Lilly Analytical Chemistry Award, Association of Biomolecular Resource Facilities Award for the development of automated DNA sequencing, American Chemical Society Award in Chemical Instrumentation, and is the John D. MacArthur Professor of Chemistry. He has served in the past on the NIH National Human Genome Research Institute Advisory Council and the NIH Human Genome study section, and currently serves on the NIH Instrumentation and Systems Development study section. He is an author of 193 scientific papers and inventor on 23 issued U.S. patents. He is a cofounder of three biotechnology companies, Third Wave Technologies, GenTel BioSciences, and Apartia Pharmaceuticals. Third Wave Technologies was recently acquired by Hologic for \$580M. He served for many years on the Board of Directors of two public companies (Visible Genetics and Third Wave Technologies) and presently serves on the Board of Directors of three private companies, GWC Technologies, GenTel BioSciences, and Apartia Pharmaceuticals. He also serves as chair of the Scientific Advisory Board for GenTel BioSciences. His primary area of research is in the development of new technologies for the analysis and manipulation of biomolecules.

Dinner Reservations: Please email Larry Senor, Arrangements Co-Chair at senor@pittcon.org, by Thursday, January 29, 2009 to make dinner reservations. Should you not have email, please call Larry at 724-327-4428. Dinner will cost \$8 (\$4 for students) and checks can be made out to the SACPA. If you have any dietary restrictions, please let Larry know when you leave message.

Parking: Duquesne University Parking Garage entrance is on Forbes Avenue. Upon entering the garage, receive parking ticket and drive to upper floors. Pick up a parking sticker at the dinner or meeting. Please contact Dr. Mitch Johnson at Duquesne University if any difficulties arise.



SPECTROSCOPY SOCIETY OF PITTSBURGH



February Meeting: Wednesday, February 18, 2009

Duquesne University, Mellon Hall of Science
(Laura Falk Hall)

6:00 PM - Social Hour, 6:30 PM - Dinner
(City View Cafe - 6th Floor)
8:15 PM - Technical Program

“Development of UV Raman Spectroscopy for Incisive Investigations of Simple Questions in Complex Systems: Can We Study the Reaction Coordinate in Protein Folding”

Dr. Sanford Asher, University of Pittsburgh

We developed a powerful method to follow the evolution of secondary structure in the amide peptide bonds of peptides and proteins. UV Raman excitation into these ~200 nm electronic transitions results in the enhancement of the amide vibrations of the peptide backbone. In our most recent studies we reassigned the amide III region and found a particular band (the amide III₃ band) which reports selectively on the Ramachandran ϕ angle and the state of peptide bond hydrogen bonding. We demonstrate that this band is Raman scattered independently by each peptide bond with insignificant coupling between peptide bonds. We also show that isotope editing of a peptide bond (by replacing the C¹³-H with C¹³-D) allows us to determine the frequency of an individual peptide bond within a peptide or protein which gives us its ϕ angle. Consideration of the Boltzmann equilibria allows us to determine the ϕ angle energy landscape which connects secondary structure conformations. The ϕ angle coordinate is the most important reaction coordinate required to enable the understanding of the mechanism(s) of protein folding.

Bio Sanford A. Asher, Distinguished Professor of Chemistry at the University of Pittsburgh received his B.A. in chemistry at the University of Missouri, St. Louis in 1971 and completed his Ph.D. in chemistry at the University of California, Berkeley in 1977. Dr. Asher was a Research Fellow in Applied Physics at Harvard University between 1977 and 1980. In 1980 he became Assistant Professor of Chemistry at the University of Pittsburgh. Dr. Asher's research program at Pitt has involved development of new materials and the development of new spectroscopic techniques. His group developed UV resonance Raman spectroscopy as a new technique for fundamental and applied structural and trace studies of molecules in complex matrices. His group is using UV resonance Raman to examine the first stages in protein folding. In addition, Dr. Asher's research group develops new photonic crystal optical devices and chemical sensing devices from self-assembling colloidal particles.

Dr. Asher has received numerous awards. He is the recipient of the Pittsburgh Spectroscopy Award which will be awarded at the 2008 PittCon meeting in New Orleans. He also became a Fellow of the Society of Applied Spectroscopy in 2007, received the Sigi Ziering Award from the American Society of Clinical Chemistry (2005), The University of Missouri - St. Louis Distinguished Alumni Award (2004), the ACS Pittsburgh Award (2002), the Ellis R. Lippincott Award from the Optical Society of America (2002), the Pittsburgh Technology Council EnterPrize Award (2000), the Coblenz Society's Bomem-Michelson Award (1999), the Society for Applied Spectroscopy's Lester W. Strock Award (1998), the University of Pittsburgh's Chancellor's Distinguished Research Award (1996), the American Chemical Society Award in Spectrochemical Analysis (1994), the American Heart Association Established Investigator Award (1984) and an NIH Career Development Award (1984).

Professor Asher served as the Co-Director of the Materials Research Center of the University of Pittsburgh. He was the Chairman of the XV International Conference on Raman Spectroscopy held in Pittsburgh in 1996. He is Scientific Founder and Chairman of the Scientific Advisory Board of the startup company, Glucose Sensing Technologies, LLC., and is on the Scientific Advisory Boards of BioTools Inc. and Crystalplex Co. He consults for companies such as PPG Industries, ChemImage Corporation and Glucose Sensing Technologies, LLC.

He is the author of greater than 200 publications and has authored over twenty patents in the area of photonic crystals.

Dinner Reservations: Please email Carolyn Benga at crbssp@yahoo.com or call (412) 487-0915 to make dinner reservations NO LATER THAN FRIDAY, February 16, 2009. This month's entrée will be Grilled Sea Bass with an Orange-honey Tomato Sauce served with Long Grain and Wild Rice Pilaf and Glazed Baby Carrots. Baby Spinach Salad with Bacon and Red Onion will start the meal, and Key Lime Pie will be served for dessert. Dinner will cost \$8 and checks can be made out to the SSP. If you have dietary restrictions, please let Carolyn know 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. If any difficulties arise, contact Dr. Mitch Johnson at Duquesne University.



February Meeting Wednesday, February 18, 2009

“Fireworks: Principals and Practices”

Gregg S. Smith
American Pyrotechnics Association

Bio

Gregg S. Smith has been involved in the Fireworks display industry for over 30 years. Smith has been the Safety Program Manager for the American Pyrotechnics Association since October 2003. Previously, Smith worked for Vitale Fireworks and Manufacturing of New Castle, PA from 1975 to 1990 as lead technician and plant manager, overseeing manufacturing, safety and training programs. From 1991 to 1995 Smith worked as the lead technician for various other fireworks display companies. Mr. Smith also acted as the Safety Manager for Pyrotecnico, S. Vitale Pyrotechnic Industries, Inc. from 1996 to 2003.

In October of 2003, Smith left Pyrotecnico to serve as Safety Program Manager for the American Pyrotechnics Association in Bethesda, MD where he works closely with Executive Director Julie L. Heckman, APA member companies and committees, ATF, DOT, OSHA, EPA, and Homeland Security. This position requires Smith to travel to Washington, DC at least 2 times a month to handle issues that affect the fireworks industry in North America. Smith continues to serve as an alternate to Julie Heckman on the NFPA Technical Committee on Pyrotechnics as he has since 2005.

Smith travels all over the USA training and supporting APA member display and consumer companies as well as local, state and federal regulatory officials about fireworks safety procedures and regulations. Over 30 years of experience working in the professional fireworks industry and firing over 800 fireworks displays in over 30 states and internationally has given Smith the wealth of experience, knowledge and expertise to effectively train the APA's membership of over 275 companies, the fire service and all federal regulating agencies.

ACS Scholars Program Accepting Applications for the 2009-2010 Application Year

We are pleased to announce that the American Chemical Society (ACS) Scholars Program is receiving applications for the 2009-2010 academic year. The ACS Scholars Program is currently in its fourteenth year of funding authorization by the Society's Board of Directors.

The scholarship is designed to encourage the best and the brightest African-American, Hispanic, and Native American students to pursue undergraduate college degrees in the chemical sciences.

- To date the American Chemical Society has awarded over \$10.8 million in scholarships to more than 1990 deserving undergraduates and has an 80% retention rate..

- The program identifies mentors for our Scholars.

- As of this calendar year 47 of our program graduates have obtained a Ph.D. and another 170 are confirmed to be enrolled in Ph.D. programs. More than 300 are enrolled in or have completed a Masters Degree program.

- Our graduates are employed by Procter & Gamble, DuPont, Xerox, 3M, Johnson & Johnson, Kimberly Clarke, ExxonMobil, Merck Pharmaceuticals, and many other top corporations.

- Others have become faculty members at universities or are teaching chemical science at the high school level.

The American Chemical Society Scholars Program will award approximately 100 scholarships to undergraduate students interested in four-year degrees in the chemical sciences; those interested in transferring from two-year colleges to four-year colleges to pursue chemical science degrees; and to two-year students intending to pursue degrees in chemical technology. High school seniors who will be entering college are also eligible. The scholarship is valued

Continued on Page 7

ENERGY TECHNOLOGY GROUP

Pittsburgh Section,
American Chemical Society

**Wednesday
February 18, 2009**

More Restaurant
214 North Craig Street
Oakland Section of Pittsburgh, PA

5:30 pm
Cocktail Time - Cash Bar
6:00 pm Dinner
7:00 pm Program

“Sizing Up Alternative Fuels Slowing Down the Spin”

John J. Marano, Ph.D.
JM Energy Consulting, Inc.

Abstract

Deja vu, every twenty or thirty years our country becomes excited over the prospect of alternatives to petroleum. Is this time different from the last? What can we learn from our past experiences? Are we running out of oil and can we solve global problems associated with our addiction to oil? What are the options: biofuels, coal fuels, shale oil,...? Some claims by technologists seem too good to be true. Are they? This presentation will address these issues and much more.

Dr. Marano is an engineering consultant specializing in process modeling, simulation and optimization of energy and environmental systems. Prior to starting his consulting practice in 2003, he worked in the oil and gas industry and as a contractor for the U.S. Department of Energy. His current activities are focused on the assessment of conventional and alternative transportation fuels, advanced power generation systems, and carbon sequestration technologies. His clients include DOE's National Energy Technology Laboratory, National Renewable Energy Laboratory, Energy Information Administration and Energy Policy Office. Dr. Marano holds a Ph.D. degree in Chemical Engineering from the University of Pittsburgh, where he is an adjunct faculty member. His M.S. and B.S. degrees in Chemical Engineering are from the University of Toledo.

For Reservations, please call Al Mann by Monday February 16, 2009 at 412-661-5947 or by e-mail at alfred.mann@verizon.net

ACS Scholars Program Continued from Page 6

at up to \$2500 per academic year for freshmen, and up to \$3000 per academic year for sophomores, and up to \$5000 per academic year for juniors and seniors.

Our Web Site (www.acs.org/scholars) contains additional information about the program and provides access to our on-line application form as well as downloadable application documents. The application postmark deadline is March 1, 2009.

A number of corporations and other organizations have joined with the ACS to co-sponsor students in this scholarship program. A student selected to be the recipient of a corporate award may have the added opportunity for a summer internship. Mentoring is considered essential for students in the chemical sciences and the Society offers mentoring support.

If you have any questions about the application process, please call 1-800-227-5558 (ext. 6250) or send an email to scholars@acs.org.

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**Society for
Analytical Chemists
of Pittsburgh**

March Meeting

The SACP will not be meeting in March due to Pittcon® 2009.

The Conference and Exposition will be held in Chicago, IL
March 8 - March 13, 2008

ACS Pittsburgh Chemists Club

Pittsburgh Section, American
Chemical Society

February Meeting

Luncheon Meeting

Tuesday, February 24, 2009

12:00 Noon

Lunch: The Spaghetti Warehouse Restaurant on 26th & Smallman St

Cost: \$15

1:30 pm

Guided Tour-Heinz History Center between 12th & 13th on Smallman St.

Program: A Tradition of Innovation in celebration of Pittsburgh's 250th year.

Cost: \$8

In celebration of Pittsburgh's 250th anniversary, the History Center's newest exhibition, Pittsburgh: A Tradition of Innovation, celebrates our region's incredible impact on the world. The new 16,000 square-foot exhibit features activities and displays to help tell Pittsburgh's definitive story and to celebrate our historic accomplishments all the way through our 21st century role as a leader in medicine, higher education, and robotics.

For Reservations, please call Ed Martin by noon Tuesday, February 10, 2009 at (724) -335 -0904 or by e-mail at edwardmartin1046@verizon.net

Please note early reservation deadline: Tuesday, February 10, 2009

Mini-Grants Available for Collaborative Activities

Proposals are being sought for Equipping the 2015 Chemical Technology Workforce mini-grants. Up to \$500 will be awarded to collaborative activities that support technician education and career development.

Equipping the 2015 Chemical Technology Workforce has three goals:

- 1) Raise awareness of the changing needs of chemical technicians, operators, analysts, and other applied chemical professionals.
- 2) Highlight opportunities for industry, academia, professional societies, and the community to collaborate on meeting those needs
- 3) Increase involvement of applied chemical professionals in the American Chemical Society

To qualify for a mini-grant, one or more sectors of the chemical enterprise (industry, academia, professional organizations, etc.) must collaborate on the activity. Activities must also support one or more of the goals of Equipping the 2015 Chemical Technology Workforce and take place in the 2009 calendar year.

The deadline for proposals is 20 February 2009.

To learn more about Equipping the 2015 Chemical Technology Workforce and the mini-grants, to get ideas for activities, or to gather information about the chemical technology profession in today's marketplace, please visit the Equipping the 2015 Chemical Technology Workforce website (go to www.acs.org and follow the path, Funding & Awards > Grants > Chemical Technology Partnership).

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November/December 2008*



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This Month in Chemical History

Although I was born in London, England, my most formative years were spent in Sussex, in the twin towns (now unified) of Brighton and Hove. I have enjoyed cooking since my graduate student days at Cambridge; a group of us would gather on Sunday evenings to enjoy a home-cooked meal with the responsibility for its preparation rotating among the group members. Later in life, I became quite interested in baking bread, a pursuit I continue to this day, and I regularly prepare home-baked bread for my family. And what, you may ask, has all this to do with the history of chemistry? Well, it explains why I recently purchased a book published in 1886.

This volume, deaccessioned [no hyphen per Webster's] from the public library of the city of Cincinnati, is titled *The Chemistry of Wheat, Flour, and Bread: and Technology of Breadmaking*. [is that the correct title? I googled it, and other variations Jago's book came up, but not that title] The author is William Jago, Analytical and Consulting Chemist, Headmaster, Science Schools, Brighton [England], and it was self-published by William Jago of Springfield Road, Brighton. The Open University's biographical database of the British chemical community is informative about Mr. Jago. He was born in 1854 in Cornwall and died in 1938 in Hove. At the Royal School of Mines, he studied under the distinguished British chemist Edward Frankland. He became an Associate and then a Fellow of the Institute of Chemistry, and later in life, at the age of 50, became a Barrister. He was head of the Department of Science at Brighton College (a public school) and a teacher at the Brighton School of Science and Art (a technical college). He was a friend of Magnus Volk, a local inventor who built the first electrically powered train line in Britain

(it still runs along the Brighton sea-front), and the first telephone line in Brighton that connected the houses of Jago and Volk.[as meant?] Jago was also the author of *Inorganic Chemistry: Theoretical and Practical*, one of Longmans, Green and Co. Elementary Science Manuals, the 10th edition of which appeared in 1889.

The Chemistry of Wheat, Flour, and Bread was considered as sufficiently significant when it was published to receive a substantial, and generally favorable, review in *Nature* (Sept. 30, 1886), though the reviewer urged the author to employ pruning shears if the work went to a second edition. It is bulky, running to 465 closely printed pages. It is based in part on a lecture by Jago to the Annual Meeting of the National Association of British and Irish Millers, which was followed by a series of articles requested by the Editor of the *Millers' Gazette*. Sixty-four (!) of these articles appeared, and then Jago revised them into the book. It was intended for students studying in Applied Chemistry Departments specializing in milling and baking, and for those studying for technological examinations of the City and Guilds of London Institute. In addition to the topics that I will outline later, it does include some original research by Jago on yeasts and fermentation.

In looking over Jago's magnum opus CWFB (if I may so abbreviate its lengthy title), it strikes me that the *Nature* reviewer was unduly harsh, perhaps being misled by the book's title. Jago's intent is clear from the book's contents. He begins by writing three substantial chapters on, respectively, an introduction to the science of chemistry, the chemical elements and their inorganic compounds, and organic compounds. Thus the beginning of the text can be seen as either a refresher

course in chemistry, or even a self-contained brief introduction to the science. Chapter 4 on the microscope and polarized light is the first chapter that is specific to the book's title. I conclude this first of two columns on this interesting book with some comments on inorganic chemistry. Jago is a firm believer in the reality of chemical atoms, and he includes a table of "Combining or Atomic Weight" values, somewhat blurring over the idea of chemical equivalents. Included in this table are also values of the atomicities of elements, what we would term their maximum valencies. Somewhat unexpected, to me at least, is the complete absence of any reference to the Periodic Law and the Periodic Table, which many chemistry texts of even a decade earlier were including as a useful device for organizing inorganic chemistry.

Harold Goldwhite, California State University, Los Angeles
hgoldwh@calstatela.edu

*ACS Cut and Paste
November/December 2008*

ACS 237th National Meeting Salt Lake City, Utah

On January 12, 2009, registration opened for all attendees to register for the ACS 237th National Meeting to be held in Salt Lake City, UT, March 22-26, 2009. Early registration fees started on January 12, 2009, and will last through February 23, 2009.

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<http://membership.acs.org/P/Pitt>

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Services

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 March 2009 issue must be to the editor by February 1, 2009.

The Crucible

The *Crucible* is published monthly, August through May. Circulation, 3,000 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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Pittsburgh Area Calendar

February

- Mon. 2 **Society for Analytical Chemists of Pittsburgh (SACP)**
Duquesne University, Laura Falk Hall
“New Technologies for Biomolecular Analysis: Surfaces Meet Mass Spectrometers”
Lloyd Smith, Ph.D., University of Wisconsin-Madison
- Fri. 6 **Job searching for Chemical Technicians**
Harbor Gardens, Student Services Area Conference Rooms, Bidwell Training Center
- Sat. 7 **Job searching for Chemical Professionals**
Ashe Auditorium, University of Pittsburgh
- Wed. 18 **Spectroscopy Society of Pittsburgh Technology Forum**
Duquesne University, Mellon Hall of Science, Laura Falk Hall
“Fireworks: Principals and Practices”
Gregg S. Smith, American Pyrotechnics Association
- Wed. 18 **Spectroscopy Society of Pittsburgh**
Duquesne University, Laura Falk Hall
“Development of UV Raman Spectroscopy for Incisive Investigations of Simple Questions in Complex Systems: Can We Study the Reaction Coordinate in Protein Folding”
Dr. Sanford Asher, University of Pittsburgh
- Wed. 21 **Energy Technology Group**
More Restaurant
“Sizing Up Alternative Fuels Slowing Down the Spin”
John J Marano, Ph.D., JM Energy Consulting Inc.
- Tue. 24 **Chemists Club**
Luncheon Meeting - The Spaghetti Warehouse and The Heinz History Center
“A Tradition of Innovation in Celebration of Pittsburgh’s 250th Year”

Additional chemistry related seminars and events in the Pittsburgh area can be found on the Pittsburgh Section’s website at <http://membership.acs.org/P/Pitt>

The Crucible

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