

The Crucible

<http://www.chem.cmu.edu/acs-pgh/>

Volume: XCVI No.5

January 2011

The Pittsburgh Section ACS Welcomes 2011 Chair Heather Juzwa



The Pittsburgh Section ACS is pleased to welcome Heather Juzwa as the 2011 Chair.

Heather is a Field Sales Engineer at Shimadzu Scientific Instruments and

has been since October of 2006. She graduated from the University of Pittsburgh in 2000 with an honors bachelors' degree in Chemistry. While performing undergraduate research with Dr. Paul Rasmussen, she created alternative experiments for the undergraduate Instrumental Analysis laboratory.

Having a passion for instrumentation, she was hired by Hitachi Instruments upon graduation. Heather has also held a position at Digilab, a division of Bio-Rad, which was subsequently purchased by Varian.

Heather's service to the field of chemistry began as an undergraduate and has continued throughout her career. She served as the Secretary of the American Chemical Society - Student Affiliates while a senior at the University of Pittsburgh and has remained in the ACS since then.

During her senior year at the University of Pittsburgh, she was a student vol-

unteer in the Employment Bureau at Pittcon. Also during college, Heather became a Society of Analytical Chemists of Pittsburgh student member and has remained an active member to this day. She re-joined the Spectroscopy Society of Pittsburgh in 2008 and has served on several committees for both groups, including the Mass Spec Discussion Group, Technology Forum, Technical Program, Membership and Directory, Student Affiliates, Employment, Continuing Education, Tripartite Symposium, Carnegie Science Fair, and Faraday Lecture Series. In 2008, she became the Treasurer of the Pittsburgh Section ACS' newly formed Younger Chemists Committee.

In serving as the Chair of the ACS Heather hopes to continue and expand her service to the field of chemistry and to foster a collegial community for Pittsburgh's scientists.

Pittsburgh Section ACS Election Results

Chair-Elect: Michelle Muscatello

Secretary-Elect: Fu-Tyan Lin

Directors: Toby Chapman & Joseph Jolson

Councilor: Jim Manner

Alternate Councilor 1: Rob Mathers

Alternate Councilor 2: Michelle Coffman

'Friend Us'

The ACS Local Pittsburgh Section now has its own Facebook and LinkedIn Pages. Be sure to join to stay current with section happenings!

Facebook Page:
ACS Pittsburgh

LinkedIn:
Pittsburgh Local Section ACS

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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 4, 2011

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

To Pre-Register for the Job Searching for Chemical Technicians Workshop

Send an email to Iesha Griffin (412-323-4000 Ext. 165)

at:

igriffin@mcg-btc.org

Your email must include your full name, complete contact information including address,
phone number and email address.



Society for Analytical Chemists of Pittsburgh



January Meeting

Monday, January 10, 2011

8:00 PM

Duquesne University, Laura Faulk Hall

“NMR and Cell Membrane”

Megan Spence, Ph.D.

University of Pittsburgh

We are developing new magnetic-resonance based imaging techniques to directly observe lipid domains in the cellular membrane. Lipid domains are hypothesized to play an important role in the organization of proteins in the membrane, actively orchestrating protein-protein interactions by sequestering particular membrane proteins while shunning others. Medical research shows an important role for lipid rafts in the progression of Alzheimer's disease and in HIV infection. Despite an abundance of indirect evidence for lipid domains in biological systems, lipid domains in cells have proven too small for optical detection with fluorescence microscopy. New imaging techniques are critical to understand the active role that lipid domains might play in biology and medicine.

In our work, we combine magnetic-resonance imaging (MRI) techniques with solid-state nuclear magnetic resonance (NMR) to measure the diffusion of lipids within the membrane. When domains are present, we observe a marked slowing in the apparent diffusion rate of the lipids confined within the domains. By measuring the time-dependence of the diffusion, we can theoretically measure the size of the domains as small as 100 nm, well below the ~300 nm diffraction-limit of optical microscopy. We take advantage of the non-invasive nature of magnetic resonance to measure diffusion in intact membranes. In addition, by detecting the protons present on the native lipids themselves, we do not rely on introducing molecular labels like fluorescent dyes.

The structural models for lipid domains in cells are based on the domains observed in model membranes (purified lipid mixtures). Although micron-scale lipid domains in model membranes are easily observed with optical microscopy, lipid domains in cells have never been directly imaged, and are thought to be too small for optical resolution (~10-200nm.) The discrepancy between model and cellular membranes is an open mystery. We are currently employing our imaging techniques to examine the structural difference between model and cellular membranes, and how these structural differences (curvature, membrane proteins, cytoskeleton) affect the formation and sizes of domains. In recent work we have demonstrated that introducing perforations to a model membrane modulates the formation of lipid domains, a novel demonstration of how membrane morphology can change the phase behavior of domains.

Biography: Dr. Megan Spence is an Assistant Professor in the Chemistry Department at the University of Pittsburgh. She joined the University of Pittsburgh in 2005. Dr. Spence completed an A.B. in Chemistry at Dartmouth College in 1998 and received her Ph.D. in Chemistry from the University of California Berkeley in 2002. Dr. Spence was a Postdoctoral Research Fellow at the Eidgenössische Technische Hochschule in Zürich, Switzerland 2002-2005.

Dr. Spence has received numerous professional honors including: National Science Foundation Early Career Award 2009; Ralph E. Powe Junior Faculty Enhancement Award, Oak Ridge Associated Universities 2007; Eli Lilly Analytical Award for New Faculty 2007; NSF mathematical and physical sciences distinguished research fellow, 2003-2005.

Dr. Spence's laboratory is developing new magnetic resonance-based imaging techniques to directly observe lipid domains in the cellular membrane. Lipid domains are hypothesized to play an important role in the organization of membrane proteins, actively orchestrating protein-protein interactions by sequestering particular membrane proteins while shunning others. Medical research shows an important role for lipid rafts in the progression of Alzheimer's disease and in HIV infection. Although an abundance of indirect evidence supports the importance of lipid domains in biological systems, lipid domains in cells have proven too small for optical detection with fluorescence microscopy. New imaging techniques are critical to understanding the active role that lipid domains might play in biology and medicine.

Dinner Reservations: Please email the SACP Administrative Assistant, Valarie Daugherty at daugherty@pittcon.org by Wednesday, January 5, 2011 to make a dinner reservation. 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. Contact Duquesne University if any difficulties arise.



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 5, 2011

Pre-Registration Required

**ASHE AUDITORIUM UNIVERSITY OF PITTSBURGH
219 Parkman Ave. (off Bigelow Blvd.)**

Parking at Soldiers and Sailors Parking Garage Provided. Lunch Provided.

PROGRAM

- 8:30 A.M. Registration
- 9:00 A.M. Welcome and Introduction
- 9:00 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 and Personal Consultation
- 4:00 P.M. Close

Bring your parking ticket for validation and your resume to participate in the afternoon program
(Undergraduates without a resume may participate in the afternoon group resume review)

To Pre-Register for the Job Searching for Chemical Professionals Workshop

Send an email to Mr. John P. Auses at:
jpauses@pitt.edu

Your pre-registration must be received by Tuesday, February 1, 2011 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.



SPECTROSCOPY SOCIETY OF PITTSBURGH



January 19, 2010

Duquesne University - Pappert Hall (in the Bayer Learning Center)

8:15 PM - Technical Program

“Novel Nanorod Array Substrates as a Platform for SERS-Based Biosensing of Infectious Disease”

Dr. Richard Dluhy

Department of Chemistry, University of Georgia, Athens, GA

Development of diagnostic methods for rapid and sensitive identification of viruses and other biomedical pathogens is essential for the advancement of therapeutic and intervention strategies necessary to protect public health. Current diagnostic methods for viruses in particular, e.g. isolation, PCR, antigen detection and serology, are time-consuming, cumbersome, or lack sensitivity. We have investigated the use of aligned Ag nanorod arrays, prepared by oblique angle vapor deposition (OAD), as surface-enhanced Raman scattering (SERS) substrates for the identification and classification of viral pathogens. The OAD method of substrate preparation facilitates the selection of nanorod size, shape, density, alignment, orientation, and composition, while the procedure is reproducible and relatively simple to implement. The current talk will address aspects of the fundamental nanostructural design of metallic nanorod arrays and their influence on SERS enhancement, as well as the development of a spectroscopic assay for virus detection based on these unique nanostructured SERS probes. We will also present results of multivariate statistical analyses on the SERS spectra of different pathogens that indicate it is possible to identify, differentiate and classify viruses and other biomolecules based on their intrinsic SERS spectra, even down to the individual strain level.

Bio: Richard Dluhy received his PhD in physical chemistry from Rutgers University in 1983. He was a Post-Doctoral Research Associate in the Division of Chemistry at the National Research Council of Canada, Ottawa, and a Senior Research Scientist at Battelle Memorial Institute, Columbus, Ohio. Since 1990 he has been a Professor in the Department of Chemistry at the University of Georgia. He has been the Director of the UGA NanoScale Science and Engineering Center, a Visiting Professor at the University of Bordeaux, and an Alexander von Humbolt Visiting Scientist at the Max Planck Institute. His research interests are in bioanalytical and biophysical chemistry, with particular interest in the use of vibrational spectroscopy for surface and interfacial analysis.

Dinner Reservations: Please register on-line at <http://www.pittcon.org/misc/societies/ssprsvp.php> or call (412) 825-3220 ext 212 to make dinner reservations NO LATER THAN FRIDAY, January 14, 2011. This month's entrée is Mojito Crusted double lamb chop w/ citrus glaze. Dinner will cost \$8 and checks can be made out to the SSP. If you have 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. Contact Duquesne University if any difficulties arise.

Spectroscopy Society of
Pittsburgh

Technology forum

Wednesday, January 19, 2011

Duquesne University
Pappert Hall in the Bayer
Learning Center
5:30 p.m.

“Nonverbal Communication: The Hidden Message”

Dr. Bill Acheson

Department of Communication,
University of Pittsburgh

Personal Power. Rapport. Deception.

Learn how we communicate both emotional and relationship messages through body language. We examine professional and social settings to learn how people use time, space, appearance, posture, gesture, voice, facial expression, eye contact, touch, silence, and even smell to communicate both conscious and subconscious messages. Special attention is given to gender differences and how they may account for some forms of misunderstanding.

Bio: Bill Acheson is an expert in nonverbal communication. As a faculty member of the Department of Communication at the University of Pittsburgh for over 20 years and as a professional speaker since 1994, Bill has spoken to hundreds of thousands of people across the United States about how to use body language to communicate more effectively.

From the classroom to the courtroom to the conference room, Bill has worked with professionals who want to improve their bottom-line performance. Find out what employees from American Century, Ameriprise, Bank of America, EdwardJones, Ernst & Young, Ivy Funds, Jackson National, Legg Mason, Merrill Lynch, Met Life, MorganStanley SmithBarney, Nationwide, Sun Life, TransAmerica, Wells Fargo, United States Coast Guard, and the U.S. Army have already discovered. It's not just what you say; it's how you say it.



Society for Analytical Chemists of Pittsburgh



February Meeting

Monday, February 7, 2011

8:00 PM

Duquesne University, Laura Faulk Hall

“New Analytical Approaches to Address Emerging Food Safety Issues”

Steven Musser, Ph.D.

U.S. Food and Drug Administration (FDA)

In the last several years there have been numerous high profile cases of foods contaminated by a variety of both known and previously unknown chemical hazards. As a result, the scientific community has been faced with developing innovative, new methods and approaches to identifying, tracking and removing harmful products from the food supply before they become a public health problem. However, determining the presence of contaminants in regulated food and cosmetic products is a often a complex, time consuming process, that is compounded by changes in the manufacturing processes, variability among food matrices and often very short shelf lives of foods. Also, as new hazards are identified, there is increasing pressure to share information about the contaminant, making correct identification and accurate measurement extremely important to public communication of the risks associated with the hazard.

Improving our analytical capabilities to directly address these areas would significantly advance our ability to prevent public health emergencies. Thus, we have focused much of our efforts on developing new, mass spectrometric approaches to solving these problems. This is largely due to several key advantages of this technology including, a high degree of sensitivity, unmatched specificity, and more importantly, the ability to measure multiple analytes in a single analysis. The selection and application of appropriate screening paradigms, based on mass spectrometry, could revolutionize food testing by dramatically improving the throughput and accuracy in which hazards are identified. A summary of laboratory based applications of these approaches, along with some of the problems which need to be overcome, will be discussed.

Biography: Dr. Musser is currently the Director of the Office of Regulatory Science at the U.S. Food and Drug Administration’s (FDA) Center for Food Safety and Applied Nutrition (CFSAN). In this role, he oversees an extensive research portfolio supporting a number of priority food and cosmetic programs, including counter-terrorism, dietary supplements, foodborne pathogens, chemical contaminants and natural toxins. He has directed the Center’s research in precedent setting areas of food safety research, which include food allergen detection, methods for detecting chemical contaminants, dietary supplement analysis, and the use of proteomics for microbial epidemiology and classification. He has published numerous articles in the peer reviewed scientific literature and regularly speaks on research topics at national and international scientific meetings. Dr. Musser is a member of both the American Chemical Society and the American Society for Microbiology, along with several other professional societies.

Dr. Musser received his B.S. degree in Biology from Millersville University and his Ph.D. in Medicinal Chemistry from the University of Maryland-Baltimore in 1989. He then completed a post-doctoral research fellowship at the National Institutes of Health, National Cancer Institute. He started his career at FDA in 1991 as a research chemist and became the Branch Chief of the Instrumentation and Biophysics Branch six years later. Prior to his current appointment, Dr. Musser was the Director of the Office of Scientific Analysis and Support at CFSAN. He still serves as the Center’s Lead Scientist for Chemistry.

Dinner Reservations: Please email the SACP Administrative Assistant, Valarie Daugherty at daugherty@pittcon.org by Wednesday, February 2, 2011 to make a dinner reservation. 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. Contact Duquesne University if any difficulties arise.

**ACS Energy Technology Group
Pittsburgh Section
&
The Pittsburgh Section AIChE**

Wednesday, January 19, 2011

“Policy Implications from Marcellus Shale Drilling”

Dr. Kent Moors

Professor, Department of Political Science and the Graduate Center for
Social and Public Policy at Duquesne University

Spaghetti Warehouse

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

Social Hour: 6:00 pm Dinner: 6:30 pm

Presentation: 7:30 pm

Marcellus Shale drilling affords significant energy and financial benefits for Pennsylvania. However, concerns over environmental, health, infrastructure and water usage issues remain. The Department of Environmental Protection (DEP) has revised water usage regulations and the new drilling requirements are scheduled to come on line in January. But further revisions in state policy and law are required, while the actual economic cost of drilling has yet to be acknowledged at the local level.

Kent Moors directs the Energy Policy Research Group at Duquesne University. An internationally recognized expert in oil and gas policy/finance and risk assessment, Dr. Moors is also president of ASIDA, Inc, an international oil and gas consulting firm, and executive managing partner of Risk Management Associates International, LLP, a global management advisory and training service. Dr. Moors has advised the highest levels of seven world governments, governors of several states, premiers of two Canadian provinces and has been a consultant to private companies, financial institutions, civic movements/organizations and law firms in 25 countries. He currently serves on the U.S. Department of State (DOS) task force providing oil policy advisories to developing nations worldwide and has recently joined the DOS advisory effort on shale gas policy initiatives to China. His clients have included six of the world's top ten oil companies as well as leading oil and natural gas producers throughout Russia, the Caspian Basin, the Persian Gulf, North Africa and North America. That experience includes unconventional oil and gas production in the U.S., Canada, Poland and Germany.

For reservations, please call Al Mann by Monday, January 17, 2011 at 412-661-5947 or by email at alfred.mann@verizon.net. Our meetings are open to all.

The cost of the dinner is \$16 including tax and gratuity. Please specify your preference from the following menu choices: •Spaghetti with meatballs •15-layer lasagne •Four-cheese manicotti •Fettuccini Alfredo •Grilled chicken Caesar salad •Also indicate special needs such as vegetarian, gluten-free, etc.

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2. Create your profile and tell the world about yourself, so people can find you.
3. Search for people you know or want to know and ask them to join your network.
4. Explore a variety of discussions, forums, blogs and groups and start your own!

There is something for everyone. So, use the ACS Network to plan activities, organize projects, share interests and get connected to the largest scientific community online! It's the smart thing to do. www.acs.org/network

ACS Cut and Paste December 2010

More On Global Warming

This communication follows the report by Tom Ruppel (p.2 of Dec. Crucible) of a talk by Dr. Stan Penkala before the Energy Technology Group entitled "Global Warming: Human Activity or Something Else" According to the report the speaker "looks askance at the evidence that humans have significant impact on the global climate..."

Whereas I make no pretense of being a climatologist, I tend to trust them because as a chemist I find that some of their claims that I can check out make sense. I also find that a number of the statements of their critics do not hold water.

Consider first whether the reported world consumption of fossil fuels suffices to account for the observed increase in CO₂ content of some 80 ppm (by volume) in the last 50 years. A comparison of the mass of the atmosphere (an easy calculation for any chemist) with the reported (Google) world fuel consumption of about ten billion tons of carbon per year gives quite good confirmation that fuel combustion does indeed account for the observed increase in atmospheric CO₂. Chalk one up for the climatologists.

In considering the heat absorption by atmospheric CO₂ it is of interest to estimate the thickness of a layer of CO₂ if it were present as a single component at sea level pressure. This is also an easy calculation for a chemist, and it turns out that at 300 and at 380 ppm respectively the thicknesses would be about 2.5 and 3.2 meters. The heat absorption at these thicknesses is readily determined in an infrared spectrophotometer. One result I have seen (more Google) is that the absorption of heat is not complete at these thicknesses. This also checks out, because if the heat absorption at 300 ppm would have been complete, then the addition of more CO₂ would not have made any

difference. Chalk up another one for the climatologists.

Consider, by contrast, one of the counter arguments that the speaker cited, from presumably reliable literature, namely that the UN climatologists were taken to task for not considering the contribution, to the atmospheric CO₂, of exhaled CO₂ by humans and domestic animals (estimated respectively at 10-13 and 15-20%). These figures are dead wrong; the real figure is zero. All animals get their nutrient carbon, directly or indirectly, from vegetation, which in turn gets its carbon from atmospheric CO₂ by photosynthesis. In more current parlance, the critics failed to notice that animals run on biofuels. Incidentally, this point is also the subject of letters in C&EN (Nov.1, p.2 and Nov.29 p.4}). Chalk up a third one one for the climatologists.

Finally, I should note that all of our invited speakers and member reporters are deserving of our thanks.

Submitted By: Milton Manes

ACS Announces the 2011 Schedule for Webcast Courses

The 2011 Schedule is out – and ACS has added more courses to the On Demand catalogue as well as more dates for the Webcast courses to fit your schedule. Please visit the website for the full listing of courses and dates.

ACS Office of Professional Education has dramatically revamped its website and registration system so you can find the courses you're looking for in no time. Bookmark this link today: <http://www.ProEd.acs.org>. You can now search the short courses, webcast courses and on-demand courses by topic area, date, or location and even browse the full instructor list.

ACS is continuously investing in new course development, so if you don't see what you're looking for or have questions about a course, just drop ACS a line at shortcourses@acs.org and they'll do their best to serve your technical training needs.

ACS Cut and Paste December 2010

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Pittsburgh Section ACS Pittsburgh Award Dinner

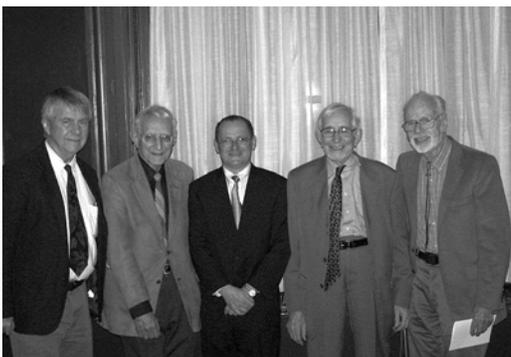
The Pittsburgh Section held its annual Pittsburgh Award dinner on November 16, 2010 at the Pittsburgh Athletic Association. The Pittsburgh Award was presented by Pittsburgh Section Chair, Jim Manner, to Alan J. Russell and Mordecai Treblow was presented the Section's Distinguished Service Award by Dick Howe. 29 People attended the event including 5 former Pittsburgh Award Winners and 1 former Distinguished Service Award winner.



From left to right: Pittsburgh Award winner, Alan J. Russell, 2010 Pittsburgh Section ACS Chair, Jim Manner, and Pittsburgh Section ACS Chair 2011, Heather Juzwa



From left to right: Pittsburgh Section ACS Distinguished Service Award winner, Mordecai Treblow, Dick Howe, and Pittsburgh Section ACS Chair 2011, Heather Juzwa



From left to right: Former Pittsburgh Award Winners David Pratt, Theodore Cohen, Alan Russell, Jerome Rosenberg, and Bodie Douglas

Firefly Protein Lights Pathway to Improved Detection of Blood Clots

*"Chemically Modified Firefly Luciferase
Is an Efficient Source of Near-Infrared
Light"*

Bioconjugate Chemistry

The enzyme that makes fireflies glow is lighting up the scientific path toward a long-sought new medical imaging agent to better monitor treatment with heparin, the blood thinner that millions of people take to prevent or treat blood clots, scientists are reporting. Their study appears in the ACS' monthly journal *Bioconjugate Chemistry*. Bruce Branchini and colleagues describe a need for new medical imaging agents that emit near-infrared light — the light rays that "night vision" technology detects, enabling soldiers to see in the dark. Those rays penetrate deeper into the body and could give doctors a better way of detecting the proteins involved in blood clotting. Scientists already use luciferase, the enzyme that makes lightning bugs glow, in laboratory research.

The new study describes an advance toward using luciferase in medical imaging. The scientists combined a protein obtained from firefly luciferase with a special dye that allows the protein to emit near-infrared light. In laboratory experiments, the new material successfully detected minute amounts of a specific blood protein, called factor Xa, which is used to monitor the effectiveness of heparin treatment. It offers promise for improved monitoring of heparin therapy, the article suggests.

The authors acknowledge funding from the Air Force Office of Scientific Research, the National Science Foundation, and the Hans & Ella McCollum '21 Vahlteich Endowment.

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December 8, 2010*

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- Promoting Science Education



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Pittsburgh
Section ACS

Section's Website:
[http://
www.chem.cmu.edu/acs-pgh/](http://www.chem.cmu.edu/acs-pgh/)

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PITTSBURGH SECTION OFFICERS

Chair

Heather Juzwa
321 Winners Circle
Canonsburg, PA 15317
724-745-2662
hljuzwa@shimadzu.com

Chair-Elect

Michelle Ward-Muscatello
Dept. of Chemistry
University of Pittsburgh
219 Parkman Ave.
Pittsburgh, PA 15260
412-624-8064
muscat@pitt.edu

Secretary

Michelle Coffman
246 Inglewood Dr.
Pittsburgh, PA 15228
(412)600-8502
mablanken@hotmail.com

Treasurer

Emanuel Schreiber
University of Pittsburgh
Genomics and Proteomics
Core Laboratories
3501 Fifth Ave.
BST-3, Room 9035
Pittsburgh, PA 15260
Office phone: 412-624-6862
e-mail: manny@pitt.edu

Services

Volunteers Needed!

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

Crucible Deadline

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

For example, all items for the February 2011 issue must be to the editor by January 1, 2011.

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.

Editor: Traci Johnsen
124 Moffett Run Rd.
Aliquippa, PA 15001
Phone: 724-378-9334
tracijohnsen@comcast.net

Advertising Editor: Vince Gale
MBO Services
P.O. Box 1150
Marshfield, MA 02050
Phone: 781-837-0424
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The Crucible

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Pittsburgh Area Calendar

Monday, January 10

Society for Analytical Chemists of Pittsburgh

"NMR and Cell Membrane"

Megan Spence, Ph.D., University of Pittsburgh
Duquesne University, Laura Faulk Hall

Wednesday, January 19

Spectroscopy Society of Pittsburgh Technology Forum

"Nonverbal Communication: The Hidden Message"

Dr. Bill Acheson, Department of Communication, University of Pittsburgh
Duquesne University, Pappert Hall in the Bayer Learning Center

Spectroscopy Society of Pittsburgh

"Novel Nanorod Array Substrates as a Platform for SERS-Based Biosensing of Infectious Disease"

Dr. Richard Dluhy, Department of Chemistry, University of Georgia, Athens, GA
Duquesne University, Pappert Hall in the Bayer Learning Center

ACS Pittsburgh Energy Technology Group

Pittsburgh Section AIChE

"Policy Implications from Marcellus Shale Drilling"

Dr. Kent Moors, Professor, Department of Political Science and the Graduate Center for Social and Public Policy at Duquesne University
Spaghetti Warehouse, 26th & Smallman Streets, Strip District

Friday, February 4

Job Searching for Chemical Technicians

Harbor Gardens, Student Services Area Conference Rooms
Bidwell Training Center, Pittsburgh, PA

Saturday, February 5

Job Searching for Chemical Professionals

Ashe Auditorium University of Pittsburgh, Pittsburgh, PA

Monday, February 7

Society for Analytical Chemists of Pittsburgh

"New Analytical Approaches to Address Emerging Food Safety Issues"

Steven Musser, Ph.D., U.S. Food and Drug Administration (FDA)
Duquesne University, Laura Faulk Hall