Pittsburgh Section

The Crucible

www.pittsburghacs.org

Volume: XCVII No.8 April 2012

ACS Energy Technology Group - Pittsburgh Section

Tuesday, April 17, 2012

"The New 21st Century 'War of the Currents' - AC vs. DC Electricity and the Role of Advanced Power Electronics Based Grid Technologies for Future Energy Sustainability Applications"

Gregory Reed
University of Pittsburgh

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

Gregory Reed is the Director of the Power & Energy Initiative in the Swanson School of Engineering at the University of Pittsburgh, an Associate Director of the University's Center for Energy, and a Professor of Electric Power Engineering the Swanson School's Electrical & Computer Engineering Department. His research interests and activities include: advanced power electronics technologies, renewable energy integration, smart grid technologies, and energy storage systems. Professor Reed has over 25 years of combined industry and academic experience in the electric power and energy arena, including engineering, R&D, and executive management positions throughout his career with the Consolidated Edison of New York, ABB, Mitsubishi Electric, and KEMA.

Improvements to the existing electric power grid infrastructure, whose design dates back nearly a century, have been identified as a key aspect of the current U.S. strategy to improve energy efficiency, grid reliability, and power security. In order to effectively and economically implement the necessary improvements and expansions of the power grid infrastructure to meet the emerging needs of smart grid implementation, renewable energy integration, and energy storage applications, increased development and applications of advanced power electronics based technologies, such as High Voltage and Medium Voltage DC Systems (HVDC and MVDC) and Flexible AC Transmission Systems (FACTS), must take place. An overview of current HVDC, MVDC, and FACTS technologies will be provided, along with a discussion of new developments and emerging needs for future transmission and distribution system applications. In addition, an interesting historical perspective will be provided on the AC vs. DC controversy dating back to the days of Westinghouse, Tesla, and Edison - and why that battle is being renewed today.

For reservations, please contact Elliott Bergman by 1:00 PM on Monday, April 16, 2012 at elliott.acstechnology@gmail.com. Our meetings are open to all. Cash or check payable to: Energy Tech Pgh Section ACS.

The cost of the dinner is $16 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.

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CHEMISTRY behind the CUISINE

Mark your calendars now for
Saturday, May 12, 2012
for the 2012 Tripartite Symposium,
sponsored by the Pittsburgh Section
of the ACS, the SACP, and SSP.

At this interactive café-style event, you will learn the science behind various cuisine while enjoying selected beverages (including those from local wineries/breweries) and hors d'oeuvres/sweets related to the topic you are exploring.

You will also have the opportunity to participate in a chemistry-of-food lab experiment.

Participants will be divided into three groups that will rotate through the three individual sessions. (Note: The hands-on lab experiment session will be limited to the first 72 people to register.)

Location: Department of Chemistry • University of Pittsburgh
219 Parkman Avenue • Pittsburgh, PA 15260

Schedule: 1:30 Registration
2:00-5:00pm rotate through interactive sessions
5:00pm Wrap-up & Poster Session / Social Hour

Cost: $25/person

Leaders for this intellectual culinary event are:

Dr. Ariel Fenster
Research Associate & founding member
Office for Science and Society, McGill University

Dr. Kent Kirshenbaum
Associate Professor of Chemistry, New York University
Co-founder of The Experimental Cuisine Collective

Dr. Subha Das
Assistant Professor, Carnegie,Mellon University

sacp.org

pittsburghacs.org

ssp-pgh.org

Register Now! Send this form and a check for $25 (payable to ACS Pittsburgh Section) by **Friday, April 27th** to:
Dr. Gregg Gould • 543 East Chestnut Street • Washington, PA 15301.
Any questions should be directed to Dr. Michelle Ward at muscat@pitt.edu or 412-624-8064.

Name: _____

Affiliation: _____

Email: _____ Phone: _____

Any dietary restrictions: _____

ACS Pittsburgh Chemists Club
ACS Pittsburgh Environmental Group

Pittsburgh Section
American Chemical Society

Tuesday, April 24, 2012

"Green Chemistry: Sustaining A High Technology Civilization"

Dr. Terrence Collins
Carnegie Mellon University

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

Social Hour: 6:00 pm, Dinner: 6:40 pm, Presentation: 7:45 pm

Abstract : "Sustainability" is becoming a big word in chemistry today, permeating the halls of our entire enterprise-business, academic, governmental, nonprofit, informative. Sustainability has a compass and the key to its pursuit at each time for any human group is the direction being taken, not the state that the group finds itself in. Green chemistry is the field wherein chemists help to build a sustainable future. I will explain how critical individual technologies and the human dynamics surrounding them are to the possibility of a sustainable future. I delineate green chemistry's key challenge areas and I will present an overview of my group's contributions. I will give a historical perspective on sustainability and green chemistry, noting especially great American political leaders of the last century. This will be my 78th public lecture with this title, the first having been delivered to several hundred gifted high school students in Osaka, Japan on July 28, 1998 at a symposium on Green Earth Science. I will assert how important the famous Anastas and Warner "Twelve principles of Green Chemistry" are and I will reflect on a complementary set of three principles that I wrote in 1996 (published in 1997) explaining what green chemistry had to be about, how it was different from any prior field of chemistry and why it would have to be funded in extraordinary ways. Fifteen years later, the accuracy of the predictive scope can be judged by the audience.

Biography: Terry (Terrence J.) Collins is the Teresa Heinz Professor of Green Chemistry at Carnegie Mellon University where he has taught since 1987. He is the Director of Carnegie Mellon's Institute for Green Science. Collins was born and educated in New Zealand, completing his PhD under the guidance of Prof. Warren Roper, FRS, in 1978 at Auckland University. He was a postdoctoral fellow with Prof. James P. Collman at Stanford University (1978-80). Professor Collins is one of the founders of the field of Green Chemistry. He is internationally recognized for his development of small molecule catalysts called TAML® activators that activate natural oxidants such as hydrogen peroxide to clean water of numerous pollutants and pathogens among other uses. TAML activators are the first effective mimics of the peroxidase enzymes, a huge class of enzymes found throughout nature. Prof. Collins' honors include among others the Heinz Award for the Environment, the EPA's 1999 Presidential Green Chemistry Challenge Award, the Inaugural Kauffman Award of the Pittsburgh Foundation, Japan s Society of Pure and Applied Coordination Chemistry Award, and the Pittsburgh Section Award of the ACS,. He is an honorary professor and a Distinguished Alumnus awardee of Auckland University and an Honorary Fellow of the Royal Society of New Zealand.

Reservations: Please call Ed Martin by noon Friday, April 20, 2012 at (724) -335-0904
or by e-mail at edwardmartin1046@verizon.net

Dinner Menu : Steak with vegetables, Tilapia with Angel Hair pasta, or Chicken Parmigiana with Lasagna.
Please specify beef, fish or chicken when making your reservation and note any dietary special needs i.e. gluten-free, vegetarian, etc. Dinner charge is $20.00 ($10.00 for students). Alcoholic drinks cost extra.

ACS Energy Technology Group
Pittsburgh Section
Joint Meeting with
AIChE-Pittsburgh

Wednesday, April 25, 2012

"High-Throughput Studies of Alloy Functional Materials"

James B. Miller
Chemical Engineering Department, Carnegie Mellon 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

The functional properties of alloys are often superior to those of their individual components, accounting for their widespread use in structural, corrosion-control, and catalytic applications. Alloy design-selection of components and their relative proportions-is a complex problem that is poorly suited to approaches based on preparation, characterization and testing of a series of single composition samples. However, without a deep understanding of performance across component and composition space, the problem of optimal alloy design can become intractable.

To address this challenge, the Gellman group at Carnegie Mellon has developed a high-throughput experimental methodology based on the Composition Spread Alloy Film (CSAF) sample platform, which allows measurements to be made across broad, continuous regions of alloy composition space. CSAFs are thin alloy films with lateral composition gradients across their surfaces (figure); a single CSAF materials library can contain all possible compositions of a ternary alloy, $A_{1-x-y}B_xC_y$, or any 2-D plane through a higher-order composition space, on a single compact (~1 cm^2) substrate. When coupled with strategies for spatially resolved measurement of composition, structure, and functional properties, CSAFs enable rapid construction of composition-structure-property-relationships that provide a scientific basis for new materials development.

In this talk, the tools and strategies for quantitative preparation of CSAF sample libraries and for characterization of their properties will be described. Examples will be drawn from our collaboration with scientists at the National Energy Technology Laboratory to illustrate application of the high-throughput approach to characterization of surface segregation, phase behavior, and catalytic activity of Pd-alloys used as hydrogen separation membranes.

James B. (Jim) Miller is an Associate Research Professor in Carnegie Mellon's Chemical Engineering Department. He earned B.S., M.S., and Ph.D. degrees in Chemical Engineering, all from Carnegie Mellon. He also holds an M.S. in Chemistry from the University of Pittsburgh. Jim's research interests include characterization of surfaces, and surface processes for applications in separations, catalysis and chemical sensors. Jim is a Past-Chair of AIChE-Pittsburgh and Past-Chair of the Pittsburgh-Cleveland Catalysis Society (PCCS).

For reservations, please contact Dr. Todd Gardner, Chair, AIChE-Pittsburgh Section, by Tuesday, April 24, 2012 at 304-285-4226 or by E-mail at Todd.Gardner@NETL.DOE.GOV. Our meetings are open to all.

The cost of the dinner is $17 including tax and gratuity. Please specify your preference: spaghetti with meatballs, 15-layer lasagna, four-cheese manicotti, fettuccini alfredo, or grilled chicken Caesar salad. Also, please indicate special needs such as vegetarian, gluten-free, etc.

Society for Analytical Chemists of Pittsburgh

April Meeting, Monday, April 2, 2012
8:00 PM
Duquesne University, Laura Falk Hall

"Human Axillary Chemistry and Human Pheromones: Combining Sensory and Analytical Techniques"

George Preti, Ph.D.
Monell Chemical Senses Center and the University of Pennsylvania

Abstract: Body odors are the focal point for a multi-billion dollar consumer product industry and academics interested in human scent. Consequently, research has focused upon (a) the odors produced in the underarm and (b) underarm (axillary) secretions and odors as a source of human pheromones. Despite the fact that deo-products have been around for more than 100 years, the identity of the compounds which produce underarm odor (commonly referred to as "body odor") have only been known since 1991 when research from our labs identified many of the volatile odorants which characterize the axillae (underarm). In addition to examining the nature and biogenesis of axillary odorants we have investigated the human underarm as a source of physiologically active compounds with pheromone activity.

Pheromones were first sought and defined for insects in 1959 as "substances which are secreted to the outside by an individual and received by a second individual of the same species, in which they release a specific reaction, for example, a definite behavior or a developmental process." Scores of insect (invertebrate) pheromones have been identified and some incorporated into commercially-available products, (e.g., pheromone traps for pest insects). Unfortunately, a similar understanding of mammalian and vertebrate pheromones has lagged; although a search of the World Wide Web using the terms pheromone and human would suggest otherwise. Hundreds of thousands of "hits" can take one to sites, most of which attempt to sell questionable products generally focused upon increasing ones success at sexual prowess (typically aimed at males).

There is good evidence to support the production of human chemosignals, but they are not sex attractants as suggested by internet adds. Human chemosignals appear to affect menstrual cycle length and timing as well as mood and scent-recognition of kin. Studies also suggest that the human axillae contain a profile of volatile organic compounds which include an individual's unique, genetically determined "odorprint." Some progress has been made linking any axillary components to physiological affects and the transmitting of individual identity. Research in our laboratories is examining the chemistry of human chemical signals as well as the olfactory pathways involved in their perception and responses they elicit. Identification of both the molecular structures of pheromone compounds and the bouquet of compounds associated with our unique individual "odorprint" will provide valuable new insight into human physiology, disease diagnosis and novel forensic applications.

Biography: Dr. George Preti was born and raised in Brooklyn, NY. He received his B.S. in Chemistry from the Polytechnic Institute of Brooklyn in 1966 and his PhD in Organic Chemistry in 1971 from the Massachusetts Institute of Technology, with a specialty in Organic Mass Spectrometry in the laboratory of Professor Klaus Biemann. That same year he joined the Monell Chemical Senses Center in Philadelphia. The Center, a non-profit research institute, is renowned throughout the world as a leader in multidisciplinary, basic research in olfaction and gustation. Dr. Preti is a Member of Monell and an Adjunct Professor in the Department of Dermatology, School of Medicine at the University of Pennsylvania. For more than four decades, his research has focused upon the nature, origin and functional significance of human odors. His current studies center upon a bioassay-guided approach to the identification of human pheromones, odors diagnostic of human disease, human malodor identification and suppression and examining the "odor-print" of humans.

In addition to having published numerous peer-reviewed papers and reviews, Dr. Preti holds more than a dozen patents related to deodorancy, odor-mediated control of the menstrual cycle and the use of odors in diagnosis. His unique area of research has resulted in hundreds of clinician-directed referrals of patients with idiopathic body- and oral malodor production problems. His efforts in this area have revealed a large, undiagnosed population of people suffering from trimethylaminuria, an odor-producing genetic disorder. In addition his research has resulted in frequent citations and coverage in print and electronic media throughout the world.

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Carnegie Mellon 2012
Pittsburgh Conference Lectures

Wednesday, April 18th

FREE Kick-off movie - "An Inconvenient Truth" presented by former vice presi dent Al Gore. In this documentary, Gore discusses the scientific evidence for climate change. William Schlesinger, dean of the Nicholas School of Environment and Earth Sciences at Duke University, said "He (Gore) got all the important material and got it right." The film won the 2007 Academy Awards for the Best Documentary Feature. Film critic Roger Ebert said, "… You owe it to yourself to see this film. If you do not, and you have grandchildren, you should explain to them why you decided not to."

Carnegie Mellon Univ., Mellon Institute Auditorium (2nd Floor), 4400 Fifth Ave., Enter from Bellefield St.
7:30PM Free pizza 'til its gone outside auditorium must
7:55PM Brief Introduction, 8:00PM Movie. Free and open to the public.
RSVP: swainer@andrew.cmu.edu by April 16th.

Thursday, April 19th Pittsburgh Conference Lectures

Lecture I: "Greenhouse Gases and Climate Change: Some Science and Solutions"
Dr. Robert Jackson, Duke University.
Carnegie Mellon University, Department of Chemistry, Mellon Institute, 4400 Fifth Ave. Conference Room on the 3rd floor, Enter from Bellefield Street.
4:45PM lecture is free to public.

Lecture II: "Shale Gas and its Environmental Interactions"
Dr. Robert Jackson, Duke University.
Pittsburgh Athletic Assoc., 4215 Fifth Avenue, Oakland
6:00PM Cash Bar Social, 7:00PM Dinner, 8:00PM Lecture is free to the public.
Free parking in the PAA lot for the first 40 cars with token picked up inside.
Dinner: $20 regular, $10 student. Cash or check payable to SSP or SACP at the door.
RSVP: swainer@andrew.cmu.edu by April 16th with dinner choice (Crab cakes or Chicken Marsala or Grilled Veggie).

BIOGRAPHY

Robert B. Jackson is the Nicholas Chair of Global Environmental Change at the Nicholas School of the Environment and a professor in the Biology Department. His research examines how people affect the earth, including studies of the global carbon and water cycles, biosphere/atmosphere interactions, energy use, and global change. He received his B.S. degree in Chemical Engineering from Rice University (1983). He worked four years for the Dow Chemical Company before obtaining M.S. degrees in Ecology (1990) and Statistics (1992) and a Ph.D. in Ecology (1992) at Utah State University. He was a Department of Energy Distinguished Postdoctoral Fellow for Global Change at Stanford University and an assistant professor at the University of Texas before joining the Duke faculty in 1999. He is currently Director of Duke's Center on Global Change and Duke's Stable Isotope Mass Spectrometry Laboratory. He directs the Department of Energy-funded National Institute for Climate Change Research for the southeastern U.S. and co-directed the Climate Change Policy Partnership, working with energy and utility corporations to find practical strategies to combat climate change. Jackson has received numerous awards, including the Murray F. Buell Award from the Ecological Society of America, a 1999 Presidential Early Career Award in Science and Engineering from the National Science Foundation (one of 19 scientists honored at the White House by President Clinton), a Fellow in the American Geophysical Union, and inclusion in the top 0.5% of most cited scientific researchers (http://www.isihighlycited.com/). His 150+ peer-reviewed scientific publications have been cited more than 10,000 and 14,000 times in Web of Science and Google Scholar, respectively. His trade book on global change, The Earth Remains Forever, was published in October of 2002. Jackson's research has been covered in various newspapers and magazines, such as the Boston Globe, New York Times, Washington Post, USA Today, Scientific American, and BusinessWeek, and on national public radio, including the syndicated programs "Morning Edition", "All Things Considered", "Marketplace", "The Tavis Smiley Show", "The Next 200 Years", and "Earth and Sky" (for which he is a science advisor and scriptwriter). He conceived and organized the Janus Fellowship, an annual undergraduate award to encourage the study of an environmental problem from diverse perspectives; 1999's first recipient traveled down the Nile River to examine water use and water policy in Egypt.

Sponsored by: PittCon, SSP, SACP, Carnegie Mellon, Environmental Group of the ACS Pittsburgh Section

The Spectroscopy Society of Pittsburgh

April Meeting

Wednesday, April 18, 2012

Duquesne University – Bayer Learning Center (Pappert Hall)

TECHNOLOGY FORUM - 5:30 PM

"Food Trends and Analysis – Verifying Safe and Healthy Food"

Tom Zierenberg, Microbac Laboratories,
Claudia Boerner Microbac Laboratories

With the signing of the Food Safety Modernization Act of 2010 (FSMA) by President Obama on January 4th, 2011, the level of awareness for producing safe and wholesome foods has been elevated to unprecedented standards. The Act aims to ensure a safe U.S. food supply by shifting the focus of federal food regulators from a reactionary-based system of addressing foodborne illness outbreaks through product withdrawals and recalls, to a more preventive approach to reducing and preventing food poisoning outbreaks through preventive regulations. New food import procedures and standardization of regulations for food safety are examples that are contained in FSMA. This shift in the actions and of the Food and Drug Administration is directed as much as enforcement outside of U.S. borders as it is to preventive controls required by domestic food manufacturers. The new law also places more extensive requirements on importers via programs such as the Foreign Supplier Verification Program and the Voluntary Qualified Importer Program. Both programs place the food importer community in the front line of defense against bringing unsafe foods into the United States.

This action will lead to more rapid microbial tests and more efficient ways to test for chemical contaminants in food, both intentional and unintentional, and will be driving the market for food safety testing. The global food safety testing market by contaminants is estimated to grow at a CAGR of 10.46% to $2.5 billion in 2015.

Bio: Tom Zierenberg has nearly thirty years of experience in various technical disciplines in the food industry. Tom holds a Bachelors Degree in Food Science Degree from Pennsylvania State University. An accomplished manager with extensive experience in food laboratory management, food manufacturing Quality Assurance, research and development, and food safety, Tom has also offered consulting in Good Manufacturing Practices, HACCP (Hazard Analysis and Critical Control Point), and shelf life improvement of perishable foods. Tom also has a working knowledge of food labeling regulations and food chemistry and food microbiology as they relate to food manufacturing, food product development, food distribution, and retail food operations. Tom has experience in developing and implementing regional and nationwide food safety programs for major food manufacturers.

Until Tom's recently appointed position as Senior Manager, Business Development and Corporate Accounts with Microbac Laboratories, Inc., in Pittsburgh, PA, Tom served as Managing Director of Microbac Laboratories' largest food microbiology and food chemistry laboratory division in Warrendale, PA.

Pittsburgh Section of the American Chemical Society Environmental Group

Join Us!

The Environmental Group has been reactivated! They can be found on the web at http://www.pittsburghacs.org/groups/environmental/.

The Environmental Group of the Pittsburgh Section of the American Chemical Society was formed with the aim to educate and promote awareness about our environment. Our major intent is to protect the environment from the misuse of chemicals. We invite individuals from all professions and studies to join us in promoting environmental sustainability. We support technical seminars with an emphasis on environmental monitoring, remediation and restoration technologies, risk assessment, and public policies as it relates to chemicals in our environment. We also sponsor site visits, social gatherings and networking.

If you are interested in joining or want more information, please contact the following officers:

Chair - Longzhu Shen,
lshen@andrew.cmu.edu

Co-Chair - Mark Bier,
mbier@andrew.cmu.edu

Stay up-to-date on all the happenings of the Pittsburgh Section ACS

Section's Website:
www.pittsburghacs.org

Facebook Page:
ACS Pittsburgh

Linked In:
PIttsburgh Local Section ACS

The Spectroscopy Society of Pittsburgh

April Meeting

Wednesday, April 18, 2012

Duquesne University – Bayer Learning Center (Pappert Hall)

TECHNICAL PROGRAM - 8:15 PM

"A Surface Enhanced Raman Spectroscopy (SERS) Probe of Cellular Life: Pathogen Detection and Blood Analysis"

Larry Ziegler, PhD, Boston University

As the third most abundant molecule in the Universe, the "universal solvent" in chemistry, and the basis of all life as we know it, water Efforts to develop a surface enhanced Raman spectroscopy (SERS) based platform for the identification and detection of bacteria in human bodily fluids will be described. This optical approach for bacterial diagnostics is rapid, portable, easy-to-use, sensitive and, both species and strain specific. Novel hardware and software has been developed for this application. The scientific basis for these strain-specific vibrational signatures is shown to result from the biochemical response of cells to their reduced demand for energy when isolated from their biological environment and shows how SERS provides a new methodology for metabolomics. SERS studies of human blood, required for the goal of bacterial detection in blood, have been carried out and similarly reveal how the cell constituents of blood respond to their "out-of-body" experience.

Bio: Professor Ziegler received his Ph.D. in Physical Chemistry working with Professor A. C. Albrecht at Cornell University in 1978 in the area of UV Raman experimental and theoretical studies. After an NIH Postdoctoral Fellowship with Professor Bruce Hudson at Stanford and the University of Oregon, and an NRC Research Associateship at the Naval Research Laboratory (Washington D.C.), he was appointed Assistant Professor in the Northeastern University Department of Chemistry in 1983 and full Professor in 1990. He subsequently moved to Boston University in 1991 where he is currently Professor of Chemistry and member of the Boston University Photonics Center. Professor Ziegler has developed and employed a number of time and frequency domain optical spectroscopies for studies of fundamental, chemical, biological and materials interest. These include development of UV resonance Raman, resonance hyper-Raman, resonance rotational Raman scattering for a variety of applications including the study of short time dynamics in the gas and condensed phases. Subsequent research interests include the characterization of ultrafast responses of transparent materials, optical probes of solvation dynamics in dense fluids and supercritical fluids, ultrafast studies of electronic relaxation in novel semiconducting materials such as carbon nanotubes and wide band gap semiconductors, ultrafast energy relaxation in water, and ultrafast IR studies of biological water. In a more applied area of work, surface enhanced Raman spectroscopy has been developed for bacterial detection and blood analysis. He was co-Organizer of the 22nd International conference on Raman spectroscopy (Boston, August 2010), and is currently the Senior Associate Editor of the Journal of Raman spectroscopy. Professor Ziegler is just completing a book entitled Principles of Linear and Nonlinear Spectroscopy (Wiley) and will be serving as Chair of the Boston University Chemistry Department as of July, 2012.

Dinner Reservations: Please register on-line at http://www.pittcon.org/misc/societies/ssprsvp.php to make dinner reservations NO LATER THAN FRIDAY, April 13, 2012. This month's entrée is TBA. 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.

Attention: Speakers Wanted

The Pittsburgh Section of the American Chemical Society is establishing a local speakers bureau and we would like for you to consider joining.

The speakers bureau will be available on our web site and will facilitate the connection between those organizing symposia and speakers from our area.

If you would like to be listed in the Bureau, please provide the following information:

•Name

•Affiliation

•Contact Information:

Mailing Address
Website (if applicable)
Email address
Phone

•Keywords/categories related to expertise (up to 5)

•Current CV/Resume (in pdf format)

Any questions should be directed to the Pittsburgh Section Chair, Michelle Ward (muscat@pitt.edu or 412-624-8064)

The ASM Pittsburgh Golden Triangle Chapter

Presents

Aluminum Metallurgy for the Non-Metallurgist

Aluminum has been an important structural material for less than 100 years. During this time, the metal has become critical to society and industry in packaging, transportation, building and construction, and electrical applications. Students will be able to recognize the major aluminum alloys and fabricated products. Processes such as rolling and extrusion will be described with an emphasis on automotive, aerospace, and packaging end applications. Final properties such as strength, corrosion, and formability of heat-treatable and non heat-treatable alloys are compared. The effects of impurities and alloy elements on microstructure and properties are emphasized to provide a basic under-standing of aluminum metallurgy. For course outline, visit the website below-left.

Robert E. Sanders, Jr. is an industry consultant, specializing in metallurgy and applications of aluminum alloys and products. Rob received his PhD in Metallurgy from the Georgia Institute of Technology in 1978 where he studied fatigue and fracture behavior of high strength aluminum alloys. He worked at the Alcoa Technical Center in aluminum alloy research and development. See Dr. Sander's full biography at the website below.

Cost:
Includes continental breakfast and lunch

Member/Student Cost: $650
Non-Member Cost: $850

Group and Member Discounts:
2-4 attendees $600
5 and > $500

Sustaining Member discount: $50/attendee

For details contact Dr. Wang at wangcas@gmail.com

Register online at:
http://www.asminternational.org/
Log into the ASM website to obtain the member's rate.

Dates: April 18 and 19, 2012

Time: Day 1: 8:00 a.m.—5:00 p.m.
Day 2: 8:00 a.m. – 2:00 p.m.

Location: Hilton Garden Inn, Pittsburgh University Place
3454 Forbes Avenue, Pittsburgh, PA

Hotel Accommodations:
$139 per night with $5 Event Parking
Please call the hotel directly at (412) 688-1990 and ask for the ASM Metallurgy Course rate or you may reserve a room online at: http://hiltongardeninn.hilton.com/en/gi/groups/personalized/P/PITUCGI-GTC-20120417/index.jhtml?WT.mc_id=POG

Included with course fee -- attendees are welcome to attend the Andrew Carnegie Lecture, April 19, 2012 at 6:00 p.m. and listen to Dr. Sanders discuss "100 Years of Innovation in Aluminum Products" - dinner included . Must register separately at: http://pittsburgh.asminternational.org/portal/site/pittsburgh/

Spectroscopy Society of Pittsburgh presents a Continuing Education Symposium:

Science of Glass-Making

Saturday, April 21, 2012
Pittsburgh Glass Center
5472 Penn Avenue - Pittsburgh, Pennsylvania 15206

9:30-10:00 a.m.	Registration & Welcome
10:00-10:45 a.m.	"Guess that Glass: Technical Glass Manufacturing" Adam Tomaino, Kopp Glass
11:00 a.m -2:00 p.m.	Glass Center Tour/Demo/Make a Glass Mosaic - in 2 groups
2:30-3:30 p.m.	Lunch - Church Brew Works

Registration Deadline: March 21, 2012
Registration Fee: $15 (must be over 21 to drink)
Luncheon, First Beer, and Parking Included at both

Please make check payable to SSP and mail the Registration Form below to:
Jenna Sabot
SSP - Continuing Education Symposium
300 Penn Center Boulevard, Suite 332, Pittsburgh, PA 15235

REGISTRATION IS LIMITED TO 50 PEOPLE.
THE FIRST 50 PEOPLE TO REGISTER CAN ATTEND.
LIMITED TO SSP MEMBERS AND ONE (1) GUEST.

SSP Continuing Education Registration Form - April 21

Name: _____ Affiliation: _____

Mailing Address: _____ Phone: _____

Email: _____ ☐ I am not staying for lunch

☐ Check here to request ACT 48 Credits ☐ Chicken Breast ☐ BBQ Pork Salad

PPID NUMBER: _____ ☐ Tilapia ☐ Farfalle Pasta

Professional Relations Committee
Job Searching for Chemical Professionals and Job Searching for Chemical Technicians Workshop Summary

This year, we had 24 attendees at the Job Searching for Chemical Technicians workshop and 46 at the Job Searching for Chemical Professionals workshop. The total of 70 attendees compares favorably with the 62, 89, 73, 68, 67, 26, 21, and 15 that came in 2011, 2010, 2009, 2008, 2007, 2006, 2005, and 2004; respectively.

On February 3, 2012, 24 chemical technicians attended the 3/4-day workshop at Bidwell Training Center. During the workshop, Daniel Eustace presented an overview of the job searching process and Joseph Jolson provided information specific to job searching in the Pittsburgh region. Hub MacDonald, SSP co-chair of the workshop committee; Karen Johnson, director of Bidwell's Chemical Laboratory Technician Program; Iesha Griffin, chemical instructor at Bidwell; and Paula, the job coordinator at Bidwell attended the workshop.

The attendees showed a high level of interest, liked the mock interview sessions, and asked lots of questions. All students in Bidwell's senior class discussed career related issues with Dan, Joe, and Hub through lunch and until 2:00 pm. All had positive comments about the workshop. They were grateful to get targeted information, links to the presentations, and the ACS Career Development guide. Several expressed interest in joining the sponsoring societies. Dan is still insisting that our technician workshop is better than anything he is aware of.

On February 4, 2012, 46 chemical professionals attended the full-day Job Searching for Chemical Professionals workshop at the University of Pittsburgh's Chevron Science Center. Special thanks go to Art Probola, Christine Williamson, Don Cescon, Hub MacDonald, Iesha Griffin, Janel Miller, Jim Miller, Jay Auses, Karen Johnson, Michelle Coffman, Michele Monaco, Sabina Robinson, and Toby Chapman for setting up and organizing the workshop and for helping with the resume review and one on one personal consultation.

Of the 46 chemical professionals attending the workshop, 40 were students and 6 were mid-career job seekers. Two-thirds of the professionals attending were chemists and one-third were chemical engineers. Of the students, two-thirds were from the University of Pittsburgh, 4 were from CMU, 3 were from Duquesne University, and 1 was from Edinboro University; ½ were Ph.D. candidates, ¼ were B.S. candidates, and the rest were M.S. candidates and post-docs. Timing of the workshop was ideal because many attendees were unaware that they need to begin their job search months before Spring commencement.

During the morning session, Daniel Eustace presented an overview of the job searching process and Joseph Jolson provided information specific to job hunting in the Pittsburgh region. Dan was excellent at interacting with the attendees and ran three mock interview sessions. The 1st was an informational interview with an employee of a local company; the 2nd was a phone interview with Timothy Fehrenholz, a student at Duquesne University; and the 3rd was an on-site interview with Wilson Sung, a student at Carnegie Mellon University.

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Society for Analytical Chemists April Meeting Continued from Page 6

His research on human and agricultural odors was featured in the New York Times Magazine section on 10/15/00 ("The War on Stink;" see below) as well as described in a feature article about Monell's research done by Chemical and Engineering News (C&E News): 1/7/02 issue. More recently his laboratory's research into the volatile organic compounds associated with skin cancer was the subject of articles in the Philadelphia Inquirer (8/21/08), C&E News (9/22/08) as well as electronic and print media around the world. In addition, C&E News described his on-going research into human odor signatures on 10/12/09: "You Stink."

Several television segments have also described his research into body and oral odors, the most recent being appearances on "CBS Sunday Morning" which discussed his research into human primer and modulator pheromones found within axillary secretions (it was the subject of world-wide press coverage) as well as ABC's "Primetime-Medical Mysteries" series which featured Dr. Preti and two of the individuals he has diagnosed with Trimethylaminuria, a genetic, odor-producing disorder.

Dinner Reservations: Please complete the Online Dinner Reservation Form NO LATER THAN Wednesday, March 28, 2012. The form is also located under the Meeting Notice on website www.sacp.org. Should you not be able to access the form, please call 412-825-3220 for Valarie Daugherty, SACP Administrative Assistant at ext 204 to make your dinner reservation. 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.

Job Searching for Chemical Professionals and Chemical Technician Workshop Summary
Continued from Page 12

After Dan finished his presentation, Joe Rozman described openings for a laboratory service manager and an entry-level Ph.D. at Reaxis, Inc. During the networking lunch, Joe spoke with at least one candidate qualified for the laboratory service manager position and several for the entry-level Ph.D. position.

All attendees signed up for a 30-minute resume review and career counseling session held after the networking lunch. In fact, several signed up for a 2nd and 3rd slot. Because of this, next-year's attendees will be asked to hold off on signing up for additional slots until all attendees have scheduled their 1st session. Participants were happy to have 10-minutes more to speak with a counselor at this session than they did last year.

All attendees filled out evaluation forms that were extremely positive. A few said the flyer could include more information on workshop content. ½ of the attendees found out about the workshop by e-mail and ¼ by a posting. The rest of the attendees read about the workshop in a society publication, Facebook, or LinkedIn; or heard about it from a friend or teacher.

Despite weather concerns, the committee continues to favor having future workshops in early February. Attendees like getting links to the PowerPoint presentations and copies of the ACS Career Management CD. Contributions from the ACS, AIChE, SACP, and SSP allow the cost of the 2-day workshop to be managed.

As exemplified by the level of interest shown by the attendees, Dan Eustace is an exceptional speaker who interacts well with attendees. Our workshops are well attended and received by job seekers in the region.

Submitted by Joseph Jolson
Chair, ACS - Pittsburgh Section Professional Relations & SACP Employment Committees

ACS Pittsburgh Polymer Group Reactivated

The ACS Pittsburgh Polymer group has been reactivated. Carrie DuMars is the new Chair.

Carrie DuMars, has her BS in Chemistry from the University of Pittsburgh. She was first introduced to the world of polymer science in Dr. Meyer's lab where she did undergraduate research with bio-compatible polymers. She is now an analytical chemist for Valspar Corporation - Food Packaging division. The ACS Polymer Group is dedicated to serving the needs of our members who do polymer research.

Mission Statement
Promote technological and environmental innovation in the polymer sciences.

Goals
1. Foster relationships between polymer science professionals in academia and industry.

2. Provide comprehensive summary of resources in the greater Pittsburgh area that can be leveraged to advance our members research.

E-mail
pghpolymergroup@gmail.com

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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 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 May 2012 issue must be to the editor by April 1, 2012.

The Crucible

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Career Opportunities

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The Crucible

A newsletter of the Pittsburgh Section of the American Chemical Society

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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, April 2

Society for Analytical Chemists of Pittsburgh

"Human Axillary Chemistry and Human Pheromones: Combining Sensory and Analytical Techniques"

George Preti, Ph.D., Monell Chemical Senses Center and the University of Pennsylvania

Laura Falk Hall, Duquesne University

Tuesday, April 17

ACS Energy Technology Group, Pittsburgh Section

"The New 21st Century 'War of the Currents' - AC vs. DC Electricity and the Role of Advanced Power Electronics Based Grid Technologies for Future Energy Sustainability Applications"

Gregory Reed, University of Pittsburgh
The Spaghetti Warehouse, 26th and Smallman Streets, Pittsburgh, PA

Wednesday & Thursday, April 18-19

Aluminum Metallurgy for the Non-Metallurgist

Hilton Garden Inn, Pittsburgh University Place, 3454 Forbes Ave., Pittsburgh, PA

Wednesday, April 18

Carnegie Mellon 2012 Pittsburgh Conference Lectures

Movie: Inconvenient Truth

Carnegie Mellon University, Mellon Institute Auditorium Pittsburgh, PA

Wednesday, April 18

Spectroscopy Society of Pittsburgh Technology Forum

"Food Trends and Analysis - Verifying Safe and Healthy Food"

Tom Zierenberg, Microbac Laboratories, Claudia Boerner, Microbac Laboratories
Duquesne University, Bayer Learning Center (Pappert Hall)

Spectroscopy Society of Pittsburgh Technical Program

"A Surface Enhanced Raman Spectroscopy (SERS) Probe of Cellular Life: Pathogen Detection and Blood Analysis"

Larry Ziegler, PhD, Boston University
Duquesne University, Bayer Learning Center (Pappert Hall)

Thursday, April 19

Carnegie Mellon 2012 Pittsburgh Conference Lectures

"Greenhouse Gases and Climate Change: Some Science and Solutions"

Dr. Robert Jackson, Duke University
Carnegie Mellon University, Mellon Institute Building, Pittsburgh, PA

"Shale Gas and its Environmental Interactions"

Dr. Robert Jackson, Duke University
Pittsburgh Athletic Association, Pittsburgh, PA

Saturday, April 21

Spectroscopy Society of Pittsburgh Continuing Education Symposium

"Science of Glass Making"

Pittsburgh Glass Center, 472 Penn Ave., Pittsburgh, PA

Tuesday, April 24

ACS Pittsburgh Chemists Club & ACS Pittsburgh Environmental Group

"Green Chemistry: Sustaining a High Technology Civilization"

Dr. Terrence Collins, Carnegie Mellon University
The Spaghetti Warehouse, 26th and Smallman Streets, Pittsburgh, PA

Carnegie Mellon 2012 Pittsburgh Conference Lectures

"Green Chemistry and Sustainability"

Dr. Terrence Collins, Carnegie Mellon University
The Spaghetti Warehouse, Pittsburgh, PA

Wednesday, April 25

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

"High-Throughput Studies of Alloy Functional Materials"

James B. Miller, Chemical Engineering Department, Carnegie Mellon University
The Spaghetti Warehouse, 26th and Smallman Streets, 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