



The Crucible

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

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December 2010

2010 NCW Poster Contest Winners

As part of the 2010 National Chemistry Week (NCW) celebration, the Pittsburgh Section ACS sponsored a poster contest for students in grades K-12. Students were invited to create a poster that celebrated the theme "Behind the Scenes With Chemistry!" Posters were judged on artistic merit, poster message, originality and creativity, and neatness.

Entries were received from 23 schools and were evaluated by a panel of judges. The Section awarded 1st and 2nd place in each of four grade categories, with \$50 and \$25 prizes respectively. In addition, each winner and their families were offered free admission to the Carnegie Science Center on Saturday, October 23rd to celebrate National Chemistry Week, where the winning posters were on display. All 1st place winners of the Pittsburgh contest were entered into the national poster contest sponsored by the ACS' Office of Community Activities and Committee on Community Activities.

And the winners of the Pittsburgh Section's 2010 NCW poster contest:

K - 2nd Grade Category

1st Place

Everitt Meer, Jubilee Christian School

2nd Place

Daniel Perrine, Burchfield Primary School

3rd - 5th Grade Category

1st Place

Parv Shrivastava, South Fayette Elementary School

2nd Place

Dante Cecere, South Fayette Middle School

6th - 8th Grade Category

1st Place

Shannon Duffy, Ingomar Middle School

2nd Place

Lacey Kostishack, David E. Williams Middle School

9th - 12th Grade Category

1st Place

Lindsay Hill, Penn-Trafford High School

2nd Place

Jessica Labuda, Our Lady of the Sacred Heart

Congratulations to all the 2010 poster contest winners! The Pittsburgh Section ACS wishes to thank all of the schools and students who participated in this year's contest.

Submitted by V. Michael Mautino, NCW Coordinator

Happy Holidays
from the
Pittsburgh Section
ACS



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“Global Warming: Human Activity or Something Else”

The Energy Technology Group heard a message at its October meeting. It was a message which asked: Global Warming: Human Activity or Something Else? The interesting point to a listener was, “Maybe this speaker has a point.” Dr. Stan Penkala, President of Air Science Consultants in Bridgeville, PA, succeeded in pointing out -- if not demonstrating - that the cause(s) of global warming (global climate change), is an open issue! His company provides weather forecast and climate research services under the “Skywatch Weather Center” name, as well as regional air quality analysis and meteorological monitoring, modeling and analysis.

He emphasized that to question the validity of the hypothesis that global climate change is human-caused is not one of negativism, but good old data evaluation, the modis operandi of chemists and engineers research methodology. He proposed other hypotheses for changes to the global climate which do not involve the human emissions of carbon dioxide or other so-called Green House Gases. It is obvious that Dr. Penkala himself looks askance at the evidence which claims that humans have significant impact on the global climate, and that the science is settled.

He cited several instances which bring into question the validity of the data obtained by some methods of measurement or observation. He cited potential errors in readings of the Siple Antarctic Ice Core data (and by extension all ice core readings). He disagrees with the idea that Arctic ice cover will disappear in the near future; points out that the Antarctic ice pack has increased over the past 30 years of satellite measurements; claims that global temperatures and carbon dioxide concentrations have both been higher in the past; and human and domesticated animal CO₂ respiration (10-13% and 15-20% respectively) contribute materially to the anthropogenic CO₂ budget although ignored by the UN’s IPCC reports. He dismissed the Mann Hockey Stick, covering the past 1,000 year temperature record, out of hand.

Apart from Dr. Penkala’s questioning of data acquisition and handling, mankind’s greatest influence on climate over the past century-and-a-half - and particularly the past 30 years - may well not have been greenhouse gas emissions, but man’s transformation of earth’s surface by clearing forests, irrigating deserts, and building cities.

Dr. Penkala cited what he felt is a critical defect in the data gathering procedure/methodology of the GISS (NASA Goddard Institute for Space Studies) and Hadley CRU (Climatic Research Unit of the University of East Anglia) databases. Hundreds of data stations located across the United States, and around the globe, are improperly sited. As time proceeds, stations have been eliminated, and many of the remaining stations produce higher temperatures due to urbanization. Globally, some station data is being extrapolated up to 1,200 Km, and the location of the remaining stations accentuates the warming due to urbanization.

He acknowledged the natural contributions of water vapor and stratospheric ozone as the predominant GHGs, and implicated variations in the oceans’ thermohaline circulation patterns as an underappreciated contributor to climate effects, along with the generally accepted influences of solar variability and planetary motion.

Dr. Penkala implied that we should look very carefully at real phenomena and try to establish a better cause-and-effect conclusion before committing great effort in attempting to control “Global Warming.”

Submitted By: Tom Ruppel

President Honors Four ACS Members

Four ACS members are among 10 people honored by President Barack Obama as winners of the National Medal of Science and the National Medal of Technology & Innovation for 2010. The medals are the highest honor given to scientists and engineers by the US government. Stephen J. Benkovic, Pennsylvania State University (Central Pennsylvania local section); Esther M. Conwell, University of Rochester (Rochester local section); and Marye Anne Fox, University of California San Diego (San Diego local section) were awarded the National Medal of Science. Helen M. Free, Miles Laboratories (St. Joseph Valley local section) was awarded a National Medal of Technology & Innovation. Free was president of ACS in 1993. Her work on dip-and-read diagnostic strips was named a National Historic Chemical Landmark this year. They will receive their medals at a White House ceremony later this year. See a C&EN story about the awards at <http://pubs.acs.org/cen/news/88/i43/8843news1.html>.

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Society for Analytical Chemists of Pittsburgh



January Meeting

Monday, January 10, 2011

8:00 PM

Duquesne University
Pappert Hall in the Bayer Learning Center

“NMR and Cell Membrane”

Megan Spence, Ph.D.
University of Pittsburgh

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.

Younger Chemists Committee

Second Annual Holiday Party

Get a tasty tour of the new Hofbräuhaus with Ed, the Brewmaster!

When:

Thursday, December 9, 2010
6:00 pm - 9:00 pm
(tour is 30 minutes)

Where:

Hofbräuhaus, 2705 South Water
Street, Pittsburgh, PA 15203

Who Should Attend:

Chemists and Aspiring Chemists 35
and under and their guests

Those in the YCC can do the tour for free, but their guests will be charged \$5.00 each.

People under 21 are welcome to attend the tour, but they are not welcome to taste the beer!

Following the tour, all are welcome and encouraged to attend a group dinner – Dutch style (separate checks)!

RSVP: by December 6 to Travis Sefzik, tsefzik@gmail.com or on our Facebook page!

‘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:
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“Toxic Toy Crisis” Requires Fresh Solutions

Environmental Science & Technology

Manufacturer recalls of toys, promotional drinking glasses, and other children’s products constitute an ongoing “toxic toys crisis” that requires banning potentially harmful ingredients in these products and other changes in policy and practices. That’s the conclusion of a new analysis in ACS’ *Environmental Science & Technology*, a semi-monthly journal.

Monica Becker, Sally Edwards and Rachel Massey note that in June the United States government recalled 12 million promotional drinking glasses sold at a fast-food restaurant chain because the painted coating contained cadmium, a toxic metal. Since 2007, the government has recalled more than 17 million toys due to high levels of lead. The report says that these and other incidents have raised concern about the problem of toxic substances in toys and other children’s products, many of which are made overseas. The substances include ingredients either suspected or recognized as potentially damaging to children’s health. Although government, industry, and advocacy groups have taken significant actions to solve the problem, including restricting the use of certain substances, that response remains inadequate, the scientists say.

The authors recommend several actions for the government, including banning or restricting the use of all substances with well-documented toxicity in toys and other children’s products. They also offer recommendations for how the toy industry can be proactive, including establishing an industry-wide list of toxic substances to avoid. “Until significant changes in policy and practice occur, consumers cannot be confident that products they purchase for children are safe, healthy, and environmentally sustainable,” the report states.

Speak for Science

Less than 10 percent of the 535 members of Congress have backgrounds in science and engineering. Yet everyday legislators are asked to make important decisions that affect our nation’s scientific enterprise. You and your committee members can help them make informed decisions by joining the ACS’ Act4chemistry Network (formerly the Legislative Action Network).

Act4chemistry is a Web-based political involvement program that gives you an easy, effective way to voice opinions on legislation effecting federal research to K-12 science education.

As you may know, for decades ACS has been a respected source of information and advocacy on Capitol Hill. Often this input is provided in formal testimony before committees and panels making decisions on spending and legislation relating to science and engineering.

But just as important, members of Congress listen to their constituents and value their timely input. That’s where you and your committee members can play a valuable role as members of the network

Prior to key congressional decisions, ACS staff sends e-mail alerts to Act4chemistry members with background information, the analysis of the potential effect an issue would have on the scientific enterprise, and ACS’s position. By clicking on a Web link, participants can go directly to the ACS legislative action center where they are given background information on the topic and a proposed message that can be easily personalized and sent directly to legislators—the entire process takes only a few minutes.

It’s free, simple, and done entirely via the Web. But more to the point, by participating in the Act4chemistry Network, chemists can impact federal policies critical to chemistry and our nation. Please register online here [insert URL <http://congressweb.com/ACSlistsignup/form.cfm?list=lan>].

If you would like more information on the network, please contact the ACS Office of Public Affairs at 1-800-227-5558, ext. 4386 or b_smith@acs.org. Participate and become your legislator’s “face of science.”

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ACS Announces the 2011 Schedule for Short Courses

Our 2011 Schedule is out – find out which courses are being offered in what cities by visiting www.ProEd.acs.org/2011.

The 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 our short courses, webcast courses and on-demand courses by topic area, date, or location and even browse our full instructor list.

We are 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 us a line at shortcourses@acs.org and we’ll do our best to serve your technical training needs.

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New American Chemical Society Podcast: “Green Exercise” for Good Mental Health

WASHINGTON, Oct. 26, 2010 — Just five minutes of outdoor activity — such as exercising in a park, working in a backyard garden or walking on a nature trail — is good for the brain, with tangible benefits for mental health, according to the latest episode in the American Chemical Society’s (ACS) award-winning podcast series, “Global Challenges/Chemistry Solutions.”

The new Global Challenges podcast and website describe scientific research indicating that physical activity in natural areas, known as ‘green’ exercise, can lead to improvements in mental health. The research appeared in a report in the ACS journal, Environmental Science & Technology (ES&T). ES&T also published a news article on the study.

In the study, Jules Pretty and Jo Barton, Ph.D., of the University of Essex in the United Kingdom (U.K.), analyzed data on the physical activities of 1,252 people of different ages, genders and mental health status in the U.K. The scientists showed that just five minutes of exercise in a green nature setting can boost mood and self-esteem.

The new podcast is available without charge at iTunes and from ACS at www.acs.org/globalchallenges. ACS encourages educators, schools, museums, science centers, news organizations, and others to embed links to Global Challenges on their websites. Recent podcasts in the series include the importance of hand-washing to stop the spread of disease; nanotechnology for more sustainable buildings and other structures; and producing cost-effective biodiesel from sewage sludge.

Global Challenges/Chemistry Solutions is a series of podcasts describing some of the 21st Century’s most daunting problems, and how cutting-edge research in chemistry matters in the quest for solutions. Global Challenges is the centerpiece in an alliance on sustainability between ACS and the Royal Society of Chemistry. It includes topics such as providing a hungry, thirsty world with ample supplies of nutritious food and clean water; developing alternatives to petroleum to fuel society; preserving the environment and assuring a sustainable future for our children; and improving human health.

ACS President’s Challenge Update

Thank you for your continued efforts to help grow the ACS membership. Thus far, ACS members have recruited 5,368 new members through the 2010 ACS President’s Challenge!

The ACS has three different resources to help you to reach out to various audiences, in particular chemists living abroad and students. Each site describes the benefits of ACS membership that are geared specifically to that particular group.

international.ACS.org - to help you recruit international members

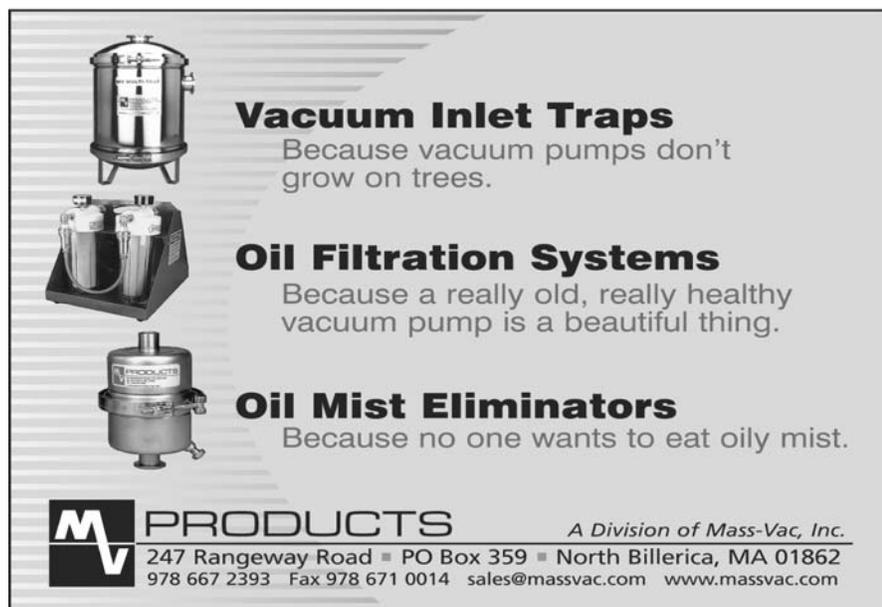
GradStudent.ACS.org - to help you recruit graduate students and post-docs

undergrad.ACS.org - to help you recruit undergraduate students

We hope that by bringing in students and international members, your sections and divisions will benefit from an increase in participation and contributions from these new members.

For full details about the President’s Challenge, visit www.acs.org/MAC.

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Volunteers Needed!

There are a number of volunteer opportunities in the Pittsburgh ACS section! If you are interested in volunteering, please contact 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 January 2011 issue must be to the editor by December 1, 2010.

The Crucible

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- www.mboservices.net/recr_disp.php
- <http://pubs.acs.org/chemjobs/>

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Pittsburgh Area Calendar

Thursday, December 9

Younger Chemists Committee

Second Annual Holiday Party

Hofbräuhaus, 2705 South Water Street, Pittsburgh, PA 15203

Monday, January 10

Society for Analytical Chemists of Pittsburgh

"NMR and Cell Membrane"

Megan Spence, Ph.D., University of Pittsburgh

Duquesne University, Pappert Hall in the Bayer Learning Center