



The Crucible

www.pittsburghacs.org

Volume: C No.9

May 2015

Councilors' Report: ACS Spring 2015 NATIONAL MEETING Denver, Colorado

Four of ACS Pittsburgh Section Councilors were in attendance at Denver.

The meeting attracted approximately 13,940 attendees and an exposition of 363 booths.

The Candidates for President- Elect, 2016 are:

G. Bryan Balazs and
Allison A. Campbell

The Candidates for Directors-at-Large for a 2016-2018 term: William R. Leenstra, Ingrid Montes, Mary jo Ondrechen, and Thomas W. Smith. The election of two Directors-at-Large from among those candidates will be conducted in the fall. Ballots will be distributed to the Council on October 2.

As part of a regular performance review, the Council voted unanimously to continue the Committee on Ethics and on Science.. Continuation on Science also requires Board concurrence.

The Council voted to set the member dues for 2016 at the fully escalated rate of \$162. This rate is established pursuant to an inflation-adjusted formula in the ACS Constitution and Bylaws.

The Committee on Meetings & Expositions reported that the total meeting registration was 13, 940. Of these,

7,307 were regular registrations, 847 were exhibitors, 5,141 were students, 360 were exposition only, and 285 guests. The exposition had 363 booths with 240 companies. The meeting had over 10,246 papers presented.

The Committee on Meetings and Expositions recommends that the Early Member Registration Fee for 2016 national meetings be \$415, per the National Meeting Long-Range Financial Plan. As part of the continuing ACS sustainability effort and to encourage the use of the ACS mobile app and online program, M&E has decided to discontinue free distribution of the hard copy program book starting in 2016. Those who pre-register for the meeting may purchase a copy of the program book for \$10 (pick up on site), and copies will be available at the meeting for \$20. The PDF version of the national meeting program will be more prominently displayed on the ACS website for those who would like to print portions for themselves.

Following a discussion on the revenue supporting National Meetings, the ACS Council respectfully requested that the Board of Directors delay the implementation of the technical meeting additional fee to the meeting registration fee, until the Board

Contents ...

Councilors' Report	1
ACS Spring National Meeting	
Tripartite Symposium	2
The Interface of Science and Hollywood	
Society For Analytical Chemists of Pittsburgh and Pittsburgh Section ACS Annual Awards Dinner	3
ACS Pittsburgh Energy Technology Group June Meeting	4
89 th American Chemical Society Colloid and Surface Science Symposium	5
Mass Spectrometry Discussion	6
Group of Pittsburgh	
Graphene: A New Tool for Fighting Cavities and Gum Disease?	7
Applications for Student Travel Awards	7
Advertiser's Index	11
Calendar	12

Continued on Page 5

The Interface of Science and Hollywood

Mark your calendars now for
Saturday, May 16th

for the 2015 Tripartite Symposium, sponsored by the Pittsburgh Section of the ACS, the Society for Analytical Chemists of Pittsburgh, and the Spectroscopy Society of Pittsburgh.



Featuring:

Robert Chiappetta

Executive Story Editor, FRINGE

Pulling Back the Curtain: Why Hollywood doesn't always get the science right, and why it's a good thing.

Ann G. Merchant

Deputy Executive Director, Office of Communications of the National Academies

The National Academy of Sciences Goes to Hollywood – A Hero's Journey



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

Schedule: 9:30am Registration with Refreshments
10:00-12:00pm Talks from Robert Chiappetta and Ann Merchant
12:00pm Light Social Lunch

Cost: \$5 for all attendees



sacp.org



pittsburghacs.org



ssp-pgh.org

Register Now! Send this form and a check (payable to ACS Pittsburgh Section) by Tuesday, May 5th to:
Mackenzie Speer ▪ 4742 Lorigan Street ▪ Pittsburgh, PA 15224.

Any questions should be directed to Mackenzie Speer at mackenzie.speer@gmail.com or 724-796-3105.

Name: _____

Affiliation: _____

Email: _____ Phone: _____

Any dietary restrictions: _____

Annual Awards Dinner

Monday, May 18, 2015

THE PITTSBURGH SECTION, AMERICAN CHEMICAL SOCIETY



Co-Sponsored by

and

THE SOCIETY FOR ANALYTICAL CHEMISTS OF PITTSBURGH



Duquesne University Ballroom
(Student Union – 4th Floor)

Social Hour – 5:30 P.M.
Dinner – 6:30 P.M.

Entrée: Chicken Parmesan

**Cost of Dinner for members and/or guest - \$15.00 per person.
Each member may bring one guest.**

Dinner reservations: Please contact Valarie Daugherty, SACP Administrative Assistant at 412-825-3220 ext. 204 to make your dinner reservation. Deadline date is Wednesday, May 6, 2105. If you have any dietary restriction, please note when you make your reservation.

Parking: For parking, please use the Duquesne University Parking Garage on Forbes Avenue. Please bring your parking ticket to the registration desk for a parking validation sticker.

ACS Energy Technology Group

Tuesday, June 9, 2015

“Sustainable Geothermal Heating and Cooling Using the Natural Refrigerant, Recycled Carbon Dioxide”

Marc Portnoff
Thar Geothermal

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

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

Buildings accounted for 41% of the primary energy consumption and 40% of the carbon dioxide emissions in the USA, in 2010. This represented a cost of approximately \$400 billion dollars. To address this market opportunity, Thar Geothermal, LLC has developed sustainable heating and cooling systems that are rooted in nature’s design. These systems result in enhanced energy efficiency, reduced operating costs, and reduced environmental footprint. What differentiates Thar Geothermal from other geothermal systems is the use of an established natural refrigerant, recycled carbon dioxide (R744). R744 is safer to handle, non toxic, non flammable, and non corrosive. It has zero ozone depletion potential and negligible global warming potential when compared to man-made refrigerants like R134a and R410a.

The talk will cover the design and implementation of this new heating and cooling technology, examples of real world performance, market opportunities, and the challenges associated with commercialization of this technology.

Marc Portnoff is the General Manger at Thar Geothermal, LLC. His primary focus has been the development of the world’s first commercial scale, all natural refrigerant, direct exchange, geothermal system. He is a certified NACE and IGSHPA geothermal installer. He is involved in both the design of the heat pump, and the design and installation of the geothermal ground heat exchanger.

Previously, Mr. Portnoff managed product and process innovation at Carnegie Mellon for over fifty industrial sponsors and five governmental agencies. His technical specialties include development of renewable energy processes, clean energy systems, nanomaterials and catalysts, and environmental gas sensors and sensor systems.

He is a conference speaker, author and co-author of several dozen technical papers and patents. He earned a Bachelor’s degree from Vanderbilt University and a Masters degree from Carnegie Mellon University, both in Materials Science and Biomedical Engineering.

For reservations, please contact Elliott Bergman at elliott.acstechnology@gmail.com by 1:00 on June 8, 2015. Walk-ins are welcome. Our meetings are open to all. Cash or check payable to: Energy Tech Pgh Section ACS.

The cost of the dinner is \$21 including tax and gratuity. Alcoholic drinks cost extra.

89th American Chemical Society Colloid and Surface Science Symposium

June 14 – 17, 2015

Hosted by
Carnegie Mellon University
Pittsburgh, Pennsylvania

Symposium Website: <http://colloids2015.org>

The 89th annual technical meeting of the American Chemical Society Division of Colloid and Surface Chemistry will highlight the latest fundamental and applied advances in colloid and surface science, including its key roles in a diversity of related disciplines. Traditionally organized and hosted by a university that has a deep commitment to colloid and surface science, the Symposium thrives on strong international attendance by participants from academia, industry and national laboratories and has become established as a premier conference in this field. Approximately 500 oral and poster presentations are expected. Online abstract submissions will be accepted from January 5 – April 1, 2015.

In addition to 13 technical symposia and a poster session, this Symposium features two plenary lectures, the Unilever Award Lecture, the Victor K. LaMer Award Lecture, and an instrument exhibition. The social program includes the welcoming dinner reception on Sunday evening, June 14, the Monday afternoon poster session with refreshments, and the Tuesday evening Symposium Banquet at the Carnegie Museum of Natural History.

This year's plenary speakers are Professor Tejal Desai of the University of California at San Francisco and Professor David Pine of New York University. In addition, each of the technical symposia features two keynote speakers. The symposia, their organizers and keynote speakers can be found on [page 8](#).

Please visit the Symposium website <http://colloids2015.org> for more information and to submit an abstract, or contact one of the Symposium Co-Chairs, Stephen Garoff (sg2e@andrew.cmu.edu), James Schneider (schneider@cmu.edu) or Robert Tilton (tilton@cmu.edu).

Councilors' Report Continued from Page 1

presents an analysis (preferable at the Boston national meeting) of the projected break even fee, including the net revenue from the National Meeting Exposition.

On recommendation of the Committee on International Activities and subject to the concurrence of the Board of Directors, the Council voted to approve petitions to charter the India International Chemical Sciences Chapter and the Taiwan International Chemical Sciences Chapter.

In 2014, ACS generated a Net from Operations of \$ 17.9 million, which was \$4.2 million favorable to budget. Total revenues were \$499.0 million, \$0.7 million or 0.1 per cent higher than budget. Expenses ended the year at \$481.1 million, \$3.5 million favorable to the budget. This variance was largely attributable to a continued emphasis on expense management across the Society. Despite favorable operating results, the Society's financial position weakened in 2014, with Unrestricted Net Assets declining \$62.3 million, to \$144.7 million at year-end. This decline was the result of a significant accounting charge related to the Society's two closed retirement benefit plans.

SOCED reported that more than 1,900 individuals have joined the American Association of Chemistry Teachers (AACT) which launched last year, 88 percent of whom are K-12 teachers in chemistry. The Dow Chemical Company was announced as the Sole Founding Partner of AACT with a gift of \$1 million.

[Continued on Page 9](#)



Mass Spectrometry Discussion Group of Pittsburgh



2015 Manufacturer's Night and Poster Session

Thursday, June 18th, 2015

Pittsburgh Athletic Association – Pennsylvania Room
4215 Fifth Avenue, Pittsburgh, PA 15213

(Across Bigelow Blvd. from Soldiers and Sailors Memorial Hall in Oakland)

**The best undergraduate/graduate student posters (must show MS work)
will receive cash prizes – presented following dinner.**

- 4:30 PM Manufacturers' Booths and Poster Session
- 5:30 PM Cocktail/Social Hour (cash bar)
- 6:00 PM Dinner
- 7:00 PM Student Poster Awards Presentation
- 7:05 PM "Making Ions See the Light: Photodestruction Reveals Structure"
Dr. Michael Van Stipdonk, Duquesne University

OPEN TO THE PUBLIC

Please register by Monday, June 15th

Registration Fee (dinner and parking included):

- \$20 – Professionals
- \$10 – Students and Retirees
- Each Vendor – ONE Free Registration

(Parking validated ONLY in Pittsburgh Athletic Association parking lot)

REGISTRATION FORM: Please send completed form and check to: SSP Office, Administrative Assistant,
300 Penn Center Blvd., Suite 332, Pittsburgh, PA 15235, no later than June 15, 2015.

Checks can be made payable to SSP.

Name _____ Phone No. _____

Institution _____ E-mail address _____

Guest Name _____ Institution/E-mail _____

I will be presenting a poster Undergraduate Graduate Retiree Professional Vendor

Please Choose Dinner Entrée: Chicken Pork Salmon Vegetarian

Graphene: A New Tool for Fighting Cavities and Gum Disease?

"Killing Dental Pathogens Using Antibacterial Graphene Oxide"
ACS Applied Materials & Interfaces

Dental diseases, which are caused by the overgrowth of certain bacteria in the mouth, are among the most common health problems in the world. Now scientists have discovered that a material called graphene oxide is effective at eliminating these bacteria, some of which have developed antibiotic resistance. They report the findings in the journal ACS Applied Materials & Interfaces.

Zisheng Tang and colleagues point out that dentists often prescribe traditional antibiotics to get rid of bacteria that cause tooth decay or gum disease. But with the rise in antibiotic resistance, new approaches are needed to address these problems, which can lead to tooth loss. Previous studies have demonstrated that graphene oxide — carbon nanosheets studded with oxygen groups — is a promising material in biomedical applications. It can inhibit the growth of some bacterial strains with minimal harm to mammalian cells. Tang's team wanted to see if the nanosheets would also stop the specific bacteria that cause dental diseases.

In the lab, the researchers tested the material against three different species of bacteria that are linked to tooth decay and gum disease. By destroying the bacterial cell walls and membranes, graphene oxide effectively slowed the growth of the pathogens. The researchers conclude that the nanosheets could have potential uses in dental care.

The authors acknowledge funding from the Shanghai Natural Science Foundation and the Hospital-Public Cross-Link Project of Shanghai Jiao Tong University.

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

Section's Website:

www.pittsburghacs.org

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Pittsburgh Section of the American Chemical Society

Applications for Student Travel Awards Now Being Accepted

The Pittsburgh Section of the American Chemical Society has budgeted funds to help encourage undergraduate/graduate student participation in national and regional ACS meetings. The awards are intended to help defray meeting registration and travel-related expenses (lodging, transportation, per diem) for eligible students. To apply for the funds, one should simply complete the application (available on our web site at www.pittsburghacs.org) and return it by the relevant deadline to:

Pittsburgh Section ACS
Travel Grants
Attn: Dr. Michelle Ward
Room 107 / Chevron Science
Center
219 Parkman Avenue
Pittsburgh, PA 15260

Each year, the Pittsburgh Section of the ACS will award up to four \$500 grants to aid our undergraduate/graduate student members in presenting papers or posters at ACS Meetings. Awards will be made based on the scientific merit of the paper/poster to be presented and financial need. The deadlines for receipt of applications are 06/01/2015 (for travel to be completed by 12/31/2015) and 12/01/2015 (for travel to be completed by 06/30/2016.)

Our Section is looking forward to helping increase the participation of local students in ACS conferences. If you have any questions, please do not hesitate to contact Dr. Michelle Ward, muscat@pitt.edu or 412-624-8064.

89th American Chemical Society Colloid and Surface Science Symposium

Symposium, Organizers and Keynote Speakers

Continued from Page 5

- Electrokinetics and Microfluidics: Aditya Khair (Carnegie Mellon) and Martin Bazant (MIT)
oKeynotes: Sumita Pennathur (UC Santa Barbara) and David Saintillan (UC San Diego)
- Self- and Directed Assembly of Molecules and Particles: Eric Furst (University of Delaware) and Ilona Kretzschmar (City College of New York)
oKeynotes: Emanuela Bianchi (TU Vienna) and Anand Yethiraj (Memorial University)
- Capillarity, Wetting and Particles at Fluid Interfaces: Sachin Velankar (University of Pittsburgh) and Alidad Amirfazli (York University)
oKeynotes: Heinrich Jaeger (University of Chicago) and Glen McHale (Northumbria University)
- Structure and Dynamics of Suspensions, Emulsions and Foams: Lynn Walker (Carnegie Mellon) and Jan Vermant (ETH Zurich)
oKeynotes: Dominique Langevin (CNRS and Université Paris Sud) and Michael Solomon (University of Michigan)
- Friction, Adhesion and Surface Forces: Orlando Rojas (Aalto University and North Carolina State University) and Noshir Pesika (Tulane University)
oKeynotes: Jacob Israelachvili (UC Santa Barbara) and Suzanne Giasson (University of Montreal)
- Colloidal Phenomena in Atypical Liquids: From Ionic Liquids to Low Dielectric Liquids: Paul Sides (Carnegie Mellon) and Dennis Prieve (Carnegie Mellon)
oKeynotes: Ian Morrison (Harvard University) and Norman Wagner (University of Delaware)
- Nanomedicine: Kathryn Whitehead (Carnegie Mellon) and Ashutosh Chilkoti (Duke University)
oKeynotes: Suzie Pun (University of Washington) and Warren Chan (University of Toronto)
- Biomembranes and Cellular Mechanics: Kris Noel Dahl (Carnegie Mellon) and Markus Deserno (Carnegie Mellon)
oKeynotes: Jay Groves (UC Berkeley) and Peter Butler (Pennsylvania State University)
- Colloidal Principles in Environmental Systems: Gregory Lowry (Carnegie Mellon) and Mark Wiesner (Duke University)
oKeynotes: Navid Saleh (University of Texas) and Vijay John (Tulane University)
- Proteins and Polymers under Confinement or at Interfaces: Deborah Leckband (University of Illinois) and Per Claesson (Royal Institute of Technology)
oKeynotes: Wuge Briscoe (University of Bristol) and Christine Keating (Pennsylvania State University)
- Nanoscale Imaging and Spectroscopy of Interfaces: Miguel Salmeron (Lawrence Berkeley National Laboratory) and Eric Tyrode (Royal Institute of Technology)
oKeynotes: Franz J. Giessibl (University of Regensburg) and Colin Bain (University of Durham)
- Colloidal Properties of Graphene, Nanotubes and Low Dimensional Materials: Jeffrey Fagan (NIST) and Matteo Pasquali (Rice University)
oKeynotes: Ivan Smalyukh (University of Colorado) and Ming Zheng (NIST)
- General Papers: Todd Przybycien (Carnegie Mellon) and Nicolas Alvarez (Drexel University)
oKeynotes: Huda Jerri (Firmenich) and Matthew Lynch (Procter and Gamble)
- Poster Session: Teresa Kirschling (NIST) and Christopher Wirth (Cleveland State University)



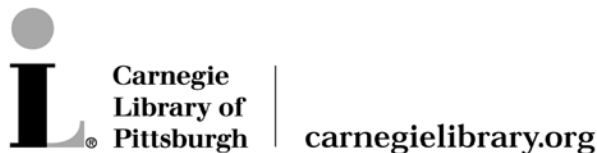
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American Chemical Society - Endowment Fund of
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Councilors' Report Continued from Page 5

The Committee on Economic and Professional Affairs reported the 2014 New Graduate Survey Results which show the unemployment rate for new graduate chemists has dropped from 14.9 percent in the 2013 survey to 12.4 percent as of 2014. The drop is principally due to more new bachelor's degree chemists finding employment. ACS members experienced three successive years of lowered unemployment, which could hint at a positive outlook for chemists in coming years. While unemployment is down, salaries have been overall stagnant.

The ACS Career Fair had 715 seekers, 27 employers, 85 positions and 10 booths. The Virtual Career Fair had 918 seekers, 6 employers, and 38 positions. Additionally, 368 resume reviews, 218 mock interviews, and 23 Career Pathway workshops were conducted during the meeting.

The Committee on Local Section Activities awarded 15 Innovative Project Grants for a total of \$38,389, and is continuing to offer a mini-grant to Local Sections that attended the 2015 Leadership Institute to partner with in Pennsylvania to ensure that the resolution had bipartisan sponsorship helps to underscore that science is an issue where both parties can come together.

Respectfully submitted,
Pittsburgh Section Councilors

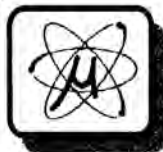
Richard S. Danchik (Author)
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Services

Volunteers Needed!

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

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 August 2015 issue must be to the editor by July 1, 2015.

The Crucible

The Crucible is published monthly, August through May. Circulation, 2,500 copies per month. Subscription price, six dollars per year. All statements and opinions expressed herein are those of the editors or contributors and do not necessarily reflect the position of the Pittsburgh Section.

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Career Opportunities

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There are two important ways to recruit through our services. One is to place a print ad in the Crucible. The other is to place a web site ad reaching out to 40,000 ACS members. We recommend using both low cost methods.

You can view both of these opportunities by going to the link below. Who uses these options?

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ADVERTISERS INDEX

Carnegie Library of Pittsburgh	9
Micron inc.	10
NuMega Resonance Labs	10
Robertson Microlit Laboratories	10
Society for Analytical Chemists of Pittsburgh	10
Spectroscopy Society of Pittsburgh	10

The Crucible

A newsletter of the Pittsburgh Section of the American Chemical Society

124 Moffett Run Rd.
Aliquippa, PA 15001

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

Saturday, May 2

SSP Continuing Education Facility Visit the Parent Education & Advocacy Leadership Center (PEAL) Center
1119 Penn Ave, Suite 400, Pittsburgh, PA

Saturday, May 16

Tripartite Symposium

"The Interface of Science and Hollywood"

Robert Chiappetta, Executive Story Editor, *FRINGE*

Ann G. Merchant, Deputy Executive Director, Office of Communications of the National Academies
Department of Chemistry, University of Pittsburgh, 219 Parkman Ave., Pittsburgh, PA

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Marc Portnoff, Thar Geothermal

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