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**Monthly Dinner Meeting****Wednesday, March 23, 2011***our guest speaker will be***Joshua Rabinowitz, MD, PhD****Chemistry and Integrative Genomics, Princeton University****"Towards a Comprehensive  
Understanding of Cellular Metabolism"**

Social mixer begins at 5:30 pm in the Friend Center Atrium, Princeton University. Presentation is at 6:15 pm in the Auditorium followed by dinner at Kalluri Corner Restaurant, Nassau St.

**Abstract**

The metabolic network is uniquely well mapped. However, the means by which the hundreds of reactions involved in metabolism are regulated in order to meet cellular needs remains incompletely understood. This talk will present mass spectrometry-based techniques for quantitative metabolomics and their application to systems-level metabolic analysis. Metabolomic data from *E. coli* will be used to reveal regulatory connections linking glycolysis to the citric acid cycle, and the citric acid cycle to nitrogen assimilation. A second case study, focusing on human cytomegalovirus infection, will highlight the potential for translating metabolomic discoveries into new therapeutic approaches.

**Biography**

Dr. Rabinowitz received B.A. degrees in Mathematics and in Chemistry from the University of North Carolina at Chapel Hill in 1994. He went on to Stanford University where he received his Ph.D. in Biophysics in 1999 and M.D. in 2001. He was co-founder and vice president of research of Alexza Pharmaceuticals from 2000–2004. The company's area of focus was accelerating the onset of drug action through thermally generated aerosols. He joined Princeton University, Department of Chemistry & Lewis-Sigler Institute for Integrative Genomics in 2004 where he is currently an Associate Professor.

His research laboratory aims to achieve a quantitative, comprehensive understanding of cellular metabolism. His lab has developed methods for measuring a wide range of cellular metabolites using state-of-the-art mass spectrometry technology. They have innovated approaches integrating

informatics to quantitate metabolic fluxes by interpret isotope-labeling data within a rigorous chemical-kinetic framework.

Dr. Rabinowitz is the inventor on nearly 100 patents and author of nearly 100 publications. He is the recipient of numerous awards including the Kavli Frontiers of Science Scholar, Kavli Foundation and National Academy of Sciences, 2008 CAREER Award, National Science Foundation, 2007 and Beckman Young Investigator Award, Arnold and Mabel Beckman Foundation, 2005.

### Reservations

The social mixer begins at 5:30 pm in the Friend Center Atrium, Princeton University (near William St entrance). The Friend Center is on the corner of William St. and Olden St. The seminar will begin at 6:15 pm in the Auditorium followed by dinner at Kalluri Corner Restaurant, 235 Nassau St, Princeton.

Parking is available in the University lots on William St (see Princeton.edu for campus maps). The seminar is free and open to the public. Reservations are required for dinner, which is \$20 (\$10 for students). Please contact Louise Lawter at [louise.lawter@gmail.com](mailto:louise.lawter@gmail.com) or 215-428-1475 by March 16 for reservations. Reservations must be canceled by noon March 22 to avoid being billed for the dinner.



## Joint Meeting of the Princeton & Trenton ACS Sections

**Wednesday, April 14**

*our guest speaker will be*

**John Allison, PhD**

Dept of Chemistry, Director of Forensic Chemistry,  
College of New Jersey

**“Forensic Applications of the Analysis of  
Colorants: From Dyes in Pen Inks to the  
Search for the Afterlife.”**

### Abstract:

Many questions that arise in art conservation are the same as those encountered in questioned document examination, a field in the Forensic Sciences. Is it authentic? Are the components

appropriate for the time and place in which it was created? Many of these questions can be answered by analyzing the dyes and pigments, the colorants, found in a document or a work of art. Using laser desorption mass spectrometry, and other chemical and spectroscopic approaches, we have developed methods for analyzing pen inks (such as signatures on a will or bank check), paper currency, pigments found in automobile paint chips (e.g., from a hit-and-run accident), to a mysterious obliteration that may defy explanation.

### Biography

Dr. Allison received his BS from Widener University and PhD from the University of Delaware. He held a post-doctoral position at Stanford University.

His research interests are in the application of mass spectrometry and other analytical techniques to forensic science. These include questioned document examination, and the analysis of colorants as used in art.

### Reservations

The meeting will be held at Princeton University, room location to be announced. For updates contact Louise Lawter at 215-429-1475, [louise.lawter@gmail.com](mailto:louise.lawter@gmail.com), or check our website at <http://www.princeton.edu/~pacs/>



## From the Chair

By Randy Weintraub, Chair 2011

Fellow PACS Members,



We are into the International Year on Chemistry 2011!!! Yes, the worldwide celebration of the achievements of chemistry and its contributions to the well-being of humankind. As Neil Gussman of the Chemical Heritage Foundation discussed with us at our January lecture-dinner meeting, it's "An Opportunity to Tell Our Story." We are embracing the theme to amplify and energize our Section's activities throughout the year. The international and national unifying themes ignite enthusiasm, pride and creativeness we can all enjoy together right here in our Section. The idea is also to harness the advances, creativity and collaborations to act on global challenges, most notably in Energy--Human Health--Food--Water.

Our Section membership has much to contribute and exchange in discussions and activities in how chemistry and related sciences practitioners address the challenges mentioned above. This year we are focusing on engaging more of our membership, especially the “younger chemists,” in Section activities. While there’s much the Section and ACS offers the “younger chemists,” they tend to keep other members “younger” too. Another objective of our Section this year is enhancing our community outreach with a sponsored education event in our local public libraries. Mainly geared to young school age children, the event will attempt to engage parents as well. This will compliment the Section’s two other successful annual community events, Chemagination contest and National Chemistry Week. All PACS activities provide our members opportunities to grow personal and professional skills, network with other members, get professional and career advice and are avenues to contribute more to our community and society. A final objective this year is to create a plan to attract more members into Section leadership and executive committee succession.

We’ve got exciting Not-To-Miss monthly Lecture-Dinner meetings coming up, with world-class speakers discussing metabolomics and therapeutic approaches in medicine, insights into forensic chemistry and industrial environmental chemistry lessons learned and challenges. Watch for the announcements! Also follow PACS, post comments and suggestions on Facebook at Princeton American Chemical Society Local Section. Join us at meetings, volunteer in organizing and implementing activities, and let us know if you are interested in becoming active in PACS governance. Get involved and stay involved with the Section. Let’s keep our science sharp, leadership skills growing, lampposts bright along the career paths, networks vibrant, and future bright!

Thanks for reading,  
Randy



## Great Chemistry Teachers Wanted!

By Louise Lawter, Program Chair

Do you know a great chemistry teacher? One who inspires and challenges their students, one who makes learning chemistry fun and exciting? Would you like to recognize them in a special

way? The Princeton and Trenton Sections of the American Chemical Society can help.

**The sections are jointly sponsoring the Outstanding High School Chemistry Teacher Award** again this year. The purpose of this award is to recognize and encourage outstanding teachers of high school chemistry and to motivate others to emulate them. Up to two winners will be selected and they will each receive a plaque and cash award of \$250.

We are soliciting nominations of outstanding chemistry teachers from high schools in the geographic areas of the Trenton and Princeton ACS sections. Anyone except a member of the award selection committee or currently enrolled student of the nominee (or the student’s parent or guardian) may submit one nomination. The nominee must be actively engaged in the teaching of chemistry in a high school (grades 9-12) and must not have won the award in the past seven years.

Criteria that will be considered in selecting the winning candidates are:

- the quality of the nominee’s teaching (unusually effective methods of presentation should be emphasized),
- the nominee’s ability to challenge and inspire students,
- extracurricular work in chemistry by the nominee, including science fairs, science clubs, and activities that stimulate the interest of young people in chemistry and related sciences,
- a willingness to keep up-to-date in the field, as evidenced by pursuit of a higher degree in chemistry, enrollment in refresher courses and summer institutions, regular attendance at scientific meetings, membership in professional organizations, and other means of self-improvement,
- evidence of leadership and/or active involvement within the profession.

To nominate someone for the award, submit a completed nomination form, along with the nominee’s curriculum vitae and two letters of recommendation evaluating the nominee’s accomplishments to Louise Lawter, Program Coordinator. Nomination material must be received by April 1, 2011. Forms and additional contest information can be found on our website at [princeton.edu/~pacs](http://princeton.edu/~pacs) (you can also view past winners there). If you have questions, or would like me to send you a nomination form, please contact me at [louise.lawter@gmail.com](mailto:louise.lawter@gmail.com).

**- ACS Grants & Awards Available -  
Deadline April 1<sup>st</sup>**

**Considering a Career in High School Chemistry Teaching?**

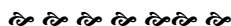
The American Chemical Society (ACS) can help you pursue your dream of becoming a high school chemistry teacher with the ACS-Hach Second Career Teach Scholarship. The ACS-Hach Second Career Teach Scholarship is awarded to professionals with work experience in chemistry-related fields. Scholarship recipients receive up to \$6,000 for full-time study and up to \$3,000 for part-time annually. Applications are due on April 1, 2011. Learn more about this exciting scholarship program at [www.acs.org/hach](http://www.acs.org/hach).

**Transform Your Classroom with an ACS-Hach High School Chemistry Grant**

The ACS-Hach High School Chemistry Grant is awarded to teachers interested in enhancing the teaching and learning of high school chemistry. Applicants can receive up to \$1,500 to support ideas that improve classroom learning, foster student development, and reveal the wonders of chemistry. Applications are due on April 1, 2011. Apply for the ACS-Hach High School Chemistry Grant today at [www.acs.org/hach](http://www.acs.org/hach)

**Overcoming Challenges Award**

The Women Chemists Committee (WCC) of the American Chemical Society is pleased to announce a call for applications for the 2011 Overcoming Challenges Award. This award is designed to recognize a woman undergraduate from a two-year or four-year institution for her efforts in overcoming hardship to achieve success in chemistry. The recipient of the Overcoming Challenges Award will receive a plaque, a monetary award of \$250, and a \$1,000 travel stipend for expenses to attend the Fall 2011 ACS National Meeting where she will be recognized at the WCC Luncheon. Visit [www.acs.org/diversity](http://www.acs.org/diversity) for more details. Submission deadline is April 1, 2011.



**Registration & Abstract Submission Open!**

The Chemical Society of Washington Section of the American Chemical Society will host the 42nd Middle Atlantic Regional Meeting (MARM 2011) on the campus of the University of Maryland in College Park, Maryland from Saturday, May 21, to Tuesday, May 24. The meeting's theme for this event is "International Year of Chemistry 2011."

Keynote speakers include Eric Wachsman and Clifton Barry. Several Workshops are planned, and there will be events that feature career development, funding opportunities, and education.

Symposia Titles include - Life Sciences, Materials Sciences, Chemical Education, Supramolecular Chemistry and Molecular Recognition, Advances in Organic Synthesis, Nucleic Acid Chemistry, Bioactive Small Molecule Design and Discovery, and Medicinal Chemistry of Anticancer Drugs, Synthetic Chemistry, Damage, Repair, and Mutation of DNA, Frontiers of Structure and Dynamics Using NMR Spectroscopy, Medicinal Chemistry of Anticancer Drugs, and Nanoparticle Metrology, New Technologies for Lithium Ion Batteries, Chemistry of Graphitic Materials, Advances in Terahertz and IR Spectroscopy. Redefining the Kilogram and Avogadro's Number, Metal-Mediated Small Molecule Activation and Functionalization, and Chemistry and Materials Composition of Cultural Heritage Materials, Ambient Ionization Methods in Biological Mass Spectrometry, Neutraceutical and Food Chemistry: An Exciting Career for Chemists, Applied Methods for Separation Science, the Chromatography Award Symposium, and Cheminformatics and Bioinformatics: Working Together to Address Systems Chemical Biology.

See our Website [www.marmacs.org](http://www.marmacs.org) for more information or email us at [contacts@marmacs.org](mailto:contacts@marmacs.org)

## 🔗 2011 EVENTS & NOTICES 🔗

Non-Section Meetings & Events	
<b>Wednesday, March 9</b>	<b>Chemical Consultants Network</b> Topic: "Starting a Custom Synthesis Company". Speaker Dr. Ron Bihovsky founder, Key Synthesis LLC, a custom synthesis company. Location: Cynwyd Club, 332 Trevor Lane, Bala Cynwyd, PA. Networking, 5:30 PM; Dinner, 6:30 PM; Talk and Business Session, 7:30 PM. To make or cancel a dinner reservation, e-mail CCNReservations@aol.com or call the ACS office at 215-382-1589. For more information see <a href="http://www.chemconsultants.org">www.chemconsultants.org</a> .
<b>Thursday, March 10,</b>	<b>Chemical Heritage Foundation – Joseph Priestly Society</b> Speaker: Jerome A Peribere, President of Dow Advanced Materials (former Rohm and Haas operations). Topic: "The Business of Sustainability: Challenges, Opportunities, and Trends." Schedule: 11:30 am - 2 pm (starting with networking, lunch, the talk at 1 pm, and conclusion promptly at 2 pm). Location Chemical Heritage Foundation, 315 Chestnut St., Philadelphia, PA 19106 (discounted parking garage available on 4th just before Chestnut). Visit <a href="http://www.chemheritage.org/visit/events/public-events/2011-03-10-jps-jerome-peribere.aspx">http://www.chemheritage.org/visit/events/public-events/2011-03-10-jps-jerome-peribere.aspx</a>
<b>March 27-31</b>	<b>241st ACS National Meeting &amp; Exposition</b> , Anaheim, CA. Anaheim Convention Center & area hotels. See <a href="http://acs.org">acs.org</a> for meeting information.
Princeton Section of the ACS – Upcoming Meetings	
<b>Wednesday, April 14</b>	<b>Joint meeting of the Princeton &amp; Trenton ACS Sections.</b> Professor John Allison, Dept of Chemistry College of New Jersey will speak on Forensic Chemistry. The meeting will be held at Princeton University, room location to be announced.
<b>Wednesday, May 11</b>	<b>Princeton ACS Dinner meeting.</b> Professor Joseph Delfino, University of Florida, Department of Environmental Engineering Sciences will speak on "Industrial Ecology Meets Environmental Chemistry". The meeting will be held at Princeton University, room location to be announced.
<b>Wednesday, June 16</b>	<b>Princeton ACS Dinner Meeting and Young Chemist Committee Event</b> , speaker will be Danielle DiNallo, Research Investigator, Global Analytical and Sensory Measurement, International Flavors & Fragrances Inc. The meeting will be held at Princeton University, room location to be announced.

### Job Postings on our Website

Job postings are always being added to our website. You can also find links to ACS resources for job seekers and career development. Check it out at [www.princeton.edu/~pacs/](http://www.princeton.edu/~pacs/)

## ACS Webinars™

Learn more and register at [www.acswebinars.org](http://www.acswebinars.org)

ACS Webinars™ is a weekly online event serving to connect ACS members and scientific professionals with subject matter experts and global thought leaders in chemical sciences, management, and business. The ACS Webinars are divided into several series that address topics of interest to the chemical and scientific community; these series include career development, professional growth, small & medium business, green chemistry, and executive view. Each webinar is 60 minutes in length, comprising a short presentation followed by Q&A with the speaker. The live webinars are held on Thursdays (and on most Tuesday during March) from 2-3pm ET. Recordings of the webinars are available online and upcoming events are posted at <http://acswebinars.org/events>. Some upcoming webinars:

**Thursday March 10, 2011 | 2pm-3pm EST, “Branding YOU! Why Marketing Yourself is Critical for Your Chemistry Career”**, Learn the in’s and out’s of networking and building your personal brand! Dr. Dawn Mason and Dr. Catherine Hunt

**Thursday March 17, 2011 | 2pm-3pm EST, “CSI Reality: Chemistry in the Crime Labs”**, Get the inside scoop from an FBI chemist! Learn the different disciplines within forensic chemistry, and hear an in-depth perspective of day-to-day life in a forensic laboratory. Dr. Jason Schaff

**Thursday March 24, 2011 | 2pm-3pm EST, “Know Your Drugs – A Pharmacology Primer for Chemical and Life Science Professionals”**, Learn insights into how pharmacology can help guide your structure-activity relationships in discovery chemistry, and what assays can (and can’t) tell you. Dr. Terry Kenakin

**Thursday March 31, 2011 | 2pm-3pm EST, “Advanced Chemistry of Beer and Brewing”**, Join Charlie to learn advanced insights and explanations about the chemistry behind beer brewing! Cheers! Dr. Charles Bamforth



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ADDRESS CORRECTION REQUESTED