



# ALI "QUOTES"

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Website <http://www.princeton.edu/~pacs>

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Steve L. Bernasek  
sberna@princeton.edu

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james.denoble@dep.state.nj.us

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weintraubr@gmail.com

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dcarrick@comcast.net

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Barbara Ameer  
b4chemistry@gmail.com

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sjsibilica@gmail.com

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Louise Lawter  
louise.lawter@gmail.com

### Alt. Councilor (2012-14):

Jay Wrobel  
jaywrobel@gmail.com

### Alt. Councilor (2011-2013) & Environmental Improvement:

Jim DeNoble  
james.denoble@dep.state.nj.us

### National Chemistry Week:

Allen Jones  
allen.n.jones@verizon.net

### Webmaster:

Sergio Anis  
sergioanis@gmail.com

## Summer Picnic and Recognition of our 50- & 60-Year Members

Thursday, June 28, 2012

*our guest speaker will be*

**Robert P. Bates, PhD**  
University of Florida, Gainesville, FL

### "The Chemistry and Alchemy of Brewing"

Location: Frick Laboratory, Princeton University  
Social mixer: 5:30 pm in CaFe area, Taylor Commons  
Presentation: 6:30 pm in Taylor Auditorium  
Dinner: Following presentation, on patio outside of CaFe,

### Abstract

Beer making, one of the oldest examples of biotechnology, is a fascinating study of chemistry, biochemistry, and engineering. It combines well recognized and controllable reactions and operations with complex, poorly understood phenomena, including the psychosensory response. Surprisingly, some of the most sophisticated science and technology are employed in the efficient production of mass advertised, mediocre beers. In contrast, traditional "alchemy-driven" methods can produce exceptional yet under-recognized beers. Fortunately, there is an achievable balance between these extremes. This presentation will cover the brewing process from raw material selection and preparation through fermentation to consumption. Emphasis will be on major pathways employed by brewers to produce a wide range of beers. These are exciting times for brewers and beer connoisseurs in the U.S. Future industry developments of relevance to consumers will be mentioned. With dedication and practice, the average chemist can brew above-average beers; so can the experienced kitchen alchemist.

### Biography

Bob Bates received his B.S. degree in food technology from MIT. After several years in the food industry, he obtained an M.S. degree in food science from the University of Hawaii and a Ph.D. in food science from MIT. After a year at the Institute of Nutrition of Central America and Panama in Guatemala, he joined the University of Florida. He is presently a professor emeritus of food technology in the Food Science and Human Nutrition Department. Bates' areas of interest are food processing and utilization, small-scale process and equipment development, fermentation technology and byproduct recovery, food product development, and international technical assistance. His major responsibilities involve teaching graduate and undergraduate food science processing and product development courses; and conducting research/extension activities in home, community, and small-scale industrial

food processing operations. He has completed short and long-term international assignments in many countries in the Caribbean, Central and South America, and Asia. He fields frequent inquiries on food science and technology and related subjects from national, international, and industrial sources. Bates has developed and presented many short courses in the U.S. and overseas and has been an ACS tour speaker on various food science and technology topics for about 30 years.

### Reservations

The meeting will be held in the new Frick Laboratory, Princeton University. The social mixer will begin at 5:30 pm in the CaFe area of Taylor Commons. The lecture will be held in the Auditorium at 6:30 pm followed by dinner outdoors on south patio (in case of rain, it will be held in Taylor Commons (CaFe area). Frick Laboratory is located at the east end of the pedestrian bridge on Washington Rd, adjacent to the Weaver Track and Field Stadium. Parking is available in Lot 21, corner of Faculty Road and Fitzrandolph Road or other lots along Ivy Lane (see [www.princeton.edu/main/visiting/](http://www.princeton.edu/main/visiting/) for other parking options). 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 June 21 to make reservations.



## 2012 OUTSTANDING HIGH SCHOOL CHEMISTRY TEACHER AWARD

The Trenton and Princeton ACS sections have been jointly sponsoring the Outstanding High School Chemistry Teacher Award since 2006. The purpose of the award is to recognize the work and dedication of chemistry teachers in area schools.

Early in the year, educators from area schools were asked to nominate teachers whom they felt were worthy of special recognition. The selection criteria were teaching quality, ability to challenge and inspire students, extracurricular work in chemistry, a willingness to keep up-to-date in the field, and evidence of leadership and/or active involvement within the profession.

We are pleased to announce that Matthew Treichel of the Hun School is this year's award recipient. A plaque was presented to Mr. Treichel at our May 1 meeting.



From left, Matthew Treichel receiving Outstanding Teacher Award from Benny Chan, Trenton ACS Chair and Steve Bernasek, Princeton ACS Chair

the University of Pennsylvania and has been at the Hun School since 1995 teaching Advanced Placement and Honors Chemistry, and supervising the chemistry program. He also coaches track and strength training.

In his nomination material there were recurring themes of dedication to teaching and his interest in his students. A quote from Rachel McEnroe, a former student, encapsulates this. She states - "A lot of people enter college and have no idea what they want to major in, but I have known for two years that I wanted to major in chemistry. I have Mr. Treichel to thank for this. ... Mr. Treichel pushed everyone to learn as much chemistry as they possibly could."

In addition to his teaching he contributes to his students and chemistry in a number of other ways. He organized and continues to advise the 'Alchemy Club' to foster interest in chemistry and science. He prepares his students for Chemistry Olympiad (an ACS program) and the Merck competition.

Please join me in congratulating Matthew Treichel on this award.



## Fostering Sustainability In Princeton – Seeking Volunteers

A Princeton Section committee is being formed to design a program around the general theme of "Sustainability in Princeton". One idea being pursued is a way of encouraging sustainability in area schools.

An ACS Innovative Projects Grant will be submitted to fund this project. Deadline for grant submission is June 30, 2012. If you have a project idea, are interested in helping out, or learning more about the project, please contact Sharon Sibilia at [sjsibilia@gmail.com](mailto:sjsibilia@gmail.com). She is eager to hear from you!



## Chemagination 2012 in Princeton, NJ

By Barbara Ameer,  
2012 Chemagination Chair

First Campus Center at Princeton University was buzzing with scientific discussions on Saturday, April 14, 2012 during the poster portion of the tenth annual Chemagination high school competition, sponsored by the Princeton and Trenton Sections of ACS.

Forty-one students from seven schools in central and northern New Jersey were part of "Chemagine-Nation." Forming teams of two to three students in one of four categories (Alternate Energy, New Materials, Environment and Medicine/Health), the schools' entrants applied chemistry to create an idea that would improve people's lives 25 years in the future. Fostering scientific teamwork, the competition asks the teams to brainstorm, develop ideas, and formulate a feature article for a high school science magazine, along with cover art for the story. These articles were evaluated by a masterful scientific team of nine doctorate-level judges. The second phase was the preparation of the poster for the Princeton event where the teams defended the science underlying their innovation during interviews with three judges. Projects were judged for scientific soundness, clarity, creativity, and teamwork.

During the poster event at Princeton University, 12th Congressional District U.S. Congressman (central NJ), Rep. Rush Holt, PhD, engaged students in scientific discussion about their individual projects. The students and parents enjoyed the attention from this former Assistant Director of the Princeton Plasma Physics Laboratory and researcher on alternative energy. Rep. Holt, who served on the National Commission on Mathematics and Science Teaching, clearly demonstrated the importance of fostering innovative scientific thinking among our youth.

First place winners will advance to a regional competition on June 2, 2012 at the ACS Mid - Atlantic Regional Meeting (MARM) at the University of Maryland, Baltimore Campus.

## First Place Winners

Alternate Energy: MacCallum Robertson, Daniel Echeverri and Mark Khusidman, "Lightening Farms: Electric Agriculture", West Windsor-Plainsboro High School South

Environment: Aayush Visaria and Brandon Chu, "MemNotes", West Windsor-Plainsboro High School South

Medicine/Health: Kellie Heom, Isabella Grabski and Rachel Yang, "The ProPancreas: A Diabetic Revolution", Bergen County Academies

New Materials: Aastha Chokshi, Anup Regunathan, and Saavanth Velury, "Energy Exploding Enzymes: Power of the Protein", West Windsor-Plainsboro High School North

## Second Place Winners

Alternate Energy: Nehal Gupta, Jayati Verma and Jhillika Patel, "Pyramids of Light: The Foundation of Today's Alternative Energy Solution, West Windsor-Plainsboro High School North

Environment: Katherine Collins and Lauren Snieckus, "From Cotton, To Plastic, To H2O" Pascack Valley High School

Medicine/Health: Pranitha Rayapudi, Danika Baskar and Pavithra Arunachalam, "The NanoHero" West Windsor-Plainsboro High School North

New Materials: Rohan Iyengar, Byron Chiu and Rahul Vanchinathan, "Silica Aerogels: A Reflective Issue", West Windsor-Plainsboro High School North

The local Chemagination competition is proud to be celebrating its 10th year by broadening its reach to more counties in New Jersey. The contributions of the teacher advisors from the participating NJ schools were recognized at the awards ceremony. They were Dr. Deok-Yang (Doug) Kim, Bergen County Academies; Nicholas Johnson, Hopewell Valley Central High School; Cindy Reese and Christopher Nilsen, Pascack Valley High School; Thomas Horsley, Pennington High School; Ronald Brandt, MBA, West Orange High School; Julie Norato, West Windsor-Plainsboro HS North; Cindy Jaworsky, West Windsor-Plainsboro HS South.

The 2011-2012 New Jersey competition activities were supported in part by a National ACS grant to the PACS based on the proposal submitted by Dr. Barbara Ameer, PACS Chemagination Committee Chair and Coordinator.



- Chemagination 2012 - First Place Winners



*Photo at left*

Medicine/Health: Kellie Heom, Isabella Grabski and Rachel Yang, "The ProPancreas: A Diabetic Revolution"



*Photo at right*

Environment: Aayush Visaria and Brandon Chu, "MemNotes"



*Photo at left*

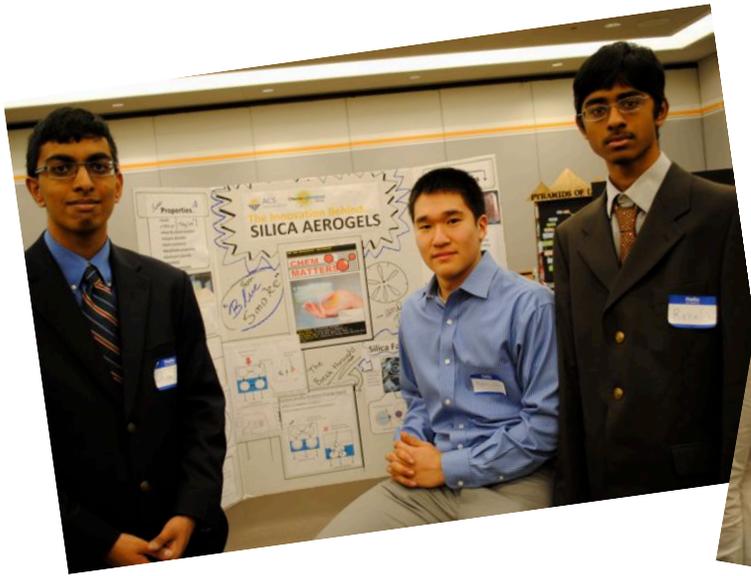
New Materials: Aastha Chokshi, Anup Regunathan, and Saavanth Velury, "Energy Exploding Enzymes: Power of the Protein"

*Photo at right*

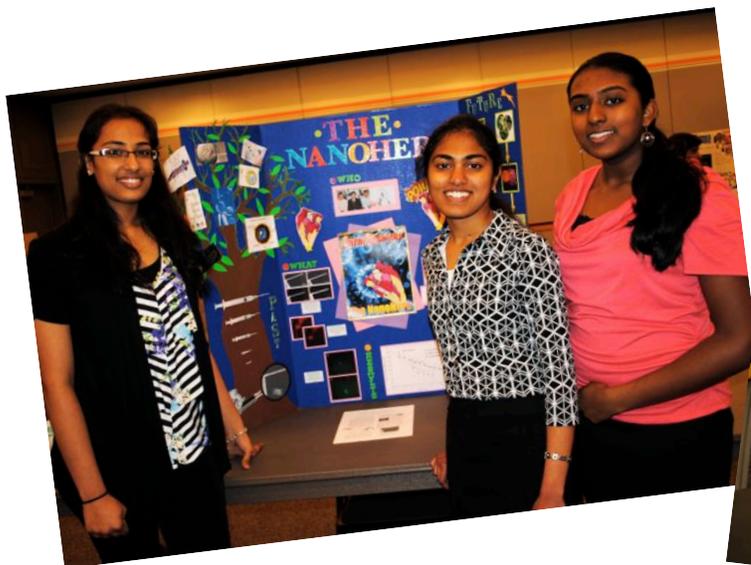
Alternate Energy: MacCallum Robertson, Daniel Echeverri and Mark Khusidman, "Lightening Farms: Electric Agriculture"



- Chemagination 2012 - Second Place Winners



- Photos -  
 Top, left to right  
 New Materials & Alternate Energy  
 Center  
 Barbara Ameer (3<sup>rd</sup> from left) with judges  
 Bottom, left to right  
 Medicine/health & Environment



## ACS Webinars™

is a weekly online event. 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 from 2-3pm EST. Recordings of the webinars are available online and upcoming events are posted at <http://acswebinars.org/events>.

**Thursday, June 7, 2pm-3pm EST, *Startup Support – Who Provides What and at What Terms or Qualifications***, You need lab space, employees, a sales team, legal advice, and business strategists. Oh yeah... you needed them yesterday. Learn what resources, other than funding are needed by and available to help entrepreneurs.  
Speakers: Dean Chang, University of Maryland and Gus Weber, Polaris Venture Partners.

**Thursday, June 14, 2pm-3pm EST, *Green Chemistry and Global Access to Medicines in Developing Countries***, In some parts of the world, treatable diseases still take many lives. Even though a vaccine may exist, access to medical care is limited. Curious to learn how green chemistry can positively impact public policy and improve global health? Join Dr. Joseph Fortunak, as he discusses sustainable medicine and how different organizations are working to help everyone gain access to treatments they need. Speaker: Joseph Fortunak, Howard University

**Thursday, June 21, 2012, 2pm-3pm EST, *The Kitchen as Laboratory: Reflections on the Science of Food and Cooking***, They say that you shouldn't take your work home with you, but in this case, we have to disagree. "Eating is a multisensory experience, yet chefs and scientists have only recently begun to deconstruct food's components, setting the stage for science-based cooking..." Trade your lab coat for an apron and bring your skills from the bench to the kitchen table with Cesar Vega, author of *The Kitchen as Laboratory*, for a helping of gastronomic chemistry that is downright delicious!  
Speaker: Cesar Vega, Mars Botanical

**Thursday June 28, 2012, 2pm-3pm EST, *EXTREME Flash, Sound, and Smoke – Advanced Fireworks – The Sequel*** "What's more exciting than watching fireworks explode in a bright cacophony of colour after being launched hundreds of feet in to the air? Learning about the chemical process that makes it happen of course!" Join our speaker, Chris Mocella as he directs our eyes to the skies and explains the chemistry that has been used to impress spectators and scare dogs for over a thousand years. Speaker: Chris Mocella, U.S. Customs and Border Protection Laboratories

### Help Wanted for PACS Website

Do you have a few hours a month available to help keep our website up to date by uploading new announcements and adding & deleting other postings? It is a good way to help the section while learning or maintaining skills in website management. Please contact Louise Lawter at [louise.lawter@gmail.com](mailto:louise.lawter@gmail.com) if you are interested in volunteering or learning more.

### Help the Section Save on Postage

If you are still receiving paper copies of the AliQuotes, please consider electronic delivery. It is easy – just give ACS your e-mail address. You can do so by calling ACS Member Services at 1-800-333-9511, or e-mailing [service@acs.org](mailto:service@acs.org).

This will also enable you to vote electronically in our local section elections this fall!

## 🔗🔗🔗 2012 EVENTS & NOTICES 🔗🔗🔗

### Chemical Consultants Network, Wednesday, June 13

#### “Annual Open Forum & Al Fresco Buffet, Spouses Welcome”

Program: As in the past, we will informally exchange questions and experiences relating to our activities as independent chemical consultants or our interest in becoming consultants. This gathering has been one of our most popular and enjoyable events, so don't miss it!

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](mailto:CCNReservations@aol.com) or call the ACS office at 215-382-1589. For more information on the meeting see [www.chemconsultants.org](http://www.chemconsultants.org).



You are cordially invited to participate in MARM 2012. Visit the website at <http://www.marmacs.org/2012>.

The 43rd Middle Atlantic Regional Meeting (MARM 2012) of the American Chemical Society will be held from Thursday, May 31 to Saturday, June 2, 2012. Hosted by the Maryland Local Section, the meeting will take place at the University of Maryland

Baltimore County in Baltimore, MD. Many exciting and informative symposia and events are being planned.

Be part of this special event with speakers from industry, education and government at a variety of TECHNICAL AND POSTER SESSIONS: <http://www.marmacs.org/2012/program.html>.



Princeton Section of the ACS  
Louise Lawter, AliQuotes Editor  
475 Prince William Ct  
Yardley, PA 19067

ADDRESS CORRECTION REQUESTED