



ALI "QUOTES"

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THE NEWSLETTER OF THE PRINCETON ACS

January/February 2005

Chairman's Corner

When I assumed the position of Chair-elect at the end of 2003, my year to serve as Chair seemed far in the distance. It is hard to believe that 2005 is now here!

The section has been well served this past year by Dr. Istvan Pelczer. We have had a successful year filled with interesting speakers and successful outreach programs. We also had the honor of receiving the 2003 ACS ChemLuminary award for "Outstanding Performance by a Medium Large Section." Congratulations to Fiona Case who was 2003 Chair and all those who contributed their time and effort to the section. As you see, I have some strong leadership to emulate! I hope, with this inspiration and the support of our dedicated board members, to serve you well this coming year.

I have selected the following areas of concentration for 2005: maintaining quality monthly programs, increasing meeting attendance and active membership, expanding our outreach activities, and having joint activities with other groups.

As you may know, the chairmanship of the section alternates between representatives from Princeton University and local industry. Since I am an "industry" chair, I will be putting some emphasis on this sector in program planning. In January, Dennis Kujawski from IFF educated us on the art and science of flavor chemistry. In February, Dr. Strauss of Princeton University will be telling us about a unified model of cosmology. The March meeting will be held in conjunction with the WCC (Women Chemists Committee). We will be hosting the ACS Trenton Section, and Dr. Martha Greenblatt, winner of the Francis P. Garvan-John M. Olin 2003 Medal for outstanding contributions to the field by a woman chemist. She will speak on the fascinating topic of solid state chemistry. In April, Dr. Philip Hamaan of Wyeth Research will describe the work that earned him and team members an ACS Heroes of Chemistry Award in 2004. Madeleine Jacobs, Executive Director of the ACS will be visiting us on May 5th. Later in the year Irving Fishman will be speaking on patent law, and Andrea Mandel will talk about chemical aspects of product packaging. We will be hosting Dr. Alexander Shedrinsky from Long Island University who will speak on chemistry and art preservation. Other things are in the works including a guest appearance by Congressman Rush Holt and a joint meeting or activity with the AIChE. Stay tuned for further updates....!

Our monthly meetings are a great way to keep learning, and to do some ever-important networking. We want to spread the word and encourage new members to attend. We ask those of you who do attend regularly to invite a colleague or two. Also, we will be asking volunteers to post meeting announcements at their place of work. Please contact Bill Barnard at zev4us@yahoo.com if you are willing to help out.

We have a number of outreach activities planned and you will hear more about them over the course of the year. Two of the earliest programs are being conducted jointly with the Trenton section, the Chemagination contest and Chemistry Olympiad. Teachers are now being notified about these events.

As you see, we have a busy year ahead of us and I invite all of you to come and take part!

Louise Lawter, PACS Chair 2005

2005 Election Results Are In!

Congratulations to our newly elected board members:

Chair Elect (2006 Chair):	Istvan Pelczer
Secretary/Treasurer:	John Chiarello
Councilor:	Barbara L. Lences
Alternate Councilor:	Sharon Sibilis
Alternate Councilor:	Kathryn Wagner

They join the remainings board members:

Past Chair:	Istvan Pelczer
Chair:	Louise Lawter
Councilor:	Lynne Greenblatt
Webmaster:	Jonathan Chun
Education:	Andrew Bocarsly
Outreach:	Bill Barnard
Newsletter:	Danielle Cramer

UPCOMING MONTHLY MEETINGS

Thursday, February 10, 2005

Speaker: Dr Michael Strauss, Princeton University

Topic: Large Scale Structure of the Universe: A Unified Model of Cosmology

Lecture: 6:00 pm, Frick Lab, room 324

Dinner: Immediately after lecture, at Prospect House

Abstract

Cosmology, the study of the universe as a whole, was once seen to be a shadowy and speculative subfield of astronomy, unconstrained by data. Dramatic developments in the last few decades have changed this, and cosmology is now one of the most dynamic and quantitative areas of modern research. Surveys of the distribution of galaxies, measurements of the Cosmic Microwave Background, determination of the chemical composition of stars and gas clouds, and many other probes have led to a detailed cosmological model that is consistent with all available data.

In many ways, this model is amazingly simple, containing only six free parameters. But it invokes new and very poorly understood components of the universe: dark matter, dark energy, and dark baryons. This talk will discuss both the triumphs of the standard cosmological model, and the mysteries it raises.

Biography

Dr Strauss did his undergraduate and graduate work at the University of California, Berkeley, in physics and astronomy, getting his AB in 1984 and PhD in 1989. He spent two years at Caltech as a postdoctoral fellow, before coming to the Institute for Advanced Study in Princeton, where he spent four years. He came to the university as an assistant professor in the Department of Astrophysical Sciences in late 1995. He is currently Full Professor in the Department and is the project spokesperson for the Sloan Digital Sky Survey. He won the Newton Lacy Pierce Prize of the American Astronomical Society in 1996 and has co-authored over 150 papers in the astronomical literature.

Reservations, February

Meeting will be held in Frick Laboratory, Princeton University room 324 (see www.princeton.edu/~pacs for more information). Lecture is at 6pm followed immediately by dinner at Prospect House. The seminar is free and open to the public. Reservations are required for dinner, which is \$35 for full members, \$25 for retirees and \$15 for students. Please contact Denise D'Auria at (609) 258-5202 or denised@princeton.edu

for reservations one week prior to the meeting.

Wednesday, March 9, 2005

Joint Trenton/Princeton ACS meeting

Speaker: Dr. Martha Greenblatt, Rutgers University

Topic: The Beauty and Fascination of Solids

Lecture: 6:00 pm, Frick Lab, room 120

Dinner: Immediately after lecture, at Kalluri Corner

Abstract

Highlights of research results in the area of synthesis, crystal growth and characterization of transition metal oxides including molybdenum bronzes (e.g., $A_0.3MoO_3$ with $A = K, Rb, Tl$; $A_{0.9}Mo_6O_{17}$ $A=Li, Na, K, Tl$ and $A_{0.33}MoO_3$ with $A = Li, Na, K, Rb, Cs$) phosphate tungsten bronzes $[(PO_2)(WO_3)_2]_m$ with $m=2, 4, 6, 7, 8$) high temperature superconductors $(Ti_2Ba_2CuO_{6\pm\delta})$, and colossal magnetoresistant materials ($La_{1-x}Sr_xMnO_3$ and $LaBaMnMoO_6$) will be presented. It will be shown that in low-dimensional materials electronic correlations lead to instabilities near a metal-to-insulator transition, which can drive the system into a charge-density-wave insulator, or superconducting, or ferro (or ferri) magnetic state.

Another area of research on ionically conducting materials for potential applications as solid electrolyte and electrode materials in electrochemical devices including batteries, fuel cells, and pH, or humidity sensors will also be presented. A major focus of the presentation is to show how a solid state chemist/material scientist understands the structure property relationship of solids and how she/he thinks about the design by chemical substitutions to optimize the desired properties.

Biography

Martha Greenblatt is Board of Governors Professor of Chemistry at Rutgers University, Piscataway, NJ. She received her B. Sc. in Chemistry from Brooklyn College in 1962 and her Ph.D. in Inorganic Chemistry in 1967 from the Polytechnic Institute, Brooklyn, NY. She has over 350 publications in refereed journals. Her contributions have been recognized by the Francis P. Garvan-John M. Olin Medal 2003, sponsored by Francis P. Garvan-John M. Olin Medal Endowment-National Award by the American Chemical Society for major contribution to the field by a woman chemist. She is on the editorial board of several materials journals and is Editor-in-Chief of the Materials Research Bulletin. She has held visiting professorships at the University of Cordoba, Spain, University of Saga, Japan, and the Hebrew University, Israel.

Reservations, March

Meeting will be held in Kresge Auditorium (room 120), Frick Laboratory, Princeton University (see www.princeton.edu/~pacs for more information). Lecture is at 6pm followed immediately by dinner at Kalluri Corner Restaurant, 235 Nassau St. Princeton, NJ. The seminar is free and open to the public. Reservations are required for dinner, which is \$25 for full members, \$15 for retirees and \$10 for students. Please contact Denise D'Auria at (609) 258-5202 or denised@princeton.edu for reservations one week prior to the meeting.



**Chemagination
Contests Held This
Summer; Plans
Underway for 2005**

The Chemagination Contest, sponsored jointly by the Princeton and Trenton local sections was held on Thursday evening, June 10th. At the competition, student teams presented their articles detailing a chemistry-related breakthrough or innovation 25 years in the future that would improve a teenager's life.

Professor Kevin K. Lehmann of Princeton University and Regina Miskewitz, the chair of our WCC committee, served as judges for the event. The articles from the teams of competing students had been presented to the judges prior to the contest for an initial evaluation and rating. At the competition, the students also displayed storyboards that accompanied the articles. They were interviewed by the judges and had to answer questions about their creative process and the science behind their futuristic ideas. Students and guests enjoyed pizza and cookies while the judges selected the winners. First prize went to Carrie O'Connor and Samantha Stout of Hopewell Valley High School for their submission in the biotechnology category, "Subterranean Climate Modulation". Second prize went to Cody Disch, Peter Krasucki and Dan Reeves also of Hopewell Valley High School for their submission in the New Materials category, "Silicon Nanotubes - The Future of Computing". Both groups were students of Dr. Lillian Rankel. The first-prize winners received \$75 savings bonds and the second prize winners \$50 savings bonds. Congratulations to our winners and a special thank you to our judges, Professor Lehmann and Ms. Miskewitz.

The team of Carrie O'Connor and Samantha Stout went on to the regional competition, held August 22nd at the National ACS Meeting in Philadelphia. The contest was held in conjunction with the Presidential Event on Chemistry, the Arts, and Humanities. In addition to meeting budding

scientists from throughout the region, the Chemagination contestants had the opportunity to spend time with the featured speakers, Carl Djerassi, Roald Hoffmann, Oliver Sacks, and Felice Frankel.

Carrie and Samantha represented the region well and won in the biotechnology category! A second congratulations to Carrie and Samantha!

Preparations are now underway for Chemagination 2005. In order to better fit into the academic calendar, our local contest will be held in mid-February 2005. We have contacted schools, providing information on the contest and instructions for students who wish to participate. If you would like to help out with the contest or would like more information please contact us at Chemagination@Yahoo.com. Information is also available on our website princeton.edu/~pacs/.

Louise Lawter and Sharon Sibilila
Chemagination Co-chairs

National Chemistry Week, 2004

The fifth ACS Princeton Local Section NCW Open House at Frick Laboratory, Princeton University, on October 22, 2004, was a success, thanks to the help of 22 enthusiastic volunteers from the Princeton Local Section, from local industry, and from Princeton University. About 180 visitors ages 6 and up saw demonstrations related to "Chemistry in Health and Wellness" and about 160 participated in hands-on activities supervised by ACS members and Princeton University staff and students. Visitors characterized fats, tested carbohydrates, extracted fat-soluble vitamins from juice, tested sunscreens, studied enzyme activity with "fizzy vegetables", unfolded proteins with ethanol, related fold to function with origami, found reduced iron in cereal, made "blood red iron", made soap bubbles grow and shrink, and found out what "The Nose Knows". Visitors from middle and high schools also analyzed odors and extracted DNA from spinach. Everyone made "glitter slime"!

Thanks to Nancy Khov and Bill Barnard for combining glue and glitter, to Peter Thumfort and Julie Viehweg for messing with all that spinach, to Thom Caggiano for fooling with fats, to Kevin Lehmann for slopping sunscreen, and to Molly Hoke for chopping vegetables. Thanks to Louise Vivona-Miller for helping people find iron in their cereal, to Tomasz Klimczuk for giving new meaning to bubbles, and to Mingshaw Wu for making a marvelous poster on carbohydrates. Thanks to Jerome Wu for explaining the importance of protein folding so beautifully, to Sharon and Melinda Sibilila for sharing their origami expertise, to Jing Guo for doing a smelly

job at the last minute, to Brian Venturi and Julie for pumping balloons for knowing noses, and to Derk Huibers for explaining how yogurt can aid digestion. Thanks also to Danielle Crammer for handling publicity.

Special thanks to Sean Leinbach and Helmae Wubneh for doing all that cleaning and very special thanks to Ginny Eulo for letting us invade her space again. Thanks to those of you who volunteered but couldn't make it at the last minute. (Hope to see you next time!) Very special thanks also go to Lynne Greenblatt and Steve Miller for taking some great pictures. One of Steve's was included in the article about National Chemistry Week in the December 13, 2004, issue of Chemical and Engineering News!



We hope to see all the old faces and many new ones for the next National Chemistry Week Open House on FRIDAY, OCTOBER 21, 2005, when the theme will be "THE JOY OF TOYS." If you'd like to join the fun, e-mail Kitty Wagner, kmwagner@princeton.edu, or call 609 258-2937. SAVE THE DATE!



Above: Retired chemist Bill Barnard helps visitors make "glitter slime" at the Princeton Local Section's National Chemistry Week Open House at Frick Lab, Princeton University, Princeton, NJ. on October 22, 2004.
Photographer: Lynne Greenblatt

Above: Visitors transport carbon dioxide in bubbles at the Princeton Local Section's National Chemistry Week Open House at Frick Lab, Princeton University, Princeton, NJ on October 22, 2004.

Photographer: Steven Miller



Outreach at the Library

On December 30th at the Princeton Public Library, Bill Barnard gave a presentation on the effect of extreme cold temperatures on matter. Kitty Wagner provided the materials and Louise Lawter assisted Bill in this liquid Nitrogen demonstration.

Sessions were held at 11:00 AM and 2:30 PM. About 60 children and 20-30 parents attended each event. The reception was enthusiastic with many questions and ample opportunities to touch and feel the frozen balloons, lettuce, soapsuds, etc. The library staff was most appreciative and relayed many positive comments to us.

A Flavorful January Meeting!

Our first meeting of the year was held this past January 12th was Dennis Kujawski, senior flavorist at IFF was our guest speaker. He kept the audience enthralled with his lecture on the art and science of flavor chemistry. During the talk, the audience was given the opportunity to “evaluate” various flavor chemicals (so that’s what makes peppers taste that way!) and to walk through the creation of a strawberry flavor. I think everyone attending will agree that he helped us start the year off well! Thanks Dennis!



2005 Calendar Of Events

Princeton Section Monthly Meetings 2005

Monthly meetings are held at Princeton University, Frick Laboratory. Lecture is at 6PM. Contact Denise D'Auria at (609) 258-5202 or denised@princeton.edu for more information.

February 10: Dr Richard Strauss Princeton University, Topic: Large Scale Structure of the Universe: A Unified Model of Cosmology

March 9: Dr Martha Greenblatt, Rutgers University. Topic: The Beauty and Fascination of Solids

April 14: Dr Philip Hamann, Wyeth Research. Topic: ACS Heroes of Chemistry Award

May 5: Madeleine Jacobs, ACS Executive Director. Topic: TBA

June: TBD

September 19: Rep. Rush Holt, NJ Congressman, 12th District. Topic: TBA

October 13: Alexander M. Shedrinsky, Long Island University. Topic: Chemical Aspects of Art Restoration

November 9: Andrea Mandel, Packaging Consultant. Topic: Chemistry and Packaging

December 8: Irving Fishman, Patent Attorney. Topic: Technical Patents

Trenton Local Section

Monthly dinner meetings are held at Rider University, Lawrenceville, NJ. Dinner is at 6pm followed by the lecture at 7pm. For more information contact trentonacs@lycos.com.

February 8: Dr Robert Augustine, Seaton Hall University (meeting to be held at The Olive Garden, Lawrenceville)

April 12: Teacher/Student Night, Speaker: Dr Elsa Reichmanis, Past-President of the ACS

May 10: Award Night

Change in Dinner Costs: Please note that we have had to increase the costs of our dinners slightly in order to help cover the costs. We will also try to include some lower costs venues during the year to keep the average cost of dinners about the same. New costs are:

Prospect House: \$35 regular, \$25 retirees and \$15 students

Other: \$25 regular, \$15 retirees and \$10 students

It is MARM Time Once Again!



37th ACS Middle Atlantic Regional Meeting – MARM 05
Rutgers University, Piscataway, NJ
May 22-25, 2005
Hosted by the North Jersey Section and Rutgers University,
Department of Chemistry & Chemical Biology



Chemistry At The Crossroads Of Science

Registration & Abstract Submission Open at <http://marmacs.org>
Deadline for Abstracts is March 15, 2005

Projected attendance is over 1500 so REGISTER EARLY to reserve your spot

Over 50 planned symposia will include a mix of invited national/international speakers,
contributed papers and the most successful North Jersey Symposia
Check our **Breaking News** page for the latest information.

Program Areas
Analytical Chemistry Frontiers
ADMET at the Crossroads of Drug Discovery
Bench to Pilot Plant
Biological Chemistry
Polymers and BioMaterials
Celebrating Chemists & Chemistry
Chemical Engineering/AIChE Short Courses
Chemistry and the Law
Discovery to Commercialization
Computers in Chemistry
College Education
Green Chemistry
Inorganic Chemistry
Medicinal Chemistry
Organic Chemistry
Nano and Materials Science

MEETING HIGHLIGHTS include a Sunday dedicated to Science Education & Careers.
There will be Workshops, Short Courses, Vendor Exhibitions, WCC, Student Affiliate,
YCC events and symposia from other societies including RSC & AIChE. Don't miss the
"Roving Feast" & "Awards Dinner"



**Chemistry in
Chocolate
Town**
June 4-7, 2006
Hershey Lodge and
Convention Center,
Hershey, PA



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American Chemical Society Mid-Atlantic Regional Meeting (MARM 2006)

Organized by the Southeastern Pennsylvania
and Susquehanna Valley Sections in collaboration
with MARM Sections

Planned major symposia:

Analytical chemistry
Chemistry education
Food chemistry
Medical/pharmacological chemistry/biochemistry

Vendor exhibitions.

Posters and oral presentations tied to technical
sessions.

GET INVOLVED---

• Suggest symposium topics or speakers

• Be a sponsor

• Help organize MARM 2006

CONTACT GENERAL OR PROGRAM CO-CHAIRS; VISIT MARM
WEBSITE (www.marm2006.org)

Accompanying persons entertainment---

HersheyPark Entertainment Complex, Hershey's Chocolate World
Attraction. Also available: nearby locations of Lancaster County Amish
CountrySide, and Harrisburg's many attractions, such as the Capitol,
museums, City Island, and Whitaker Center for Science and the Arts.

MARM Sections: Central Pennsylvania, Delaware, Lehigh Valley, Maryland, Monmouth County, New
York, North Jersey, Ocean County, Philadelphia, Princeton, SE Pennsylvania, South Jersey, Susquehanna
Valley, Trenton, Washington, Western Maryland.



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