# ALI "QUOTES"

Volume 15, Issue 2 THE NEWSLETTER OF THE PRINCETON ACS March/April 2005

## UPCOMING MONTHLY MEETINGS

### Wednesday, March 9, 2005
**Joint Trenton/Princeton ACS meeting**

**Speaker: Dr. Martha Greenblatt, Rutgers U.**

**Topic: The Beauty and Fascination of Solids**

Lecture: 6:00 PM, Frick, room 120

Dinner: Immediately after lecture, at Kalluri Corner

**Abstract**

The major focus of this 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.

Highlights of research results in the area of synthesis, crystal growth and characterization of transition metal oxides including molybdenum bronzes (e.g., $A_{0.3}MoO_3$ 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 ($Tl_2Ba_2CuO_{6\pm\delta}$), 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..

**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.) Seminar is at 6 PM 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.

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### Thursday, April 14, 2005
**Dinner Meeting**

**Speaker: Dr. Philip Hamann, Wyeth Research, Pearl River, NY**

**Topic: The Design and Development of Mylotarg for Acute Myeloid Leukemia**

Lecture: 6:00 PM, Frick, room 324

Dinner: Immediately following, at Prospect House

**Abstract**

Calicheamicin is a highly novel natural product that causes oxidative damage to both strands of DNA. Although development as a traditional chemotherapeutic agent was not pursued, its extreme potency made calicheamicin an ideal candidate for targeting to tumor cells with antibodies. The structure of calicheamicin-antibody conjugates has evolved through the years. Different points of attachment to the antibody and different

linker stabilities were evaluated to maximize stability in circulation and still have efficient release within cancer cells. Initial conjugates with relatively reactive disulfides were made by hydrazide attachment to the oxidized carbohydrates on antibodies to give conjugates where the calicheamicin can be released by hydrolysis. Decreasing the reactivity of the disulfide and moderating the potency led to our current derivative, NAc-gamma calicheamicin DMH. For the anti-CD33 antibody, P67.6, we developed an improved linker system, where the bifunctional "AcBut" linker attaches the calicheamicin to the lysines on the antibody and also incorporates a better-controlled site of hydrolytic release. Clinical trials of the resultant conjugate, Mylotarg®, were successful and it is approved for use in relapsed acute myeloid leukemia. The highlights of this unique approach will be covered, as will its on-going application to other types of cancer

**Biography**

Dr Hamann received his BS in Chemistry, Mathematics, and German from Graceland College, Lamoni, Iowa in 1979 and his PhD in 1983 from Purdue University. Following a postdoctoral position at Colombia University under Professor W.C. Still, working on the Synthesis of Thromboxane A2, he joined American Cyanamid Company .in 1985 as Senior Research Chemist in the Medical Research Division. He later moved to Oncology and Immunology Research when he did work on calicheamicin derivatives and calicheamicin-antibody conjugates Since 1999 he has been Principal Research Scientist, Chemical Sciences, Wyeth Research. where the calicheamicin-antibody research culminated in the approval of Mylotarg® (May 17, 2000). He continues to be Chemistry Team Leader and is making new calicheamicin derivatives and linkers as well as other cytotoxic agents. He has over 100 publications, presentations and patents, and has received a number of awards including the ACS Heroes of Chemistry Award, 2004 for his work on Mylotarg

**Reservations, April**

Meeting will be held in room 324, Frick Laboratory, Princeton University (see www.princeton.edu/~pacs for more information). Seminar is at 6 PM 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 at least one week prior to the meeting.

## Chairman's Corner

As I sit at my desk writing this column, I gaze out my window and appreciate a sunny scene. The melting snow from a recent storm has all but disappeared. It feels like Spring is on the way! Just in case Spring doesn't get here, we have some interesting activities planned for March and April to help us cope! I hope you can join us for the joint meeting with the Trenton section on March 9th when Martha Greenblatt will speak on "The Beauty and Fascination of Solids" and on April 14th when Dr. Philip Hamann of Wyeth Research will speak on "The Design and Development of Mylotarg for Acute Myeloid Leukemia"

We had our first board meeting of the year on January 21st. We reviewed plans for the year and approved the 2004 final budget. Councilors Barbara Lences and Lynne Greenblatt confirmed they will be representing the section at the National ACS meeting in San Diego. The next board meeting is scheduled for April 8th and an open invitation is extended to any members that would like to attend to learn more about the section or get more involved. Check our website at princeton.edu/~pacs for details or contact me at l_lawter@hotmail.com.

February was a busy month for us. On Thursday, the 12th, Dr. Michael Strauss of Princeton University presented a fascinating lecture on the dynamic area of cosmology. Among other things, he discussed dark matter and dark energy and how they contribute to the structure of the universe. The following week, on the 16th, we held our local Chemagination contest. Details can be found in a separate article in the newsletter.

Also, February 15th was the due date for submission of our 2004 Annual Report. National ACS requires all local sections to submit a report on time in order to remain in good standing and receive funding for the following year. Because of our successful activities for National Chemistry Week organized by Kitty Wagner over the last five years, we self-nominated for a ChemLuminary Award for "Outstanding Ongoing Event".

Wish us luck!

Louise Lawter, Chair 2005

## Local Team Wins 2004 National!

The format of the 2004 National Chemagination competition was fitting for this futuristic contest. In contrast with the "on site" local and regional competitions, this past December the winners of the various regional competitions submitted videos of their articles and posters.

Carrie O'Connor and Samantha Stout, our local and regional contest winners from Hopewell Valley Central High School, Pennington, NJ, won in the Biotechnology category. Their submission was: **"**Subterranea Mania! -- Subterranean climate modulation will change Mars' atmosphere to make living on a different world possible." Their advisor was Dr. Lillian Rankel. Congratulations once again to Carrie and Samantha!

For a listing of all the winners, please check the ACS website, Chemistry.org.

### Chemagination 2005

Once again the Trenton and Princeton Sections jointly sponsored Chemagination. The 2005 local competition took place this past Wednesday, February 16th at Princeton University. Dr. David Carrick of Pharmaceutical Formulations, James DeNoble of the NJ Dept. of Environmental Protection and Professor. Kevin Lehman of Princeton University were the judges. The student teams presented creative, well-researched articles and they were well-prepared to explain their ideas. The judges did not have an easy job selecting the winners!

First place winners were Douglas Deutsch, Margi Emhof and Simon Healey from Hopewell Valley Central High School. Their entry, in the Medicine/Healthcare category, was "Nano-Prevention: The Fight Against HIV". Their advisor was Dr. Lillian Rankel.

Second place went to Robert LaPosta, Elizabeth Goldgar and Charlotte Bhaskar also from Hopewell Valley Central High School. Their entry, in New Materials category, was "Self-Healing Circuits". Their advisor was Dr. Lillian Rankel.

Third place went to Charles Young, Pinto Adhola and Johnny Choi from Princeton High School. Their entry, in the Alternate Energy category, was entitled "Portable Thermal Depolymerization Process (PTDP): A Passage From The Past For The Future. Their teacher was Mrs. Linda Kruegel.

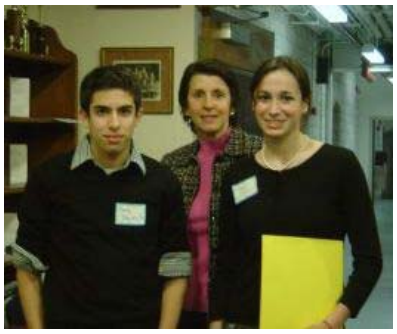
Winning team members received US Savings Bonds and Chemagination T shirts. They will now move on to the regional competition to be held in conjunction with MARM '05, May 22-25 at Rutgers University.

Congratulations to all and good luck in the Regionals!

Louise Lawter and Sharon Sibilia, Chemagination Co-chairs

### Photo Gallery

First Place:
*Doug Deutsch, Dr. Rankel, Margi Emhof*



Second Place*:*

*Charlotte Bhaskar, Dr. Rankel, Robert LaPosta, Elizabeth Goldgar*

*(right photo)*

Third Place:
*Pinto Adhola, Charles Young with Sharon Sibilia, left*

(photos by Louise Lawter)

## 2005 Calendar Of Events

### Princeton Section

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.

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

**April 8**: Board Meeting, 11:30 AM, Wyeth Research, Monmouth NJ. A buffet lunch will be provided.

**April 14:** Dr Philip Hamann, Wyeth Research. recipient of ACS Heroes of Chemistry Award. Topic: The Design and Development of Mylotarg for Acute Myeloid Leukemia

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

**June 15**: John Siekierka, PRD, Johnson & Johnson. Topic: Cypher Stent Development.

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

**October13**: 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

**PUSEE TIME ONCE AGAIN!**

**March 17:** Princeton University is hosting it's Science and Engineering Expo this year from 9:00 AM to 12:30 PM. Seventh graders from area schools are invited. They will see chemistry demonstrations and then be given the opportunity for hands-on science activities in the laboratory. Volunteers are needed to assist with the 800 or so students expected to attend. If you are interested, please contact Kathryn Wagner at kmwagner@Princeton.EDU.!

### Trenton 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.

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

**May 10**: Award Night

### MARM 2005

**May 22-25th**: 37th ACS Middle Atlantic Regional Meeting, Rutgers University, Piscataway, NJ. See http://marmacs.org for registration and abstract details. March 15th is deadline for abstracts.

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