

**Professor Samuel Danishefsky**  
2006 Awardee for  
“Creativity in Molecular Design and Synthesis”  
*See page 9.*

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# THE Indicator

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# September Calendar

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**Friday, September 15, 2006**  
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Careers in Transition  
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**Deadline for items to  
be included in  
the November 2006  
issue of  
The Indicator is  
September 15, 2006.**



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## THIS MONTH IN CHEMICAL HISTORY

Harold Goldwhite, California State University, Los Angeles  
Prepared for SCALACS, the journal of the Southern California, Orange County, and San Geronio Sections of the ACS

In looking over my card catalog where significant events in the chemical heritage are listed by the months in which they have occurred (yes, I still have an old-fashioned card catalog; just been too lazy/busy to transform it into a digitized electronic data base) I find that the stack of events for September is one of the thickest. Among birthdays there are Nobel Laureates Aston, Ostwald, Soddy, Delbruck, Moore, Cornforth, Barton, Compton, Irene Joliot-Curie, Willstaetter, Robinson, Ruzicka, Szent-Gyorgyi, Courmand, Ochoa, Florey, Morgan, Moissan, and Fermi. This month I will give a short summary of the career of the distinguished German organic chemist, Adolph William Hermann Kolbe, generally known as Hermann Kolbe, who was born near Goettingen on September 27, 1818.

Kolbe was the first of fifteen children of a Lutheran minister. He started his studies with Woehler in 1838, just six years after Liebig and Woehler's seminal paper on the benzoic radical had appeared; this was one of the first demonstrations that particular groupings of atoms -- the radicals -- could maintain their integrity in the course of a set of organic reactions. Liebig and Woehler speculated that radicals were to organic chemistry as elements were to inorganic. Kolbe moved to Marburg as Bunsen's assistant in 1842, and then to London in 1845 where he worked with Lyon Playfair in the Museum of Economic Geology analyzing gases that might be involved in mine explosions. Another of Playfair's assistants was Edward Frankland, father of organometallic chemistry and of the concept of valency; Kolbe and Frankland became lifelong friends. In 1845 Kolbe, accompanied by Frankland, returned to Marburg where Frankland initiated his work on organozinc compounds which he continued on his return to England. Kolbe succeeded Bunsen in the Chair at Marburg in 1851. After 14 years there he was called to Leipzig after Liebig's death; the university built a large new laboratory for him and his students. Kolbe excelled as a teacher and author. In addition to his own textbooks he contributed to Liebig and Woehler's comprehensive (10 volume) textbook of pure and applied chemistry. From 1870 he was editor of the influential *Journal fuer Praktische Chemie*.

Kolbe had strong views on the place of theory in chemistry. Following Berzelius he viewed organic compounds as derived from carbon dioxide by substitution, coupling, and other processes. Connections between compounds were purely formal and he regarded all efforts to describe the relative positions of atoms either in terms of connectivity or, worse, in terms of spatial relationships as hopeless and fundamentally unsound. This inevitably put Kolbe on a collision course with developing new chemical theories. I will return to this topic later, but first some comments on Kolbe's triumphs. In the course of work on chlorinated ethanes, Kolbe effected the first complete synthesis of an organic compound, acetic acid, from inorganic precursors. His carbon source was carbon disulfide, chlorination of which gave carbon tetrachloride. This was pyrolyzed to yield tetrachloroethylene, aqueous chlorination of which gave trichloroacetic acid. This was reduced to acetic acid in an electrolytic cell. Kolbe went on to use electrolysis to produce what he originally regarded as hydrocarbon radicals (we now recognize them as dimers) from carboxylic acids -- one of the Kolbe reactions. In collaboration with Frankland he worked out the general homologation reaction in which an alkyl halide is converted to a nitrile and thence to a carboxylic acid. Another Kolbe reaction is the production of salicylic acid from phenol and carbon dioxide. Kolbe showed that the product was a useful disinfectant.

To return to Kolbe as author and critic, and here I quote from Vol. IV of Partington's magisterial *History of Chemistry*: "He was straightforward and fearless and quite unawed by authority .... his criticisms of the work and ideas of his contemporaries (particularly Kekule, Baeyer, and Emil Fischer) were more forcibly expressed than is now customary." I will close with the most famous example of Kolbe's rhetoric. When van't Hoff published his "Chemistry in Space" as a short book in 1876, it included a preface by Wislicenus. Kolbe rushed into print: "I would have ignored this work...had not a significant chemist [Wislicenus] ...recommended it ... A Dr. J. H. van't Hoff, employed at the School of Veterinary Medicine at Utrecht finds ... exact chemical research not to his taste. He has thought it more convenient to mount Pegasus (borrowed, no doubt, from the Veterinary School) and to proclaim ... how on his daring flight to the chemical Parnassus the atoms appeared to be arranged in space ... To criticize this paper in any detail is impossible because the play of imagination completely forsakes the solid ground of fact and is quite incomprehensible to the sober chemist."

Hermann Kolbe, a sober chemist and a great experimentalist, died near Leipzig on November 25, 1884.

In early March 1896 Henri Becquerel made one of those seminal discoveries that change the whole face of science -- and of society. It was, to some degree, a serendipitous discovery, but Becquerel had the background, training, and genius to appreciate its significance, and he became the first investigator in a completely new area of science.

(continued on page 6)

## THIS MONTH IN CHEMICAL HISTORY

(continued from page 5)

Henri Becquerel was born on December 15, 1852, into a distinguished family of scientists. His grandfather, Antoine Cesar Becquerel, was a pioneer student of electrical phenomena early in the nineteenth century, making important contributions to piezoelectricity, thermo-electricity, conductivity, and primary cells. Henri's father, Edmond Becquerel, became, at the age of 18, assistant to Antoine, and devoted his career to studies of both electricity and light. He was among the first to record, by photography, ultraviolet spectra -- in 1842!-- and devised a color photography system. He was a major investigator of phosphorescence phenomena, and this undoubtedly had its influence on his son's major discovery. In 1852, when Henri was born, his father Edmond had succeeded his father, Antoine, as Professor at the National Museum of Natural History in Paris.

So Henri grew up in the environs of a laboratory, and with his heritage he was predestined for a career in science. He studied at the Polytechnic School in Paris, and then studied engineering for three years, while serving in the Army Corps of Bridges and Roads. He became a Demonstrator at the Polytechnic School in 1875, and later, in 1895, became Professor at that School. In 1878, after his grandfather Antoine died, Henri took the position of Assistant at the museum where his father was Professor. Henri succeeded him in 1892. Henri was elected to the Academy of Sciences in 1889.

Henri Becquerel's first researches were on the Faraday effect, the interaction between light and magnetic fields. He established the effect in gases, and worked on empirical and theoretical relationships between field strength and the magnitude of the effect. He then started in a more general study of magnetic phenomena in metals and gases. He also was an early student of infrared spectra, examining such spectra of the sun, metal vapors, water, and compounds of the lanthanide elements (the "rare earths"). In the early 1890's he returned to one of his father's themes, studying in more detail the phosphorescence of uranium salts, including some striking new observations of phosphorescence produced when certain minerals are heated.

In late 1895 Wilhelm Roentgen, Professor at Wurzburg, startled the scientific community with his announcement of the discovery of X-rays. The remarkable properties of this new form of radiation, including its ability to penetrate materials quite opaque to visible light, set off a flood of new investigative work. Henri Poincare showed some of Roentgen's radiographs at a meeting of the Academy of Sciences in Paris in January 1896, and Becquerel was most interested in a reply to one of his questions, that the source of the X-rays might be the luminous spot on the wall of the cathode ray tube. Perhaps there was a connection between phosphorescence and X-rays? Becquerel told Poincare that he would begin some experiments to test this idea.

On February 24, 1896, Becquerel described some initial experiments at a meeting of the Academy of Sciences, but the results were inconclusive. He then began new experiments using, as his phosphorescent material, potassium uranium sulphate, a salt which has a very strong phosphorescence. He placed the crystalline material on photographic plates wrapped in black paper, and put the assemblage in sunlight to excite the phosphorescence of the salt. After a few hours exposure he developed the plates and saw a faint impression of the crystals which had somehow penetrated the black paper. He seemed to be on the right track. More experiments were planned in late February, and the plates with attached crystals were made up -- but the weather did not cooperate. The sun refused to shine, which is really not surprising for late February in Paris. Becquerel put the prepared plates away in a drawer for a few days and then, as a good scientist should, decided to treat these plates as controls. On March 1, 1896 he developed the plates expecting to find only very weak impressions. To his surprise the impressions were extremely strong; whatever was producing them was continuing to act in the dark of a laboratory drawer. Phosphorescence clearly had nothing to do with the phenomena Becquerel had observed. He had discovered a new kind of radiation which had no obvious excitational cause. He soon established that the new radiation was to be found in every uranium compound he examined, and he discovered a new detector for it. A charged gold-leaf electroscope was discharged by the action of this novel radiation -- but we might as well give it its recognized name. Becquerel had discovered radioactivity. His new electroscope detector was well-suited to quantitative measurements of the phenomenon. A young doctoral candidate at the School of Physics and Chemistry, Marie Sklodovska Curie, decided to follow up Becquerel's discoveries and use the electroscope to establish the fundamentals of radioactivity, with results that are surely well-known to all my readers.

Becquerel continued his studies on radioactivity in parallel with those of Marie Curie, who was later joined in her investigations by her husband, Pierre Curie. Becquerel and the Curies were jointly awarded the Nobel Prize in Physics in 1903 for their work on radioactivity, work which led to a complete revolution in our understanding of the nature of matter, and to a range of new products and industries, both beneficial and deadly.

## North Jersey Meetings

<http://www.njacs.org>

### NORTH JERSEY EXECUTIVE COMMITTEE MEETING

The North Jersey Section Executive Committee meeting will be in conjunction with the Project SEED Poster Session and Dinner at Seton Hall University. Section officers, councilors, committee chairs, topical group chairs, and section event organizers will meet to discuss topics of importance to running the section and representing the membership. All ACS members are welcome to attend this meeting as visitors and to become more involved in section activities.

**Date:** Monday, September 25, 2006

**Time:** Meeting 4:30 PM

Dinner 6:00 PM

**Place:** Student Center

Seton Hall University  
400 South Orange Ave.  
South Orange, NJ

**Cost:** Dinner \$20.00

**Directions:** <http://www.shu.edu/visiting/index.cfm>

Reservations: call 732-463-7271 or email [njacsoffice@aol.com](mailto:njacsoffice@aol.com) prior to **Wednesday, September 20, 2006**.

**Dinner at the North Jersey Meeting is payable at the door; however, if you are not able to attend and did not cancel your reservation, you are responsible for the price of your dinner.**



### IN MEMORIAM

Mr. Melvin H. Goldwin	57 year member
Mr. Julius Shrensel	62 year member
Mr. John Spanton	14 year member
Dr. Kwai Sam Wong	27 year member

THE INDICATOR-SEPTEMBER 2006

### CHAIR'S HIGHLIGHTS FROM THE MAY EXECUTIVE COMMITTEE MEETING

The May Executive Committee Meeting focused on section communications between various programming committees and the executive committee. Suggestions were made for new ways the committees in the section can work together to better serve the members. After this meeting, the chair appointed a new section committee called the "Section Review Committee" to specifically summarize the roles and the benefits of the executive committee and how the executive committee can be of value to and increase communication with the topical/discussion groups. The process of synergizing the strengths of all the components of the section governance will take a large amount of effort. If you have comments on how the section is running, please contact the section chair, Steve Waller, by email at [waller@njacs.org](mailto:waller@njacs.org). Member input is always welcome.



### CAREERS IN TRANSITION GROUP

#### Job Hunting??

Are you aware that the North Jersey Section holds monthly meetings at Fairleigh Dickinson University in Madison to help ACS members? Topics covered at these cost-free workshops are:

- The latest techniques in resume preparation
- Ways for improving a resume
- Answers to frequently asked interview question and
- Conducting an effective job searching.

The next meeting for the Careers In Transition Group will be held **Thursday, September 7, 2006**, in the Rice Lounge on the first floor of the New Academic Building. The meeting will start at 5:30 PM and end at 9:00. There will be a Dutch-treat dinner. To get the most from the meeting, be sure to bring transparencies of your resume.

Please contact [vjkuck@yahoo.com](mailto:vjkuck@yahoo.com), if you plan on attending this meeting.

## NoJ MASS SPECTROMETRY DISCUSSION GROUP

### Annual Vendor Show

Attendance limited to ~300 due to free admission. Hourly Door Prizes.

3:00 - 4:00 PM Vendor Set Up -  
Hotel Ballroom  
4:00 - 8:00 PM Vendor Show  
4:30 - 5:30 PM Refreshments Provided in  
the Ballroom  
6:00 - 7:00 PM Dinner Served in the  
Ballroom  
7:00 - 7:30 PM NJACS-MSDG Announce-  
ments - Adjoining Ballroom  
7:30 - 9:30 PM Technical Presentations

#### "TBA"

*Dr. George D. Stafford, Jr.*

Head of Engineering, Finnigan  
ASMS Distinguished Contribution in Mass  
Spectrometry Awardee, 2001

#### "Qualitative and Quantitative Drug Discovery Applications Utilizing Ion Trap Technologies"

*Dr. Dieter Drexler*

Bristol-Myers Squibb PRI

#### "Proteomic Approaches for Dissecting Complex Biological Systems"

*Professor Brian T. Chait*

Distinguished Lectureship Award, 2006  
Rockefeller University, NY

8:00 - 10:00 PM Vendor Tear Down

**Date: Thursday, September 7, 2006**

Times: 4:00 - 9:30 PM

Place: DoubleTree Hotel

Somerset, NJ

Cost: Free



## TEACHER AFFILIATES

### Executive Committee Meeting

**Date: Monday, September 18, 2006**

Time: 4:30 PM

Place: Chatham High School

255 Lafayette Avenue

Chatham, NJ

Contact: Diane Krone at 201-385-4810 or  
kroned@optonline.net

## ORGANIC TOPICAL GROUP IN CONNECTION WITH THE EXECUTIVE COMMITTEE

A new Section Award mechanism has been established: **The Award for Creativity in Molecular Design and Synthesis**. The 2006 Award recipient is Professor Samuel Danishefsky. The Award is given in recognition of accomplishment in pure or applied chemistry, as characterized by the initiative, creativeness, leadership, and perseverance of the individual and indicated by published or unpublished evidence. "Accomplishment" for the purpose of this Award is understood to be that of a world renown leader of unusual merit, with an emphasis on an individual who has demonstrated broad scoping impact in the areas of chemical synthesis, method development, bio-organic/medicinal chemistry, pharmaceutical sciences, and/or molecular recognition. This Award now becomes the sister Award to the Section's Baekeland Award.

This is an inaugural Award which has been established by the North Jersey Section of the American Chemical Society and is sponsored by Rutgers University and the major pharmaceutical companies (Bristol-Myers Squibb, Merck, Schering-Plough, and Roche) throughout New Jersey.

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## North Jersey American Chemical Society Organic Topical Group

### Presents

*The Award for Creativity in Molecular Design and Synthesis*  
2006 Award Recipient: Professor Samuel Danishefsky

Wednesday, September 20, 2006

Professor Samuel Danishefsky, Columbia University  
Keynote Address on Provocative Problems in Total Synthesis  
Professor Erik Sorensen, Princeton University  
"Natural Product Synthesis via Some Classic Reactions"  
Professor Dalibor Sames, Columbia University  
"C-H Bond Functionalization in Complex Organic Synthesis"  
Professor Matthew Shair, Harvard University  
"Organic Synthesis and Biology"  
Dr. David Myles, Epiphany Biosciences  
"Discovery of Natural Product-Based Therapeutics"  
Dr. Roger Ruggeri, Pfizer  
"Designing Drug Therapies for Cardiovascular Disease: Discovery of Torcetrapib"

Registration will begin at 12:00, the symposium at 1:00, reception at 5:45,  
dinner at 6:30. **Please note that Prof. Danishefsky's talk will be at 7:30 pm.**

Location: Somerset Marriott, 110 Davidson Av., Somerset NJ 08873

For directions, information and further details please visit our website:  
[www.njac.org/organic.html](http://www.njac.org/organic.html)

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Jianshe Kong, (Treasurer), Schering-Plough  
Lawrence Williams, Rutgers University  
Amjad Ali, Merck  
Binh Vu, Hoffmann-La Roche  
Dong Xiao, Schering-Plough

Due to limited seating, registration and payment are required by September 1, 2006.

Registration fee: Symposium, Reception, and Dinner \$95.00

Students or Post-docs: Symposium, Reception, and Dinner \$75.00

Please check one: Symposium and Dinner (\$95)...  Student Discount (\$75)...

Dinner selection: Fillet of Salmon...  Pasta...  Roast Prime Rib...

Check if you are a student or post-doc...

Name \_\_\_\_\_ Affiliation \_\_\_\_\_  
Address \_\_\_\_\_ E-mail \_\_\_\_\_

To register:

Send above registration information with a check made payable to "North Jersey Section ACS" to:

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Kenilworth NJ 07033 E-mail: [jianshe.kong@spcorp.com](mailto:jianshe.kong@spcorp.com)

## NEW JERSEY GROUP OF SMALL CHEMICAL BUSINESSES

### Patent Law Basics for the Small Chemical Business

Speaker: Joseph M. Manak, Esq.  
Greenberg Traurig LLP  
New York, NY

Today, the most valuable assets of a business are its intellectual property. As more and more manufacturing is being outsourced or moved over seas, companies are focusing on developing and protecting their technology both in the U.S. and around the world to ensure that their products and services remain their own. For technology-based companies, including chemical companies, the most important intellectual capital base is the patent, although trade secrets, know how and trademarks remain important as well. However, trade secrets and know how protection is difficult to enforce, especially in a global market place where confidential information can be illegally obtained and spread around the world electronically.

Joe Manak has 20 years of experience

enforcing and obtaining chemical and pharmaceutical patents. He has litigated and prosecuted patent matters for some of the world's largest technology-based companies. Joe has a degree in chemistry from Manhattan College and is a member of Gamma Sigma Epsilon, the chemistry honors society. He is also admitted to practice before the US Patent and Trademark Office and various federal and state courts.

**Date: Thursday, September 21, 2006**

Times: Networking, Cash Bar 5:30 PM  
Dinner, Attendee Introductions 6:30 PM  
Presentation 7:15 PM  
Q&A, Networking and Dessert 8:00 PM

Place: Holiday Inn, North  
Frontage Road  
Newark, NJ

On north side of Newark Airport  
Cost: \$45 Members; \$55 Non-Members

Advance Registration is required. **Register by Midnight Tuesday, September 19.**

Cancellations must also be made by Midnight September 19 or you will be invoiced.

## Education



1 8 5 6

### Department of Chemistry and Biochemistry

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September 5 - December 20, 2006

Registration: August 31, 10:00 am - 12:00 n. & 3:00 pm - 5:45 pm

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Course Number	Title	Day	Time
CHEM 6206 NA	Chemical Methods of Analysis	Thurs	7:00-10:00
CHEM 6411 NA	Introduction to Polymer Chemistry	Tues.	7:00-10:00
CHEM 6501 AA	General Biochemistry I	Sat.	10:00-1:00
CHEM 6601 NA	Inorganic Chemistry	Mon/Wed	7:10-8:25

For more information, please visit the Department of Chemistry and Biochemistry website at <http://artsci.shu.edu/chemistry/>, call us at 973-761-9414, or email [chemistry@shu.edu](mailto:chemistry@shu.edu)

## ChemTAG MEETING

Date: Monday, September 25, 2006

Time: 4:00 to 7:00 PM

Place: Seton Hall University  
South Orange, NJ

Contact: Diane Krone at 201-385-4810 or [kroned@optonline.net](mailto:kroned@optonline.net)



## DO A GOOD DEED & COME TO THE 20TH ANNUAL SEED POSTER SESSION

### Learn About the Latest Research from Area Laboratories

On Monday, September 25th, take an hour or two to talk to the scientists of tomorrow. You will receive highlights of research in organic, pharmaceutical, biological, analytical, environmental, computational, inorganic, physical, and polymer chemistry, as well as in chemical, ceramic, and bioengineering, biochemistry, food, cosmetic, plant, and materials science, and drug development.

Your interest is crucial. Thanks to your help, the SEED students will be further inspired. There will be SEED students from NJIT, Rutgers (3 campuses), Seton Hall, Stevens, Montclair, UMDNJ, William Paterson, New Jersey City University, Fairleigh Dickinson, Fordham, NJ Meadowlands Environmental Org., Hackensack Hospital, and the Public Health Research Institute.

Thanks are due to the mentors' kindness and dedication, and funds donated by school boards, corporations, and ACS SEED endowment, and many individual chemists.

The poster session will take place between 4:30 and 6:30 as part of the social hour of the Monday, September 25th, North Jersey ACS meeting. It is at Seton Hall University, South Orange Avenue (corner Centre Street), South Orange, in the Student Center. **Everyone is invited.** There is no charge and no reservations are needed if you go to the poster session and cannot stay for dinner. To stay for dinner, call Bill Suits at (908) 234-9240 preferably by September 20th. If you are a judge, you receive a free buffet dinner. Call Susan Fahrenholtz at (973) 338-6588 or Allene Johnson at (973) 763-6883 for more information. While you are there, stay for one of the after-dinner talks.



## ATTENTION NEW JERSEY HIGH SCHOOL TEACHERS

### Brenda Rosenau's Lab Kits Workshop

Leave the workshop with 4 labkits prepared, tested and labeled.

Date: Saturday, September 30, 2006

Time: 9:00 AM to 2:00 PM

Place: East Brunswick High School

Cost: \$70.00

## Education



## Graduate Chemistry Courses Fall 2006

- 581 *Biochemistry*  
Dr. Charalampos Kalodimos  
Tue 6:00-8:50 pm, 240 Smith Hall
- 511 *Advanced Organic Chemistry*  
Dr. Hugh Thompson  
Wed 6:00-8:50 pm, 244 Smith Hall
- 548 *X-ray Crystallography (Special Topics in Analytical Chemistry)*  
Dr. Roger Lalancette  
Thr 6:00-8:50 pm, 240 Smith Hall

To learn about non-degree, or full-time and part-time graduate programs, go to <http://chemistry.rutgers.edu>, or call the graduate secretary at 973-353-5173, or send email to [gradchem@newark.rutgers.edu](mailto:gradchem@newark.rutgers.edu)

Classes will be held on Newark Campus of Rutgers.  
The Fall 2006 term begins on Tuesday, September 5.

## NORTH JERSEY SECTION PRESENTS TWO AWARDS

**Raymond A. Baylouny**, Professor of Chemistry at Fairleigh Dickinson University, has received the North Jersey Section's 2006 Sister Marian José Smith Excellence in Chemical Education Award for inspiring numerous undergraduate students for successful careers in chemistry. The award is funded by Hoffmann-La Roche.

Professor Baylouny has a long and distinguished college teaching career. He received his B.S. degree from Seton Hall University and Ph. D. from the University of Maryland. He has been on the faculty at Fairleigh Dickinson University since 1963. His dedication and accomplishments in chemical education were recognized by a number of teaching awards, including the Emmet Reid Award for excellence in chemistry teaching in a small college in 1994, the Teacher of the Year Award at Fairleigh Dickinson University in 1998, and most recently the Havery Russell Award in 2005.



**Dr. Jiwen Chen (NJACS Awards Chair, left), Stephen Waller (NJACS Chair, center) presenting the 2006 Sr. Marian José Smith Award for Excellence in Chemical Education to Dr. Ray Baylouny from FDU.**



**William Suits**, President of Chromatography Connections, has received the North Jersey Section's 2006 Burton C. Belden Distinguished Service Award for his conspicuous service to the American Chemical Society and the North Jersey Section in particular. This biennial award is funded by the North Jersey Section.

Mr. Suits is a proven leader of ACS activities at the local, regional, and national levels. His services include serving as Section Chair in 2001 and Co-chair for the very successful 2005 Middle Atlantic Regional Meeting (MARM)

hosted by the section. He now chairs the Middle Atlantic Regional Board.

Mr. Suits is an active member of many of the Section's Topical Groups and Executive committee. He also plays a key role with the Section's Careers in Transition Group, helping section members with resume preparation and job searches. Most noteworthy has been his willingness to help and guide other people both within the section and nationally within the ACS. He has always participated in ACS functions with unbound enthusiasm and has done an exemplary job.

## NJ, PA, & ND STUDENTS NAMED TO U.S. CHEMISTRY OLYMPIAD TEAM

Four of the nation's top high school chemistry students — two from New Jersey, one each from North Dakota and Pennsylvania — have been chosen to represent the United States in the 38th annual International Chemistry Olympiad in Gyeongsan, Republic of Korea, July 2-11, 2006. They will compete with students from some 60 other countries in the event, sponsored by the American Chemical Society, the world's largest scientific society.

The four team members are:

Andrew Freddo, Colts Neck, NJ, Manalapan High School  
Alex Zozula, East Brunswick, NJ., East Brunswick High School  
Michael Blaisse, Harrisburg, PA, Bishop McDevitt High School  
Greg Brockman, Grand Forks, ND, Red River High School

Freddo and Blaisse were alternates to the team in 2005.

The two alternatives are:

Xiaoran (Taylor) Yi, San Diego, CA, Westview High School  
Sydney Creutz, Charlottesville, VA, Albemarle High School

"We're very proud of the students selected for the U.S. team. We send them with high hopes, and are encouraged because they represent the future of chemistry and science — bright minds, collaborating to solve problems, willing to lead with innovation and new ideas," said E. Ann Nalley, Ph.D., ACS President.

More than 10,000 high school students nationwide took local exams hoping to win a place on the Olympiad team. From those exams, twenty students were selected to participate at a June study camp, held at the U.S. Air Force Academy in Colorado. They received college-level training, with an emphasis on organic chemistry, through a series of lectures, problem-solving exercises, lab work and testing. The final team members and alternates were chosen from those attending the camp.

The International Chemistry Olympiad originated with Czechoslovakia, Poland and Hungary in 1968. Other eastern European countries soon joined the event, and

Western Europe began participating in 1974. The first U.S. team competed in 1984, winning one silver and two bronze medals.

The American Chemical Society has sponsored the American team annually since the United States joined the Olympiad. Principal funding is through the Society's Othmer Olympiad Endowment, with additional support from the U.S. Air Force Academy; IBM Research; Merck Publishing Group; Texas Instruments, Inc.; W.H. Freeman & Company; McGraw-Hill Companies, Inc.; Advanced Chemistry Development; Thomson, Brooks/Cole; Carolina Biological Supply Company; Flinn Scientific, Inc.; Fisher Scientific; Pearson Prentice Hall; Sigma Chemical Company; and John Wiley & Sons, Inc.



## INTERNATIONAL CHEMISTRY OLYMPIAD RESULTS

Each year the ACS searches for four top high school chemistry students in the United States to enter them in the International Chemistry Olympiad (IChO). This year the 38th IChO was held in Gyeongsan, Republic of Korea, early in July.

North Jersey is proud to announce that one of the four, Alex Zozula, is from our section. Alex earned a bronze medal, while the other three received a silver. Alex's teacher was Dr. Paul Kimmel from East Brunswick High School.

Prior to the international competition, three of the section's Olympiad competitors were invited to attend a two-week study camp at the Air Force Academy in Colorado Springs. The three were: Alex, Christopher Kennedy and Brian Lee. The teacher for the latter two was Dr. David Ostfeld of Bergen Academy for the Advancement of Science and Technology.

## SURPRISE

our editor by calling and saying you appreciate the quality and content of our newsletter. Our editor works hard to maintain a publication of interest to our membership. Oh, and by the way, you could also give credit to our advertisers who financially support us.

## NORTH JERSEY PICTURE GALLERY



Diane Krone, Chair of the NJACS-Teacher Affiliates, presents the 2006 Harvey J. Russell Award to Ms. Jeannette Brown



Dr. George Gross, chair of the NJACS Education Committee, presenting the Edward J. Merrill Awards Plaque to Dr. Guy Morin from Ridge-wood HS at the Section Awards Dinner at FDU.



Dr. Sue Fahrenholtz (center) presents the 2006 NJACS Pro Bono Awards to Dr. Sanjay V. Malhotra of the New Jersey Institute of Technology and Dr. Maghar S. Manhas of Stevens Institute of Technology.



Dr. Val Kuck from NJACS with the Guest Speaker, Mr. Vance Brooks from the Office of Homeland Security, May 2006.



The fifty year ACS members in attendance at the 2006 Awards dinner at FDU. Front row from left, Dr. Vincent Venturella and Dr. Dorit Noether. Back row from the left, Dr. Chip Cipriano, Dr. Ilmar Kalnin, Dr. David Andrews, Dr. Roger Belt and Dr. Max Wisotsky.

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THE INDICATOR-SEPTEMBER 2006

## NCW IS COMING

Why not make a difference this year in helping the general public get a better understanding of chemistry? This year National Chemistry Week is **October 22-28** and the theme is **"Your Home — It's All Built on Chemistry"**.

In previous years did you think about visiting a school, a scout group or putting up a display in a library? Why not **DO** it this year! Let us know what you did and the response that you got. Perhaps you want to join the hundred plus volunteers who will be putting on hands-on activities at the North Jersey Section's EXPO. If you would like to join us, there will be a form in next month's *Indicator*.

Please think about helping the public learn that chemistry is everywhere and chemists have made numerous contributions to improving the quality of life.

## STUDENT AFFILIATE RESEARCH CONFERENCE

The 58th annual Student Affiliate Research Conference in the North Jersey section was held at the College at Florham, Fairleigh Dickinson University, on April 28, 2006.

A total of 28 authors/coauthors presented 14 technical talks. The coveted Jean Durana Award was won by Scott LeFevre and mentored by Dr. Ronald S. Strange of the College at Florham (FDU). Second prize was won by Supreet S. Bindra mentored by Dr. Carol A. Venanzi, from New Jersey Institute of Technology, and third prize was given to Holly Bansky, mentored by Dr. Amber Flynn Charlebois, from William Paterson University.



Presenters at the North Jersey 58th Student Affiliate Research Conference.

## POLYMER PROBLEMS?

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- Additive Package Analysis

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THE INDICATOR-SEPTEMBER 2006

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## Puzzle — by Steve Waller

CHEMdoku Puzzle - Solve just like a standard Sudoku puzzle, except use the first nine elements from the periodic table. Fill in the blank squares with the elemental symbols such that each row, each column, and each 3x3 block contains all of the elements once. The elemental symbols are given across the top as a guide. There should be no need to guess! Logic will indicate where each elemental symbol belongs, so for this puzzle, the second row should have "Li" in the 3rd column, because "Li" is already in the 2nd and 3rd 3x3 blocks. This leaves only one square where "Li" can be located in this row. Continue to use your own logical methods to discover the remainder of the only solution to this puzzle. When you are done or need a hint, look on page 30 for the answer. Let us know if you like more CHEMdoku puzzles by emailing [waller@njacs.org](mailto:waller@njacs.org).

H	He	Li	Be	B	C	N	O	F
---	----	----	----	---	---	---	---	---

N			Be	C		F		B
	F						Be	O
	O		He		F	H	N	
He				Li		Be	O	
			F		He			
	Li	Be		H				He
	B	N	C		H		F	
O	C						H	
H		F		O	B			N

## New York Meetings

[www.newyorkacs.org](http://www.newyorkacs.org)

### CHEMICAL MARKETING & ECONOMICS (CM&E) GROUP

#### An Overview of the Pharmaceutical Industry

*Speaker:* Douglas Long  
Vice President of Industrial Relations, IMS Health  
Totowa, NJ

**Date:** Thursday, September 7, 2006

**Times:** Cocktails 11:30 AM  
Luncheon 12 noon  
Presentation 1:15 PM

**Place:** The Chemists' Club  
40 West 45th Street  
New York, NY

**Fees:** \$40 discount price for Members who reserve by **Tuesday, September 5th (12 noon)**. \$55 for Guests and Members (at the door without reservations).

To reserve: Please reserve early to be eligible for discount price. Call Vista Marketing at (718) 961-8958 or via e-mail to: [cmegroup@yahoo.com](mailto:cmegroup@yahoo.com). You can also pay online (via PayPal): go to our Website: <http://www.nyacs-cme.org/>.

### HIGH SCHOOL TEACHERS TOPICAL GROUP

#### Formulating Semi-solid Topical Delivery Systems: Development of a Microbicide for HIV

*Speaker:* Dr. David Fairhurst  
Colloid Consultants Ltd.  
Congers, NY

**Date:** Friday, September 15, 2006

**Time:** Social and Dinner — 5:45 PM  
**Place:** No reservations required  
Caffe Pane e Cioccolato  
10 Waverly Place at Mercer Street (south-west corner)  
New York, NY

(You eat, you pay cash only, no credit cards.)


**Time:** Meeting — 7:15 PM


**Place:** New York University  
Silver Center Room 207  
32 Waverly Place (south-east corner Washington Sq. East)  
New York, NY

Security at NYU requires that you show a picture ID to enter the building in case of unexpected severe weather, call John Roeder, 212-497-6500, between 9 AM and 2 PM to verify that meeting is still on; 914-961-8882 for other info.

Note: Street parking is free after 6:00 PM. For those who prefer indoor attended parking, it is available at the Melro/Romar Garages. The entrance is on the west side of Broadway just south of 8th Street, directly across from Astor Place. It is a short, easy walk from the garage to the restaurant or meeting room.

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John Arnett, Ph.D., Director of Operations



**NY-ACS BIOCHEMICAL TOPICAL GROUP — JOINT MEETING WITH THE NYAS BIOCHEMICAL PHARMACOLOGY DISCUSSION GROUP**

**New Developments in Ion Channel Biology and Drug Discovery**

*Organizers:* Mark Bowlby  
Wyeth Research, Princeton  
John Dunlop  
Wyeth Research, Princeton

Ion channels remain a relatively under-exploited target class in terms of drug discovery yet significant advances have been made in understanding the basic biology of many therapeutically relevant channels. This symposium will discuss the latest developments in ion channel drug discovery.

**“Voltage Dependent Neuronal Calcium Channels”**

*Terry Snutch*  
University of British Columbia, Vancouver

**“TRPV1 and Pain”**

*Alan Wickenden*  
J&J PR&D, San Diego

**“Nav Channels as Targets for Chronic Pain”**

*Mark Bowlby*  
Wyeth Research, Princeton

**“Effects of Acid Sensing Ion Channels on Fear-related Behavior”**

*John Wemmie*  
University of Iowa, Iowa City

**Date: Tuesday, September 26, 2006**

**Time: 1:00 – 5:00 PM**

**Place: New York Academy of Sciences**  
2 East 63rd Street  
New York, NY

Space is limited. To reserve a seat, go to the calendar at [www.nyas.org/bpdg](http://www.nyas.org/bpdg) and fill out the online reservation form, e-mail [BPDG@nyas.org](mailto:BPDG@nyas.org) or call 212.838.0230 x322.

NYAS Members and BPDG Affiliates may attend BPDG meetings free of charge. Non-members may attend for \$20. Non-member students and postdoctoral fellows may attend for \$10. To become a Member of the Academy, visit <http://www.nyas.org/landing.html>.

**QUEENSBOROUGH STUDENT WINS FIRST PLACE RESEARCH AWARD**

Queensborough Community College was in a class by itself at the American Chemical Society Middle Atlantic Research Conference (MARM) 2006 on June 4th through 7th at Hershey, PA. The conference, which mostly four-year colleges and universities normally attend, features original research in Chemistry and Related Sciences. Hosted by the SE Pennsylvania Section and the Susquehanna Valley Section of the American Chemical Society, the conference generated approximately 60 undergraduate research presentations. Remarkably, 30 of them were by Queensborough Community College students.

**First Place Award**

Queensborough Community College Chemistry Honors student Rosa Rosales won the first place undergraduate award for her research on *Probing the Interaction Between the Enzyme Dihydropyridine Reductase (DHPR), Cofactor and Inhibitors Using Spectroscopy Techniques*. “It really is quite significant,” said Dr. Paris Svoronos, Professor and Chairperson of the Queensborough Community College Chemistry Department. “It’s unusual enough for a community college to attend the conference; our freshman and sophomore students not only attended but also competed with juniors and seniors of four year colleges. And Rosa Rosales’ research stood out, winning first place in this very competitive environment.”

**A Head Start On Original Research**

Queensborough Community College’s delegation of 45 proved very prolific as well; 50% of the research presentations were made by Queensborough Community College students. “We began participating in research conferences in 2000 for the first time,” said Dr. Svoronos, who was named Community College Professor of the Year by the Carnegie Foundation and CASE in 2003. “At this point we are making a significant contribution.” A key factor the high level of performance is the training that Chemistry students receive at Queensborough Community College. “We offer courses that specifically train students in Chemistry research and presentation; this gives our students an advantage in producing original research that has been published in peer-

reviewed articles. We also offer internships and opportunities for students to work in connection with grants awarded to the College and internships sought by its faculty. As a result, our students have the kind of preparation that is necessary to excel at conducting research and delivering oral presentations,” said Dr. Svoronos.

Queensborough Community College students conduct research separately from their course work, working on weekends, semester and spring breaks and after classes. “The Chemistry faculty is very supportive of student research. We are always there to offer guidance, ideas and encouragement, which helps students focus on research topics that truly break new ground,” commented Dr. Svoronos.

**Scholar’s Scholar**

First place winner Rosa Rosales was selected to be a Scholar in the American Chemical Society’s Scholars Program. The Society recognizes the top 100 Chemistry scholars nationwide. Mentored by Dr. Ruel Desamero, she will be a research intern for the second consecutive summer at the Cornell University Nanobiotech Center. She plans to continue her pre-med studies in the fall.

**Looking to 2008**

Building on its success at the 2004 Undergraduate Research Symposium of the

American Chemical Society-NY section and the 2005 MARM Conference, Queensborough Community College was awarded the hosting of the 40th MARM Conference in 2008, sponsored by the New York section of the American Chemical Society. “I’m very proud of the leadership our students have shown at the various conferences, not only MARM,” said Dr. Svoronos. “Our participation as host in 2008 will be the first time a community college and a CUNY institution has ever hosted this conference. We are expecting more than 800 presenters and research exhibitors from several dozens of colleges and universities. I am thrilled that the College is hosting MARM and look forward to the breakthroughs ahead for our talented students.”

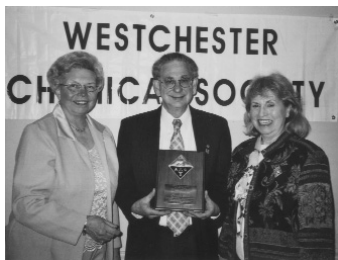


**Chemistry Honors student Rosa Rosales wins first place undergraduate award at American Chemical Society Conference.**



**A record 45 members of the Queensborough Community College student and faculty participated in the American Chemical Society Middle Atlantic Research Conference (MARM) in June 2006 at Hershey, PA**

**NEW YORK PICTURE GALLERY**



Westchester Chemical Society's Distinguished Scientist Award was presented to Dr. Richard M. Goodman by Joan Laredo-Liddell (l) and Jean Delfiner (r), co-chairs of the Westchester Chemical Society. The program was held at Pace-Pleasantville.



The 2005 Nichols Foundation High School Chemistry Teacher Award was presented to Rebecca P. Isseroff (l) by Joan Laredo-Liddell (co-chair) at St. John's University.



College Chemistry Achievement Awards — College students and their professors were invited guests of the Westchester Chemical Society.



The High School Teachers Topical Group Award was presented to Helen Creedon, Hunter College H.S. Faculty by Joan Laredo-Liddell (l) and Jean Delfiner (r), co-chairs of HSTTG. The award dinner was held at the New York Academy of Sciences.



Salute to Excellence Awards were presented to Dr. Joseph Skrivanek (l), Dr. John Weissburger (c) and Dan DeLuca (r) for their contributions to the Westchester Chemical Society.



New York Section and Westchester Board Members (seated left to right) Joseph Sencen (director); Rolande Hodel (treasurer); Jean Delfiner (co-chair); (standing left to right) Carol Sencen (secretary); Mary Cowman (director); Joan Laredo-Liddell (co-chair); Dan DeLuca (past director); Anne O'Brien (ACS District 1 Director); and Yorke Rhodes (ACS-NY Councillor).



Westchester Chemical Society — Dr. Mary Cowman, (director); Jean Delfiner (co-chair); Dr. Rolande Hodel, treasurer, presentation on "The Production of Pharmaceuticals in Africa"; Joan Laredo-Liddell (co-chair); Carol Sencen (secretary); Joseph Sencen (director).



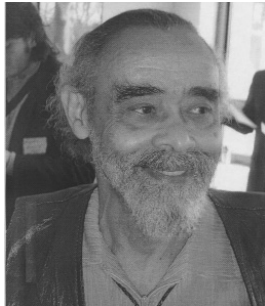
American Women in Science — MetroWomen Chemists — Distinguished Women in Science Award was presented to Sr. Mary Maier of St. Joseph's College (3rd from right). New York Members congratulate Sr. Mary (left to right) Joan Laredo-Liddell, Jean Delfiner, Jill Rehmann, Sr. Mary, Nancy Tooney, and Mary Moller. The program was held at the New York Academy of Sciences.

## LONG ISLAND SUBSECTION

### Chemistry Challenge

One of the many exciting and fun-filled activities of the Long Island Subsection of the ACS was the 6th Chemistry Challenge which was held at Queensborough Community College on April 20, 2006. Thirty multiple-choice questions (about 75% General Chemistry, 25% Organic Chemistry) were selected by Dr. E. Brown from a poll submitted by Professors and presented one by one, to teams of 3 students from each participating College. The students of each team (having had General Chemistry I & II and one semester of Organic) answered each of the questions in the allowed time. The event was professionally conducted by Frank Romano and the results were announced at the end of the competition. All participants received gift certificates from Barnes & Noble and a first place certificate was given to the winning team.

Dinner was also included for all participants.



Dr. Eugene Brown, Chair-Elect, Long Island Subsection

## Call for Nominations

### 2008 ACS NATIONAL AWARDS

The American Chemical Society Awards Program is one of the means by which the Society meets its obligation "to encourage...the advancement of chemistry in all its branches, the promotion of research in chemical science and industry, [and] the improvement of the qualifications and usefulness of chemists." The continuing excellence of the ACS awards program requires that a number of highly qualified chemistry professionals be nominated and that great care be taken in preparing the nominations.

Note that starting with this award cycle, the timeframe and deadline for submitting nominations has changed. The deadline for receiving nominations for the 2008 ACS Awards is November 1, 2006.

Nominating Procedure for ACS National Awards

- \* Nominations for 53 national awards administered by the ACS to be presented in 2008 are being solicited.
- \* Forms for nominations and supporting information, and a detailed description of ACS national awards are available at <http://chemistry.org/awards>.
- \* Any individual may submit a nomination for an award, unless that individual is a member of the selection committee for the same award. However, selection committee members may submit nominations for other awards.
- \* Nominations and inquiries concerning awards should be directed to the Office of the Awards Programs, [awards@acs.org](mailto:awards@acs.org).
- \* The deadline date for all nominating material for 2008 ACS National Awards is **November 1, 2006**. Earlier transmittal is encouraged.

## WESTCHESTER CHEMICAL SOCIETY

### Westchester Distinguished Scientist Award - 2007

The nominee must work or reside in the County of Westchester, New York. Proof of outstanding scholarly or technical achievements are the main criteria.

Send a comprehensive Curriculum Vitae with supporting letters of recommendation and selected recent publications or other documented evidence of achievement by **December 31, 2006** to Joan Laredo-Liddell, 391 Palmer Road, Yonkers, NY 10701-5239.

For more information e-mail: [JLaredoLiddell@aol.com](mailto:JLaredoLiddell@aol.com) or call 914-476-6860.



## Others

### CHINESE-AMERICAN CHEMICAL SOCIETY

#### Characterization of Small Molecules by Mass Spectrometry

Co-sponsored by: Ernest Mario School of Pharmacy  
Rutgers University

9:00 AM

On-site Registration, Social Hour, Vendor Setup

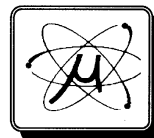
9:20 AM

Open Remarks  
*Prof. Chung S. Yang*  
Rutgers University  
*Dr. Y. Hsieh*  
Program Chair, CACS

9:30 AM

"Clinical Applications of Tandem Mass Spectrometry"  
*Professor Michael Bennett*

(continued on page 24)



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## CHINESE AMERICAN CHEMICAL SOCIETY

(continued from page 23)

University of Pennsylvania

**10:00 AM**  
Social Break  
"Transfer of Bioanalytical Methods - Quality and Impact"  
*Dr. Naidong Wang,*  
BMS

**10:30 AM**  
Social Break  
**11:00 AM**  
"A New Approach to High-Throughput Quantitative Analysis of Small Drugs Molecules Using Matrix-Assisted Laser Desorption Ionization Mass Spectrometry"  
*Dr. Dietrich Volmer*  
National Research Council, Canada

**11:30 AM**  
"Quantitative Analysis of the Cellular Metabolome Using Mass Spectrometry"  
*Professor Rabinowitz*  
Princeton University

**12:00 Noon**  
Lunch

**1:00 PM**  
"The Role of Mass Spectrometry in Drug

Discovery Process: Structural Characterization of Impurities, Degradants and Natural Products"  
*Dr. Birendra Pramanik*  
Schering-Plough

**1:40 PM**  
"The Impact of Early DMPK Profiling on Lead Optimization in Drug Discovery"  
*Dr. Sharon Tong*  
Merck

**2:10 PM**  
"The Role of Mass Spectrometry in Understanding Dietary Exposure Biomarkers"  
*Dr. Shengmin Sang*  
Rutgers University

**2:40 PM**  
TBD  
*Dr. Brian Buckley*  
Rutgers University

**3:00 PM**  
Social Break

**3:20 PM**  
"Examining Problems and Possible Solutions in the Quantitative Determination of Drug Metabolites in Biological Fluids Using Liquid Chromatography-Mass Spectrometry"  
*Mr. Michael Schwartz*  
Merck

**3:50 PM**  
"Supercritical Fluid Chromatography/Tandem Mass Spectrometry for Pharmaceutical Analysis"  
*Dr. Yunsheng Hsieh*  
Schering-Plough  
**Date: Saturday, October 14, 2006**  
Place: Seminar Room  
School of Pharmacy  
Rutgers University  
Cost: Free

## ASSOCIATION OF CONSULTING CHEMISTS & CHEMICAL ENGINEERS, INC.

**tapping the Sources of Tomorrow's Leaders in Math, Science and Engineering: Women**

*Speaker:* Barbara Henke  
President, Today's World Learning Center Foundation, Inc.

Barbara will have the assistance of her daughter who is a graduate of Pingry and has three degrees from MIT and of a current Pingry student. Her presentation tells the interesting story of young women in Science and Engineering and current efforts to facilitate the young women who want to pursue these careers.

Members of the ACS and AIChE as well as parents of these young women are invited to attend the presentation at Snuffy's in Scotch Plains, Tuesday evening September 26, 2006. The presentation starts at 7:30 p.m. and there is no charge to attend only the presentation. Dinner at 6:00 PM is optional at a \$40 per person charge.

**Date: Tuesday, September 26, 2006**  
Time: Cash Bar 6:00 PM  
Dinner 6:30 PM  
Presentation 7:30 PM  
Place: Snuffy's Restaurant  
Park & Mountain Ave. (Rt. 22 East)  
Scotch Plains, NJ  
Dinner: \$40 ACC&CE Members  
\$50 Non-members

To Reserve: Call Linda B. Townsend at 1-973-729-6671 or e-mail: [accce@chemconsult.org](mailto:accce@chemconsult.org)

Advanced registration is required for the dinner and presentation.

Cancellations must be made 24 hours in advance or be invoiced.

Please visit our web site for more details: [www.chemconsult.org](http://www.chemconsult.org).

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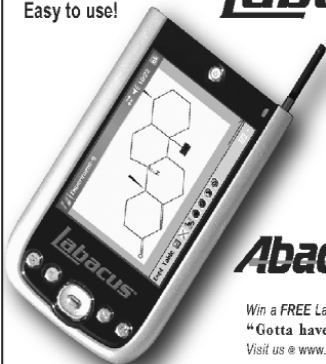
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**NEW JERSEY INSTITUTE OF TECHNOLOGY — DEPARTMENT OF CHEMISTRY AND ENVIRONMENTAL SCIENCE**

Seminar Series – Fall 2006

**Tuesday, September 12, 2006**

11:30 AM – 1:00 PM  
Tiernan Hall Rm. 373  
"Using the Resources of the NJIT Library to Find Information in Chemistry and Environmental Science"  
*Mr. Bruce Slutsky*  
New Jersey Institute of Technology  
Newark, NJ

**Tuesday, September 19, 2006**

11:30 AM – 1:00 PM  
Tiernan Hall Rm. 373  
"Find a Needle in a Haystack – Discover of Platensimycin"  
*Dr. Jun Wang*  
Merck & Co. Inc., Rahway, NJ

**Wednesday, September 27, 2006**

11:30 AM – 1:00 PM  
Tiernan Hall Rm. 373  
"Thermochemistry and Oxidation Reactions of Small Sulfur Hydrocarbons"  
*Dr. Li Zhu*  
New Jersey Institute of Technology  
Newark, NJ

Seminar Series Coordinator: Dr. Zeyuan Qiu, 973-596-5357, [Zeyuan.qiu@njit.edu](mailto:Zeyuan.qiu@njit.edu)

**NEW JERSEY INSTITUTE OF TECHNOLOGY — OTTO B. YORK DEPARTMENT OF CHEMICAL ENGINEERING**

Graduate Seminar Series – Fall 2006

**Monday, September 25, 2006**

"Perspectives of Polymer Processing Research"  
*Dr. David Todd*  
Polymer Processing Institute  
New Jersey Institute of Technology

**Monday, October 2, 2006**

"Formation of Nanofibers from Electrically Driven Polymer Jets: Modeling and Experiments"  
*Assistant Professor Yong Lak Joo*  
Dept. of Chemical Engineering  
Cornell University, Ithaca, NY

**Monday, October 9, 2006**

"Characterization of Twin Screw Extrusion: An Industrial Perspective"  
*Mr. Mark D. Wetzel*  
DuPont, Wilmington, DE

**Monday, October 16, 2006**

"Elementary Reactions in Hydrocarbon Oxidation Kinetics for Self Ignition in HCCI Engines"  
*Professor Joe Bozzelli*  
Dept. of Chemistry and Environmental Science, New Jersey Institute of Technology

**Monday, October 23, 2006**

"New Developments in Cross-Linking Technology for Polyolefins"  
*Dr. Mohamed Essghir*  
The Dow Chemical Company  
Somerville, NJ

**Monday, October 30, 2006**

"Polymer Modification Through Additives and Reactive Processing"  
*Professor Marino Xanthos*  
Department of Chemical Engineering  
New Jersey Institute of Technology

**Monday, November 6, 2006**

"The Effect of Surfactant and Surfactant Solubility on the Deformation and Breakup of a Bubble in a Viscous Surrounding"  
*Professor Michael Siegel*  
Department of Mathematical Sciences  
New Jersey Institute of Technology

**Monday, November 13, 2006**

**AIChE National Meeting**  
No Seminar

**Monday, November 20, 2006**

TBA  
*Professor James Lee or Sung Kyu Lee*

**Monday, November 27, 2006**

"Polymer Separation and Fractionation: HPLC Beyond Size Exclusion Chromatography"  
*Assistant Professor Chang Yul Ryu*  
Department of Chemistry and Biological Chemistry  
RPI, Troy, NY

**Monday, December 4, 2006**

"De Novo Protein Design in Computational Genomics: Advances and Challenges"  
*Professor Christodoulos Floudas*  
Department of Chemical Engineering  
Princeton University, Princeton, NJ

Times: Refreshments 2:30 PM

Seminars 2:45 PM  
Place: Room 3710  
NJIT Guttenberg Information Technologies Center

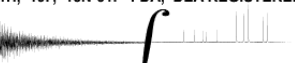
Seminar Coordinator: Professor Kun Hyun (973) 596-3267, [kshyun@njit.edu](mailto:kshyun@njit.edu)

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C	F	B	H	N	Li	He	Be	O
Be	O	Li	He	B	F	H	N	C
He	H	C	B	Li	N	Be	O	F
B	N	O	F	Be	He	Li	C	H
F	Li	Be	O	H	C	N	B	He
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*Prereq.* — *UG Organic and Physical Chemistry.*  
Prof. Attygalle

#### MEDICINAL CHEMISTRY — Ch 685 (Wed.)

Modern aspects of drug discover, enzyme inhibition and receptor antagonism; pharmacokinetics; structure activity relationship; recent case studies.  
*Prereq.* — *Organic Chemistry.*  
Prof. A.K. Ganguly, formerly Sr. V.P., Schering-Plough

#### SYNTHETIC POLYMER CHEMISTRY — Ch 670 (Tue.)

Mechanisms and kinetics; condensation, free radical and ionic addition; stereo-regular and copolymerization; resulting physical properties.  
*Prereq.* — *Organic Chemistry.*  
Prof. Liang

### And Also:

Instrumental Analysis Laboratory — Ch 561 (Wed.)  
Physiology — Ch 583 (Thur.)  
Advanced Organic Chemistry I — Ch 640 (Mon.)  
Synthetic Organic Chemistry — Ch 642 (Thur.)  
Spectra & Structure Determination — Ch 650 (Tue.)  
Computer Methods in Chemistry — Ch 664 (Fri.)  
Biochemistry II — Ch 681 (Mon.)  
Molecular Genetics — Ch 687 (Tue.)

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## Education

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- September 8** Michael Lipton, Schering-Plough Corporation  
Host: Arora *Asthma and Asymmetry Process Chemistry Case Studies*
- September 15** Marcey Waters, University of North Carolina  
Host: Kirshenbaum *TBA*
- September 29** Michael K. Gilson, University of Maryland  
Host: Y.Zhang *Modeling Molecular Recognition*
- October 6** Sarah Woodson, Johns Hopkins University  
Host: Kallenbach *RNA Folding From Ribozyme to Ribosome*
- October 13** Olaf G. Wiest, University of Notre Dame  
Host: Schelvis *Compuibophysorganachemicalogy or: The Mechanisms of DNA Photolyases*
- October 20** Roberto Car, Princeton University  
Host: Abrams *TBA*
- October 27** Jeffrey S. Moore, University of Illinois at Urbana/Champaign  
Host: Arora *Damage-Induced Reactivity: Autonomic Repair of Molecules and Materials*
- November 3** Arthur G. Palmer, Columbia University  
Host: Jerschow *TBA*
- November 10** Philip J. Grandinetti, Ohio State University  
Host: Jerschow *TBA*
- November 17** Darrin York, University of Minnesota  
Host: Y.Zhang *TBA*
- December 1** Ernest Giralt, University of Barcelona  
Host: Kirshenbaum *Peptides in Protein-Surface Molecular Recognition*
- \*December 5** Virginia Cornish, Columbia University  
Host: Arora *Co-Opting Nature's Machineries for Chemical Discovery*
- December 8** Julius Rebek, Jr., Scripps Research University  
Host: Canary *The Inner Space Of Molecules*
- December 15** Joel Miller, University of Utah  
Host: Ward *Molecule-based Magnets: New Chemistry and New Materials for this Millennium*

Unless otherwise noted, seminars will be held on Fridays at 3:30 p.m. in room 1003 Silver Center, 31 Washington Place, between Greene Street and Washington Square East. Reception to follow.

\*Draper Society Colloquium to be held on Tuesday, December 5 at 12:30 p.m. in room 1003 Silver Center