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**2008 Nichols Medalist**

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# 2008 Eastern Analytical Symposium

*Creating a Better Tomorrow*

November 17 - 20, 2008  
Garden State Exhibit Center, Somerset, New Jersey

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Deadline – April 15, 2008

The Eastern Analytical Symposium and Exposition is the second largest conference and exposition for laboratory science in the U.S. dedicated to the needs of analytical chemists and those in the allied sciences. We offer high quality cutting-edge technical sessions and state-of-the-art short courses, workshops and seminars. We invite you to be a part of the program by contributing a paper for oral or poster consideration. Please note that all abstracts must be submitted electronically via the EAS web site at [www.eas.org](http://www.eas.org). The abstract submission deadline is April 15.

To submit a contributed paper for the 2008 EAS Technical Program, please submit abstracts through our web site at [www.eas.org](http://www.eas.org), between March 1 and April 15, and follow the instructions for abstract submission. *Invited speakers must not submit abstracts to EAS until requested.*

Please carefully review the following information:

- All contributed abstracts must be submitted through our web site at [www.eas.org](http://www.eas.org) between March 1 and April 15, 2008. No faxed, e-mailed, or mailed abstracts will be accepted.
- Please note that no one author may submit and present more than two posters.
- All abstracts will be acknowledged via e-mail.
- The title of the presentation and the list of authors that you submit are final, and may not be changed.
- The abstract that you submit will be considered to be your final abstract that will be printed in the abstract book for the 2008 Eastern Analytical Symposium.
- Presenting authors of contributed submissions will be notified in June 2008 of the status of the abstract and its session assignment.

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# THE Indicator

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Address advertising correspondence to Advertising Manager. Other correspondence to the Editor.

## March Calendar

### NEW YORK SECTION

**Thursday, March 6, 2008**

Long Island Subsection  
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**Friday, March 14, 2008**

Nichols Symposium & Award Banquet  
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**Friday, March 14, 2008**

High School Teachers Topical Group  
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**Wednesday, March 19, 2008**

Analytical Topical Group  
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**Tuesday, March 25, 2008**

Biochemical Topical Group  
See page 16.

**Thursday, March 27, 2008**

Hudson-Bergen Chemical Society  
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### NORTH JERSEY SECTION

**Thursday, March 6, 2008**

Careers in Transition  
See page 8.

**Monday, March 10, 2008**

Teacher Affiliate Executive Committee  
See page 8.

**Wednesday, March 12, 2008**

ChemTAG  
See page 8.

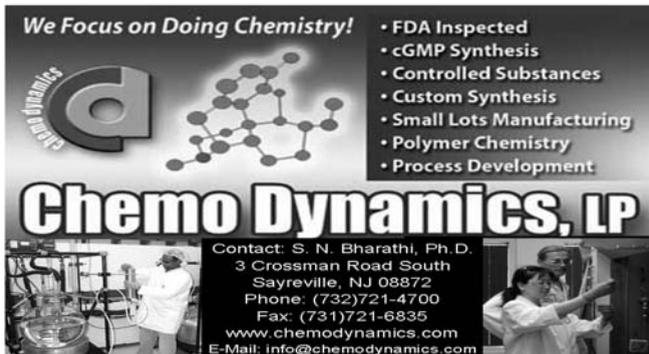
**Friday, March 21, 2008**

Chemistry As A Life Science  
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**Monday, March 24, 2008**

NoJ Executive Committee  
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**Deadline for items to be included in the May 2008 issue of *The Indicator* is March 14, 2008.**



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### MARCH HISTORICAL EVENTS IN CHEMISTRY

by Leopold May, The Catholic University of America, Washington, DC

**March 1, 1771**

John McLean, first professor of chemistry, at Princeton, established the first laboratory of chemistry on this day in North America.

**March 3, 1709**

Andreas S. Marggraf, who was born on this date, isolated zinc from calamine. He distinguished between potash and soda by flame test, found alumina in clay, and discovered beet sugar in beetroot.

**March 5, 1817**

The inventor of the first colorimeter, Jules Duboscq, was born on this day. The Duboscq Colorimeter was used for visual colorimetric quantitative analysis and pH measurements.

**March 7, 1839**

Ludvig Mond, who discovered Mond producer gas and nickel carbonyl, was born on this date. He and John Brunner founded a company that later became Imperial Chemical Industries (ICI).

**March 10, 1851**

William McMurtie, who was born on this day, did research on methods for converting sewage to fertilizer. He served as president of the American Chemical Society.

**March 12, 1824**

Gustav R. Kirchhoff, who invented the spectroscope with Robert Bunsen in 1859, was born on this date. He and Robert Bunsen discovered cesium in 1860, and rubidium in 1861. He discovered that substances which emit radiation absorb the same type of radiation when cool (Kirchhoff's Law).

**March 14, 1854**

One hundred years ago, Paul Ehrlich and Ilya Ilyich Mechnikov shared the Nobel Prize in Medicine with in recognition of their work on immunity. Ehrlich was a researcher in immunity & chemotherapy and discovered Salvarsan (No. 606) & neosalvarsan. He improved laboratory staining methods and was born on this day.

**March 16, 1666**

Johann Conrad Barchusen, who was born on this date, was a chemical lecturer at Utrecht University. He did chemical analysis using fire and interpreted alchemical transmutation as metallic substitution reactions.

**March 18, 1900**

Laurien B. Hitchcock, an expert in chemistry of the environment, was born on this date.

**March 19, 1883**

One hundred and fifty years ago, Walter N. Haworth was born on this date. He synthesized ascorbic acid (Vitamin C) in 1933 and did research on sugars and dextran as blood plasma substitute. In 1937, he shared the Nobel Prize in Chemistry with Paul Karrer for vitamin synthesis.

**March 20, 1908**

One hundred years ago, Bausch & Lomb was incorporated as Bausch & Lomb Co., on this day.

**March 21, 1817**

George W. Rains, who was a chemistry teacher and Confederate Army chemist, was born on this date.

**March 23, 1867**

Charles L. Parsons, who was born on this date, obtained the federal charter for the ACS. He helped establish the Petroleum Research Fund and did research on beryllium.

**March 26, 1838**

A. Crum Brown, who devised modern structural formulae in 1864, was born on this date. He formulated rules for substitution in benzene derivatives named after him and did research in the theory of isomerism and organic compounds of sulfur.

**March 27, 1847**

Otto Wallach, a researcher on essential oils & terpenes, was born on this date. In 1910, he received the Nobel Prize in Chemistry in recognition of his services to organic chemistry and the chemical industry by his pioneer work in the field of alicyclic compounds.

**March 29, 1883**

One hundred and fifty years ago, Donald D. Van Slyke was born on this day. He was a pioneer in clinical chemistry.

## **BLACK BONES AND VITRIOL, OR HOW A SMALL FARM IN NEWARK HELPED LAUNCH AN AGRICULTURAL REVOLUTION**

### **PART ONE: Superphosphates to the Rescue!**

*Kevin Olsen*, Montclair State University, Department of Chemistry and Biochemistry.

In the present day we are accustomed to buying inexpensive food that was grown in some distant place. A few nights ago my son complemented his mother on the sweet corn she served with dinner, "tastes good, like it was just out of the can." It seems almost an almost radical idea to buy produce that is "locally grown" or "Jersey fresh." Shopping at a farmers' market is still a minority pursuit. Many persons blame chemistry for the dearth of locally grown produce. Paradoxically, chemists made it possible to grow food locally long before they made it possible to ship food great distances.

Consider the problem of the growing cities of the late 1700s and early 1800s. When cities were small, the surrounding countryside was able to supply sufficient food for the urban population, provided of course that the costs of transportation remained low. As the city expanded the only way to feed the increased population was to grow more food on ever more distant farms. Compounding this problem was the fact that the farming areas closest to the city were exploited the longest. They were in many cases already suffering from depleted soils. A sort of Malthusian equilibrium existed between the city and its food supply. Urban growth could not exceed the capacity of the farms that were within easy transportation distance.

Some crops such as cereals and grains could be transported great distances. Sometimes this was not enough. By 1850 Boston had outgrown the wheat production capacity of the entire state of Massachusetts. Other foodstuffs such as cod and pork could be salted or dried to preserve them during transit. Everything else, fresh fruits, vegetables, meat, and dairy products still had to be produced locally.

Being on an island, New York was one of the first cities to confront this problem. By the 1830s it was clear that unless the city did something it would soon outgrow its food supply.

One solution was literally underfoot, New York would recycle its garbage into more food. The prices paid for scrap metals, paper, cloth, and glass made recovery of these materials economical. Most trash therefore consisted of animal carcasses, offal, ashes, bones, and spoiled food.

While it might seem that such materials would easily compost into a rich fertilizer, it soon became obvious that cities were not only outgrowing their food supply, they could not hope to compost their way out of the problem. Any reader of *The Indicator* who survived P-chem will realize that the energy of the foods imported into the city will exceed the energy of the garbage coming out. Similarly, only a fraction of the nutrients extracted from the soil and brought into the city could ever be returned to the farmlands.

We have seen in the November 2005 *Indicator* how marls could be used to restore soil fertility but this was a long-term solution. English farmers said that a man "manures for himself, limes, for his son, and marls for his grandson." What was needed was a ready source of nitrogen, phosphates, and potassium.

Beginning in the 1840's guano began to be imported from South America. The accumulated seabird droppings on the rocky islands off the coasts of Peru and Chile were several hundred feet thick when the guano trade began. Guano is rich in nitrates and phosphates and one ton of it has the same fertilizer value as 33 tons of manure. The first American imports were only a few tons for experimental purposes in the early 1820's. Once its value was demonstrated in England, American farmers began fertilizing with it. Imports jumped from 1,013 tons in 1848 to 175,849 tons in 1854. Production fell off sharply as the resource began to be depleted. By the 1860's imports were down to 60,000 tons annually.

But guano was only one of many available options. It had been a tradition since ancient times to allow a field to "lie fallow" every third year. During that time, particles of rock in the soil would be weathered. Feldspars would release potassium and to a lesser extent, the same process occurred with rocks containing phosphates. Bacterial action would convert insoluble nutrients to available forms.

Farmers would also be able to increase soil fertility by applying manure (containing nitrogen chiefly as urea and ammonium salts), wood ashes (potassium carbonate), dried blood (rich in both nitrogen and phosphorous), ground bones (a good source of calcium and phosphates), or plowing grasses that are rich in nitrogen back into the soil. (This is why modern homeowners are frequently advised to mulch, and not bag, grass clippings.)

Other sources of nitrogen included dried fish scraps. The use of fish for fertilizing crops in North America goes back to the early 1600's when the Indians taught the Pilgrims at Plymouth, Massachusetts, to place a fish in the ground when planting corn. The only problem is that accumulations of undecomposed fish oil in the soil can damage crops. Allowing fish to decay partially in water and skimming off the oil solved this problem.

Waiting for fish to decompose, even partially, was time-consuming and smelly. During the first half of the 1800's fertilizer manufacturers developed a faster process in which the fish oils were extracted under heat and pressure. The remaining flesh was ground and sold as an alternative to guano. This recovered two saleable products from the same fish. Oily fish such as Menhaden were especially prized by this industry. The fish oil industry thrived on Long Island, in New Jersey, and on the coasts of Connecticut and Rhode Island.

The Haber process for nitrogen fixation was introduced during the First World War. Smaller amounts of fertilizer would continue to be produced from fish meal but the industry would thrive for another five or six decades as a source of animal feed and oil.

Beginning in the 1830s and 1840s a similar process was applied to animal carcasses and offal. The carcasses would be packed into digesters where heat and pressure were used to cook out the fats. These were drawn off and used in the production of glycerin, candles, and soap. After cooking, the carcasses were pressed to remove any additional fat and then could be composted into fertilizer. Sometimes the composting process was accelerated by the use of sulfuric acid digestion. It appears that the companies in this business sometimes sold their product under the name guano in an attempt to link it to the "natural" product.

This process solved several problems at once. It provided fertilizers for farms, raw materials for industry, and a market for carcasses. In July of 1853 alone, 1,113 tons of butcher's offal, 119 tons of dead horses (425 individual carcasses), and 210 tons of "other nuisances" were removed from Manhattan Island for reprocessing into grease and fertilizer. The monthly total of animal carcasses included 81 cows, 12 sheep, ten pigs, one goat, and one alligator. (Yes, alligator.)

The practice of rendering animal carcasses for grease and fertilizer would continue into the twentieth century. Objections to the odors and rising real estate values would send it far from the cities. The last grease recovery plant would be banished from New York City in 1936.

Manure, fish scrap, and guano were all established as excellent sources of nitrogen during the first half of the 1800's. Potassium could be obtained from wood ashes. But where was a farmer going to get phosphorous?

Bone meal provided an excellent source of phosphates but it decomposed too slowly for the increasingly mechanized, market-driven farming that was becoming widespread in the United States. In 1842 the English agricultural chemists John Bennett Lawes discovered that treating bones with sulfuric acid created a "superphosphate."

Because superphosphate or P2O5 is readily soluble in water it is immediately available to plants. Superphosphates prepared from calcium-rich bones are sometimes referred to as "superphosphates of lime." American chemists wasted little time in exploiting this discovery. The first fertilizer manufacturers in the United States were established in Baltimore and Philadelphia in the 1840's and 1850's.

END OF PART ONE

## North Jersey Meetings

<http://www.njacs.org>

### NORTH JERSEY EXECUTIVE COMMITTEE MEETING

Section officers, councilors, committee chairs, topical group chairs, and section event organizers meet regularly at the Executive Committee Meeting to discuss topics of importance to running the section and representing the membership. All ACS members are welcome to attend this meeting and to become more involved in section activities.

**Date:** Monday, March 24, 2008

**Time:** 6:30 PM

**Place:** Fairleigh Dickinson University  
College at Florham  
Hartman Lounge, the Mansion  
Madison, NJ

**Cost:** \$5.00 - pizza dinner

Directions: can be found at

[view.fdu.edu/default.aspx?id=238](http://view.fdu.edu/default.aspx?id=238).

Reservations: call (732) 463-7271 or email [njacsoffice@aol.com](mailto:njacsoffice@aol.com) prior to Wednesday, March 19, 2008.

Dinner at the Section 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.



### 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, March 6, 2008**, 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.



### TEACHER AFFILIATES

#### Executive Committee Meeting

**Date:** Monday, March 10, 2008

**Time:** 4:30 PM

**Place:** Chatham High School  
255 Lafayette Avenue  
Chatham, NJ

Contact: Bobbi Gorman at 732-821-1781  
Or [rosellerams@yahoo.com](mailto:rosellerams@yahoo.com)



### ChemTAG MEETING

**Date:** Wednesday, March 12, 2008

**Time:** 4:00 – 6:00 PM

**Place:** JP Stevens High School  
855 Grove Street  
Edison, NJ

<http://www.jpstevens.org> for directions  
Paul Sekuler [researchehs@hotmail.com](mailto:researchehs@hotmail.com)



### METRO-WOMEN CHEMISTS COMMITTEE

Maureen Chan, the North Jersey co-chair of MWCC for 31 years, has graciously turned over the reigns of the NJ Section's MWCC to Amber Charlebois (professor at FDU, Madison Campus), and Jackie Erickson (scientist at GSK). Jackie and Amber along with Nancy Tooney (New York section's co-chair) would like to update the list of active members of MWCC. So if you want to be contacted when WCC events are being held please do not hesitate to contact Amber at [charleb@fdu.edu](mailto:charleb@fdu.edu), or Jackie at [jacqueline.a.erickson@njacs.org](mailto:jacqueline.a.erickson@njacs.org), or Nancy at [nmt02@att.net](mailto:nmt02@att.net).

#### SAVE THE DATE!

Our next event is the Women Chemist's Luncheon at the 40th Middle Atlantic Regional Meeting,

**Date:** Tuesday, May 20, 2008

**Place:** Queensborough Community College  
Bayside, Queens, NY

Stay tuned for more information.

## CHEMISTRY AS A LIFE SCIENCE SYMPOSIUM XIV

Friday March 21, 2008

The fourteenth in a series of CAALS biennial symposia will be held at:

The Paul Robeson Campus Center  
Rutgers, The State University  
Newark, New Jersey

#### Distinguished Invited Speakers:

**Carl Djerassi**

Stanford University

*"Thoughts on passing 80"*

**Paul Knochel**

Ludwig-Maximilians Universität

*"Preparation of Functionalized Organomagnesium Reagents"*

**Alana Shepartz**

Yale University

*"Imaging protein conformation and association in live cells with small molecules."*

**Dirk Trauner**

University of California, Berkeley

**Justin DuBois**

Stanford University

*"The Allure of the Guanidinium Toxins as Targets for Chemical Synthesis"*

**Phil Baran**

The Scripps Research Institute

*"The Catalytic Cycle of Discovery in Total Synthesis"*

This symposium is free and open to the public. Due to limited seating, advanced registration is required. All registration must be completed at the following website: <http://www.njacs.org/caals2008.html>

Organizing committee: V. Lombardo (Lexicon), D. Askin (Merck), R. Kong (PTC Therapeutics), R. Ewing (Chair BMS), J. Kozlowski (Schering-Plough), W. Metz (Sanofi-Aventis), S. Hall (Rutgers), M. Prasad (Novartis), S. Erickson (Roche), P. Zhang (Wyeth).

## NO. JERSEY AWARDS DINNER, MAY 2007



Jiwen Chen (left), NJACS Awards Chair, presents the NJACS Lifetime Achievement Award to Roger C. Prince.



Fred Dammont, former chair of the NJACS Awards committee and the 2007 recipient of the Salute to Excellence Award.



(Right to left) Sue Fahrenholtz, NJACS SEED Chair; Joseph Bozzelli, NJACS Pro Bono Awardee; and Carole Bozzelli, Joseph's wife.



Bettyann Howson, NJACS-Teacher Affiliate Chair, presenting the 2007 Harvey J. Russell Award to Stephen Waller NJACS past Chair.



(Left to Right) George Gross, NJACS Education Chair, Claire Miller, 2007 Edward J. Merrill Award winner, Diane Krone, NJACS Chair, Jane Kiernan, Claire's guest.

## SCIENCE CAFÉ

### AT LIBERTY SCIENCE CENTER

The North Jersey Section of the America Chemical Society set up nine chemical activities to emphasize chemistry during the "12 Days of Science" at Liberty Science Center.

Student affiliates from Fairleigh Dickinson University, along with leader, Amber Charlebois, were greeters and prize dispensers. At day's end mini moles were given to participants who answered activity-related questions.

As people entered our area, they were treated to a chemistree, decorated with various pieces of lab equipment, lights, and topped with a buckeyball. A garland of buckeyballs decorated the area as well. All of this was courtesy of Barbara McNally's Chemistry classes at Morristown High School.

General (John Penna) chemistry, along with his able wife-assistant Maryann, took pictures of "future chemists" clad in safety goggles and a tie-dyed lab coat which was then emailed to the young person's home immediately. John's enthusiasm is so seductive

he could sell ice to the Eskimos. By 1:00 PM John had taken about 50 pictures! In addition to the eight experiments, visitors to the center were "vacuum packed" by Bobbi Gorman to demonstrate the power of atmospheric pressure pushing against a (partial) vacuum. We had people from ages 8 – 28 taking off their shoes to enjoy the experience.

Three of the activity tables were staffed by Boy and Girl Scout Troops. Tony Eggerton from the Scout committee recruited five adult leaders and eleven Cub and Boy Scouts. Meredith Morgan, chemistry teacher and scout leader, recruited one adult leader and five Girl Scouts.

Chemistry teachers Cheryl Litman, Diane Krone, Lorelei Testino, and Paul Sekuler presented activities while being assisted by spouses or scouts.

Dodda Leelavathi took pictures of the event.

We estimate that 3800 visitors came to our site and activities.

Thanks to everyone who made this a success.

Submitted by Bobbi Gorman



## NORTH JERSEY POLYMER TOPICAL GROUP

### Biomaterials in Medicine and Personal Care

Sponsor: Apollo Ventures, LLC

Organizer: Hongbo Liu  
J&J Ethicon

### From Willow Bark to PolyAspirin

Dr. Kathryn Uhrich  
Rutgers University

### Biomaterials in Tissue Engineering

Dr. David Kaplan  
Tufts University

### Biocompatibility Evaluation of Biomaterials

Dr. Richard Hutchison and  
Dr. Thomas Barbolt  
Johnson & Johnson

### Application of Peptide Nanotubes in Virus Detection

Dr. Hiroshi Matsui  
CUNY

### Human Tropeolastin as a Bioactive Polymer

Dr. Burt Enslay  
DermaPlus, Inc.

### Novel Absorbable Polymers and Their Applications

Dr. Rao Bezwada  
Bezwada Biomedical, LLC

#### Poster Session

Organizer and Presiding:  
Bin Wei, ICI National Starch and Chemical  
Mixer

The symposium is presented by the Polymer Topical Group of the North Jersey Section of the American Chemical Society. This event features presentations contributed by leading scientists from both academia and industry. This symposium is intended to bring the local polymer science community up to date on the advancement of biomaterials in a range of applications such as medical devices, tissue engineering, diagnostics, and many other exciting areas.

This event features presentations, posters and networking opportunities at a mixer during the poster session. In addition to posters on biomaterials, general polymer posters are being requested. We are looking for poster submissions in polymer research in diverse areas, such as polymers in health care, advanced polymer materials, polymer characterization etc. Whether you are from academia, large corporations or local busi-

nesses, this is a good opportunity for you to showcase your research, network with other people and contact possible employers and clients. Any registered conference attendee may sign up to present a poster on any scientific topic.

We are looking forward to seeing you at this both scientific and networking event.

Date: Thursday, May 1, 2008

Time: 1:00 pm to 6:30 PM

Place: Rutgers University  
Douglass Campus Center  
Trayes Hall  
New Brunswick, NJ

Cost: Member \$40; Non-member \$50;  
Student \$25

Directions: Can be found at the Rutgers University website. (<http://maps.rutgers.edu/building.aspx?id=110>)

Registration deadline is April 24, 2008. Please send your full contact information along with a check made payable to NJACS-Polymer Group to Dr. Willis B. Hammond, Treasurer, NJACS-PTG, 128 Center Ave., Chatham, NJ 07928

Poster Submission: Contact Bin Wei (ICI National Starch and Chemical) ([bwei01@gmail.com](mailto:bwei01@gmail.com))



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## New York Meetings

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



### LONG ISLAND SUBSECTION

#### The Role of Endothelin 1 in Preterm Labor and its Inhibition by Novel 1,3,6-Trisubstituted Quinolone ETA

Speaker: Prof. Sandra Reznik, M.D., Ph.D.  
Associate Professor  
Department of Pharmaceutical Sciences  
College of Pharmacy and Allied Health Professions  
St. John's University

Preterm birth occurs in 12% of deliveries and accounts for half of long-term neurological morbidity and 60-80% of perinatal mortality. The role played by ET-1 in preterm birth, based on biochemical, pharmacologic

and molecular genetics approaches, will be presented. Evidence will be shown demonstrating that "knockdown" of mRNA encoding ECE-1 (the enzyme that synthesizes ET-1 in vivo) results in control of preterm birth. Our findings have led to the synthesis of various putative ET receptor antagonists. Data will be presented showing that one of these novel compounds, HJP279, controls preterm birth in mice. The compounds are useful both in dissecting the molecular mechanism of preterm birth as well as potentially impacting on disorders ranging from acute lung injury to cerebral malaria.

Date: Thursday, March 6, 2008

Times: Coffee 5:30 PM

Seminar 6:00 PM

Place: St. John's University

Room TBA:

Times: Dinner: 7:00 PM

Place: Neighboring restaurant

Cost: \$20.00

Email: [LVargas@qcc.cuny.edu](mailto:L Vargas@qcc.cuny.edu) for information.



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**PROFESSOR NADRIAN C. SEEMAN — 2008 NICHOLS MEDALIST**

The ACS New York Section congratulates and extends its best wishes to Professor Nadrian C. Seeman who will receive the William H. Nichols Medal Award on March 14, 2008 in White Plains, New York. The Nichols Medal will be presented at an award dinner following the Nichols Distinguished Symposium. Professor Seeman will be honored for Founding and Establishing the Field of Structural DNA Nanotechnology.

Professor Nadrian C. Seeman was born in Chicago in 1945. Following a BS in biochemistry from the University of Chicago, he received his Ph.D. in biological crystallography from the University of Pittsburgh in 1970. His postdoctoral training, at Columbia and MIT, emphasized nucleic acid crystallography. He obtained his first independent position at SUNY/Albany, where his frustrations with the macromolecular crystallization experiment and his awareness of the fatal series--no crystals, no crystallography, no crystallographer--led him to the campus pub one day in the fall of 1980. There, he realized that the similarity between 6-arm DNA branched junctions and the flying fish in the periodic array of Escher's 'Depth' might lead to a rational approach to the organization of matter on the nanometer scale, particularly crystallization. Ever since, he has been trying to implement this approach and its spin-offs, such as nanorobotics and the organization of nanoelectronics; since 1988 he has worked at New York University where he is the Margaret and Herman Sokol Professor of Chemistry. When told in the mid-1980's that he was doing nanotechnology, his response was similar to that of M. Jourdain, the title character of Moliere's Bourgeois Gentilhomme, who was delighted to discover that he had been speaking prose all his life. Professor Seeman has published over 220 papers, and has won the Sidhu Award, the Feynman Prize, the Emerging Technologies Award, the Tulip Award in DNA Computing and the World Technology Network Award in Biotechnology.

The William H. Nichols Medal was established in 1902 to honor a chemical scientist for outstanding original research. It is the first award in the field of chemistry. The Nichols Medal was first awarded in 1903 and consists of a Gold Medal depicting the allegorical figure of Dr. Faust in his laboratory as described by Goethe, and on the obverse side bearing an inscription of the name of the medalist and the award citation. The award ceremony has evolved into the Distinguished Symposium and the Medal Award Dinner during which scientists can interact with their colleagues and with chemistry students.

**WILLIAM H. NICHOLS MEDAL  
DISTINGUISHED SYMPOSIUM AND AWARD BANQUET**

**Symposium: DNA: Not Merely the Secret of Life**

**Award Recipient:** Professor Nadrian C. Seeman  
New York University

**Date:** Friday, March 14, 2008  
**Time:** Registration 1:00 PM  
Symposium 1:30 PM – 5:30 PM  
Reception 5:45 PM  
Award Dinner 6:45 PM  
**Place:** Crowne Plaza Hotel, White Plains, NY

**PROGRAM**

1:30 PM	Welcome	Professor Marc A. Walters 2008 Chair, ACS, New York Section New York University
1:35 PM	Opening of the Distinguished Symposium	Professor Barbara R. Hillery 2008 Chair-elect, ACS, New York Section SUNY – Old Westbury College
1:45 PM	Designer DNA Architectures for Nanobiotechnology	Professor Hao Yan Department of Chemistry and Biochemistry Arizona State University
2:30 PM	DNA Nano Structures: All Stars	Professor Chengde Mao Department of Chemistry Purdue University
3:15 PM	Coffee Break	
3:45 PM	Programming a DNA World	Professor Erik Winfree Computer Sc., Computation & Neural Systems California Institute of Technology
4:30 PM	Using DNA Information for Structural Control	Professor Nadrian C. Seeman NICHOLS MEDALIST
5:45 PM	Social Hour	
6:45 PM	William H. Nichols Medal Award Dinner	

More information regarding the Symposium is available on the New York Section's website at <http://www.newyorkacs.org>

Tickets may be reserved using the following form:

**RESERVATION FORM**

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**Return to:** ACS, New York Section, c/o Dr. Neil D. Jespersen, Department of Chemistry,  
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Please reserve \_\_\_\_\_ places for symposium & banquet at \$90/person ACS member  
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## HIGH SCHOOL TEACHERS TOPICAL GROUP

### Electromigration

**Speaker:** Dr. Julie Nucci  
Director of Education Programs  
Cornell Center for Nanoscale  
Systems

Electromigration is the directional mass transport of metal atoms due to momentum exchange with conducting electrons. This effect is important in applications where high current densities are used, such as the fine metal wires (interconnects) in microelectronics. Electromigration has been and continues to be one of the most important reliability challenges for high end chips, which incorporate the finest features. Important parameters in electromigration will be discussed, including the interconnect composition, linewidth, and microstructure.

**Date:** Friday, March 14, 2008  
**Times:** 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.)  
**Times:** 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.

## NEW YORK ANALYTICAL TOPICAL GROUP

### A History and Evolution of ICP-MS Technology

**Speaker:** Steve Shuttleworth, Ph.D.  
Varian Instruments Inc.  
Palo Alto, California

Since its commercial introduction in the mid 1980's, ICP-MS has evolved from a pure research tool to a routine technique for the trace elemental analysis of a wide range of matrices. This talk will include a history of the technique including a discussion of why early researchers realized a need for a mass spectrometer to be attached to an ICP source. The talk will also chart the evolution of ICP-MS technology from initial designs to a discussion of today's state of the art instruments and how they work. The various methods for interference management including high resolution, dynamic reaction cell (DRC), collision cell and collision reaction interface (CRI) will be discussed. Comparative techniques such as AA and ICP will also be discussed including analytical figures of merit and sample preparation requirements.

**Date:** Wednesday, March 19, 2008  
**Time:** 6:00 PM  
**Place:** The Graduate Center of the  
City University of New York  
Science Center Room 4102  
365 Fifth Avenue  
New York, NY



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

### Recent Advances in Central Oxytocin Research: Implications for Psychiatric Drug Development

**Organizers:** Robert H. Ring  
Wyeth Research  
Becky Brockel  
AstraZeneca

**Speakers:** Andreas Meyer-Lindenberg  
Clinical Brain Disorders Branch  
NIMH  
C. Sue Carter  
University of Illinois, Chicago

Eric Hollander  
Mt. Sinai School of Medicine  
Robert H. Ring  
Wyeth Research

Chemical Biology  
Rutgers, The State University  
of New Jersey  
RCSB Protein Data Bank

Oxytocin (OT) is an evolutionarily ancient peptide that is most familiarly associated with its classic hormonal functions during birth and lactation. Often underappreciated, however, are the sites of OT synthesis and release within the central nervous system (CNS), where this same peptide acts as a neurotransmitter to regulate a diverse range of CNS functions. This symposium aims to provide the Academy and the BPDG with an introduction to the central oxytocinergic system, and highlight recent advances in the field that are providing new insights into the therapeutic potential of modulating this system for the treatment of human CNS disorders (e.g. anxiety, schizophrenia, autism). Presentations will highlight recent results from both animal and human studies, which feature a variety of different scientific techniques used to examine oxytocin effects on cognition, social behaviors and anxiety.

**Date:** Tuesday, March 25, 2008  
**Time:** 1:00 PM – 5:00 PM  
**Place:** New York Academy of Sciences  
7 World Trade Center  
250 Greenwich Street – 40th Floor  
New York, New York

Space is limited. Reserve a seat on-line at:  
<http://www.nyas.org/events>

NYAS Members and BPDG Affiliates may attend BPDG meetings free of charge.

Non-members may attend for a fee of \$20 per event; Student Non-members for \$10.

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## HUDSON-BERGEN CHEMICAL SOCIETY — JOINT MEETING WITH THE CHEMISTRY CLUB OF RAMAPO COLLEGE, SIGMA XI, AND THE SCIENTIFIC RESEARCH SOCIETY

### Creating a Data Resource for Biology: Lessons from the Protein Data Bank

**Speaker:** Dr. Helen M. Berman  
Board of Governors  
Professor of Chemistry and

There are many considerations when building a community resource for enabling science. One is the necessity of a scaleable infrastructure that can handle vast amounts and different types of data. This infrastructure must also be able to adapt to new and changing technologies. Another concern is how to solicit and incorporate the needs and wants of a variety of user communities. How are policies created and enforced? A case history of a global resource for science—the Protein Data Bank (PDB)—will be presented.

The PDB has been the archive for the three-dimensional coordinates for experimentally-determined biological structures. Today, it is a resource used by researchers and students studying the structures of biological macromolecules and their relationships to sequence, function, and disease.

Helen M. Berman is a Board of Governors Professor of Chemistry and Chemical Biology at Rutgers University. Her research area is structural biology and bioinformatics, with a special focus on protein-nucleic acid interactions. She is the founder of the Nucleic Acid Database, a repository of information about the structures of nucleic acid-containing molecules; and is the co-founder and Director of the Protein Data Bank, the international repository of the structures of biological macromolecules. She is a Fellow of the American Association for the Advancement of Science and of the Biophysical Society, from which she received the Distinguished Service Award in 2000. A past president of the American Crystallographic Association, she is a recipient of the Buerger Award (2006). Dr. Berman received her A.B. in 1964 from Barnard College and a Ph.D. in 1967 from the University of Pittsburgh.

**Date:** Thursday March 27, 2008  
**Times:** Dinner 6:00 PM  
Seminar 7:00 PM  
**Place:** Ramapo College of New Jersey  
Room: SC 136 (Alumni Lounge)  
Mahwah, NJ  
**Cost:** \$20, \$10 for students,  
no cost for seminar only  
**Contact:** Dr. Stephen Anderson, Ramapo  
College, [standers@ramapo.edu](mailto:standers@ramapo.edu)



**Call for abstracts for MARM 2008**  
<http://www.marmacs.org>



**The 40<sup>th</sup> Mid-Atlantic Regional Meeting of the American Chemical Society**

**Where:** Queensborough Community College, Bayside (Queens), New York

**When:** Saturday, May 17 to Wednesday, May 21, 2008

**Online Abstract Submission is open now and closes on Monday, March 15, 2008**

*Poster and Oral Formats are available*

*Submit to a specific session or make a general submission.*

**The following technical symposia are planned:**

- Analytical: HPLC Method Development; Protein and Peptide Analysis
- Delaware Valley Chromatography Forum Student Award
- Biomimetic Catalysis and Biocatalysis
- Biochemistry: Bio-Therapeutics; Protein Misfolding
- Chemical Education
- Chemical Evolution
- Chemistry and the Arts
- Clinical Chemistry
- Computational Chemistry
- Environmental Chemistry
- Forensic Chemistry
- Green Chemistry
- HIV/AIDS
- Industrial Chemistry Symposium
- Inorganic Chemistry: Bioinorganic Chemistry; Metal Complexes in Chemotherapy and Diagnostics; Organometallic Chemistry
- Ionic Liquids
- Materials Chemistry: Nanoscience; Synthetic Molecular Machines and Switches
- Medicinal Chemistry
- Organic Chemistry: Antimicrobials; Arthur C. Cope Scholar Symposium; Organic Synthesis toward Targets of Medicinal Interest; Process Chemistry
- Photochemistry
- Physical Chemistry
- Polymer Chemistry: Polymers in Medicine/Bio-inspired Polymers
- Spectroscopy of Biological Systems; Infrared Spectroscopy

The meeting will also feature plenary lectures by:

Ronald Breslow, Columbia University, *The Invention of SAHA, an Approved Anticancer Medicine with a Novel Mechanism of Action*

Roald Hoffman, Cornell University, *The Chemical Imagination at Work in Very Tight Places*

In addition to the stimulating technical programs, we will have programs on careers in Chemistry, workshops for Chemical Educators, ACS Leadership Development workshops, Student Affiliates activities, and an Industrial Chemistry Award Symposium. MARM will also host meetings of the Royal Society of Chemistry and the Women Chemists Committee, as well as the 56<sup>th</sup> NY-ACS Undergraduate Research Symposium. You may also visit the MARM 2008 Vendor Exhibition, and enjoy social events, including a barbecue and Awards Banquet.

Please visit <http://www.marmacs.org> for registration and abstract submission

## Call for Papers/Abstracts

### 56TH ANNUAL UNDERGRADUATE RESEARCH SYMPOSIUM

Sponsored by: The New York Chemistry Students' Association of the American Chemical Society's New York Section. The symposium provides an excellent opportunity for undergraduate chemistry students in the NY metropolitan area to present the results of their research. The program includes a keynote address by Dr. JaimeeLee I'olani Rizzo, Associate Professor of Chemistry at Pace University, presentation of student papers (15 minute talks to small groups), followed by a luncheon.

**Date:** Saturday, May 17, 2008

**Place:** Queensborough Community College

For highlights of last year's event:

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1. Submit an abstract on-line
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Go To: [http://newyorkacs.org/grp\\_students.html](http://newyorkacs.org/grp_students.html)

If you have any questions please contact:

Alison Hyslop, Co-chair  
[hyslopa@stjohns.edu](mailto:hyslopa@stjohns.edu)

Sharon Lall-Ramnarine, Co-chair  
[slallramnarine@qcc.cuny.edu](mailto:slallramnarine@qcc.cuny.edu)

JaimeeLee I'olani Rizzo, Co-chair  
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## Call for Nominations

### 2008 SISTER MARIAN JOSE SMITH AWARD OF THE NORTH JERSEY SECTION

The biennial award, funded by Roche, consists of \$1,000 prize and a recognition plaque. It recognizes a professor from a degree-granting Institution in the North Jersey Section for inspiring students and launching them on successful careers in chemistry as manifested by their accomplishments.

Please submit nominations and supporting letters to Jiwen Chen, Awards Committee Chair, c/o NJ ACS, 4 Cameron Road, Piscataway, NJ 08854. Tel: 609-818-6319, email: [jchen@njacs.org](mailto:jchen@njacs.org). (We welcome electronic submission of the nomination package) Nominations must be received by March 15, 2008. Visit <http://www.njacs.org/awards.html> for more information and a list of past recipients.

## Others

### NEW JERSEY INSTITUTE OF TECHNOLOGY

**Department of Chemistry and Environmental Science Seminars Series**

#### March 4

Fundamentals and Applications of Terahertz Spectroscopy  
*Prof. John Federici*  
 Dept. of Physics  
 New Jersey Institute of Technology

#### March 11

Metals in Phragmites and Spartinas  
*Prof. Judith Weis*  
 Biology and Earth Science  
 Rutgers Newark

#### March 25

Novel Electronic Materials: Synthesis and Structure-property Relationships  
*Dr. Martha Greenblatt*  
 Board of Governor Professor  
 Department of Chemistry and Chemical Biology  
 Rutgers-the State University of New Jersey,  
 Piscataway

Time: 11:35 AM

Place: New Jersey Institute of Technology  
 Room 373 Tiernan Hall

**FAIRLEIGH DICKINSON  
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Chemistry at Florham - Spring 2008  
Seminar Series

March (date TBA)

"Using Chemistry to Discover New  
Therapeutic Agents"

Dr. John J. Piwinski

Group Vice President Chemical Research  
Schering-Plough Research Institute

Times: 4:00 PM

Place: Fairleigh Dickinson University  
Science Hall Room 11  
Madison, NJ

Seminar coordinator: Dr. Amber Charlebois  
973.443.8761 [charleb@fdi.edu](mailto:charleb@fdi.edu), FDU  
Department of Chemistry website link  
<http://view.fdu.edu/default.aspx?id=34>

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To submit a contributed paper for the 2008 EAS Technical Program, please submit abstracts through our web site at [www.eas.org](http://www.eas.org), between March 1 and April 15, and follow the instructions for abstract submission. Invited speakers must not submit abstracts to EAS until requested.

Please carefully review the following information:

- All contributed abstracts must be submitted through our web site at [www.eas.org](http://www.eas.org) between March 1 and April 15, 2008. No faxed, e-mailed, or mailed abstracts will be accepted.
- Please note that no one author may submit and present more than two posters.
- All abstracts will be acknowledged via e-mail.
- The title of the presentation and the list of authors that you submit are final, and may not be changed.
- The abstract that you submit will be considered to be your final abstract that will be printed in the abstract book for the 2008 Eastern Analytical Symposium.
- Presenting authors of contributed submissions will be notified in June 2008 of the status of the abstract and its session assignment.

If you have questions concerning the submission of abstracts, please contact us at:

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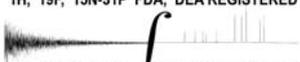
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