



**Dr. Roger C. Prince**  
2006 North Jersey Section's  
Lifetime Achievement Awardee  
*See page 8.*

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# THE Indicator

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## May Calendar

### NEW YORK SECTION

**Wednesday, May 2, 2007**  
Westchester Chemical Society  
See page 13.

**Thursday, May 3, 2007**  
Chemical Marketing & Economics Group  
See page 13.

**Tuesday, May 22, 2007**  
NY Biochemical Topical Group  
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**Thursday, May 24, 2007**  
Long Island Subsection  
See page 14.

#### Editor's Note:

The book review which appeared in the April issue of *The Indicator* neglected to mention that the reviewer was Maureen Chan!

*Mea Culpa.*

**Deadline for items to be included in the September 2007 issue of *The Indicator* is July 14, 2007.**

### NORTH JERSEY SECTION

**Thursday, May 3, 2007**  
Careers in Transition  
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**Wednesday, May 9, 2007**  
ChemTAG  
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**Monday, May 14, 2007**  
Teacher Affiliates Executive Committee  
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**Thursday, May 17, 2007**  
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**Monday, May 21, 2007**  
No. Jersey Executive Committee and 50 and 60 Year Members Awards Dinner  
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**Wednesday, May 23, 2007**  
NoJ NMR Topical Group  
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**Wednesday, May 23, 2007**  
Chem Central Meeting  
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**Thursday, May 24, 2007**  
NoJ Organic Topical Group  
See page 12.

### THIS MONTH IN CHEMICAL HISTORY - PART I

Harold Goldwhite, California State University, Los Angeles  
hgoldwh@calstatela.edu

I don't want my readers to get the wrong idea; I do read books other than those featuring old science. In fact I read many mystery stories, and perhaps one day I'll write some columns about an interest of mine in scientific detectives in mystery fiction. But not today. The opening of this column was inspired by my reading recently "Lelia: The Life of George Sand" by Andre Maurois, translated by Gerard Hopkins (Penguin Books, London, 1977). The life story of the great French woman novelist is splendidly presented in this book, including her liaisons with many distinguished men in the arts including Chopin. But my attention was caught by references to a man who was not one of Sand's lovers, but was a distinguished 19th Century chemist.

"George Sand's Diary, February 12th., 1866: Dinner at Magny's dinner with my 'pals'. Their welcome could not have been warmer. They were all very brilliant except Berthelot, the great scientist ... April 9th. 1866; Our Magny dinner with all the pals.... Berthelot did not open his lips. He and I exchanged not a single word."

Perhaps Marcelin Berthelot was overawed by the brilliance of the literary ensemble at those dinners which included Edmond and Jules Goncourt, Gautier, Flaubert, Taine, Renan, and Sainte-Beuve among others.

Berthelot (not to be confused with Lavoisier's contemporary and colleague Claude-Louis Berthollet) was indeed a great scientist. My account of his career draws on the Berthelot memorial lecture, delivered by Harold Bailey Dixon, a pioneer in reaction kinetics, to the Chemical Society of London on November 23, 1911.

Berthelot was born in Paris on October 25, 1827 and died, also in Paris, on March 18, 1907. His father was a physician and his parents sent their precocious son to a distinguished school, the College Henri IV, where he won the highest prizes in competition with scholars from all over Paris. His education was rich in the classics, but he decided to study natural sciences at university. He completed the full medical course but also worked at chemistry in the laboratory of Pelouze, a pioneer in natural products chemistry. He was appointed in 1851 as lecture assistant at the College de France to Ballard, who discovered bromine. He earned his doctorate in three years with a thesis "On the Combinations of Glycerine with Acids, and on the Synthesis of the Immediate Principles of Animal Fats". Organic chemistry was now his chosen domain.

The next few years saw successions of successes in this field. Studies of the chemistry of sugars were followed in 1855 by the earliest of his papers on the total syntheses of organic compounds from simple building blocks: ethanol from ethylene; and formic acid from carbon monoxide. He followed this up with syntheses of hydrocarbons, methanol, and oxalic acid. Passage of hydrogen through a carbon arc yielded acetylene which could be elaborated into more complex organic compounds and also trimerized to benzene, parent of the aromatics. These syntheses of organic compounds from relatively simple starting molecules were perhaps the true death of the vitalism doctrine in organic chemistry. Berthelot was appointed Professor in the Ecole Supérieure de Pharmacie in 1859 and lectured there, but continued his researches at the College de France. In 1860 his most famous book appeared: "Organic Chemistry founded on Synthesis." Wide recognition of Berthelot's talents soon followed; membership in the Academie des Sciences and in foreign chemical societies; prizes from the Academie, the Royal Society, and the Chemical Society of London.

In mid-career Berthelot turned to topics in physical chemistry. His studies of the ethanol/acetic acid/ethyl acetate/water system with his student St. Gilles were among the earliest of both reaction kinetics and equilibrium. He also studied the partition of solutes between immiscible solvents. But his great work in this area was in thermochemistry. From 1863 until 1879 he and his students established the thermochemical data for hosts of reacting systems which he published in two major books. He enunciated his (incorrect) "principle of maximum work" that every chemical system reacts to produce the maximum amount of heat energy – which ignores what we now know of the effects of entropy. But that was a considerably later notion. Berthelot also made important contributions both theoretical and practical to the study of explosions.

In a subsequent column I will discuss Berthelot's contributions to public life in France – and to the history of chemistry.

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## THIS MONTH IN CHEMICAL HISTORY - PART II

Harold Goldwhite, California State University, Los Angeles  
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In a previous column I outlined the chemical career of the great 19th Century French chemist, Marcellin Berthelot, whose name I unexpectedly encountered while reading a biography of the French woman novelist George Sand. If Berthelot had contributed nothing beyond his work in organic and physical chemistry we would remember and honor his name and work. But in a full life – he lived to be nearly eighty – he was involved in public life, and also made important contributions to the history of chemistry.

Berthelot became a public figure in France during the siege of Paris in 1870. His expertise in chemistry led to his appointment as President of the Scientific Committee of National Defence and, like his great predecessor Lavoisier at the time of the French Revolution, he helped improve the manufacture of explosives to be used in the French army. He was appointed as Inspector of Higher Education in 1876 and was then elected a Permanent Senator in 1881. He was appointed to his first Cabinet Post in 1886 as Minister of Public Instruction. His own background led him to an appreciation of the value of scientific education and he encouraged the incorporation of scientific subjects into the standard classical and liberal arts curriculum. He was not enthusiastic about "technical education" isolated from the broader curriculum, but he did support evening schools in a wide range of subjects for workers. In 1895 he was persuaded to become Minister for Foreign Affairs in the cabinet of M. Bourgeois. Although the task was not to his taste he did negotiate a tricky Anglo-French treaty settling the status and boundaries of the territory then known as Siam, a buffer between the French colony of Indo-China and the English colony of Burma. Soon after the treaty was signed Berthelot resigned this position.

During a visit to Egypt in 1869 his hosts showed him a range of papyri, many in old Greek, which described ancient preparations that could be categorized as early chemistry and alchemy. They caught his interest, perhaps because of his early training in classic Greek and Latin, and he enlisted the aid of several colleagues including Ruelle, Duval, and Houdas to translate and publish an extensive collection of manuscripts covering practical chemistry and alchemy as reflected in early work by Greek and Arabic alchemists, and by medieval alchemists. These translations are still among the best sources for our knowledge of these periods in the early history of chemistry. The Leiden Papyrus is perhaps the best known of these. It was compiled about 300 A.D. and is probably based on an earlier collection dating to about 30 B.C. It contains many recipes for producing what we would call fake gold and gems, but one must understand that criteria and tests for purity were quite primitive in those times.

Berthelot's wife was literally blown into his arms. Sophie Niaudet was crossing the Pont Neuf in Paris during a wind storm when a particularly strong gust, catching her long skirt and large hat, unbalanced her and Marcellin was in the right place to catch her. It turned out that their families were well acquainted. They were married in 1861 and stayed happily married for over forty years. They died on the same day within an hour of each other, and were given the honor of a double state burial in the Pantheon.



## MAY HISTORICAL EVENTS IN CHEMISTRY

by Leopold May

### May 1, 1493

Paracelsus or Theophrastus Bombast von Hohenheim, who founded a new school of chemistry, was born on this day. He initiated iatrochemistry, which is the application of chemistry to medicine, believed that the four elements (air, water, earth, & fire) were present in substances as three principles: mercury (volatility and fusibility), sulfur (inflammability), and salt (incombustibility), and developed a cure for St. Vitus Disease.

### May 3, 1895

Herman F. Mark, who was born on this day, is known as the "Father of polymer chemistry". He developed the process for production of styrene from ethylbenzene.

### May 5, 1811

John W. Draper, the first ACS president, was born on this day. He was a pioneer in photography and improved on Daguerre's process.

### May 7, 1939

Sidney Altman, who was born on this date, proved that ribonucleic acid (RNA) can act as a catalyst in the cell. He shared the Nobel Prize with Thomas R. Cech in 1989 for their discovery of catalytic properties of RNA.

### May 10, 1860

Robert Bunsen & Gustav R. Kirchhoff announced the discovery of cesium on this date.

### May 11, 1904

Donald F. Othmer, chemical engineer who developed the Othmer still, was born on this date. He and Raymond Kirk of the Polytechnic Institute of Brooklyn were the founders and editors of the Kirk-Othmer Encyclopedia of Chemical Technology.

### May 13, 1857

One hundred and fifty years ago, the first state agricultural college Agricultural College of Michigan opened in Lansing, MI.

### May 15, 1859

Pierre Curie, who codiscovered polonium and radium with his wife, Marie Curie, was born on this date. He discovered phenomenon of piezoelectricity. In 1903, he shared the Nobel Prize in Chemistry with Marie Curie and Antoine H. Becquerel in recognition of the extraordinary services they have rendered by their joint researches on the radiation phenomena discovered by Professor Henri Becquerel.

### May 17, 1836

Joseph N. Lockyer, who was born on this day, discovered helium in the Sun.

### May 19, 1916

Ralph Landau cofounded Scientific Design in 1946 and led in the development of terephthalic acid process in polyester manufacture and the propylene oxide process. This is his birthday.

### May 20, 1857

One hundred and fifty years ago, John J. Abel, the "Father of American Pharmacology", was born on this date. He isolated epinephrine (adrenalin).

### May 20, 1860

One hundred years ago, Eduard Buchner received the Nobel Prize in Chemistry for his biochemical researches and his discovery of cell-free fermentation. He invented the Büchner Funnel and discovered alcoholic fermentation without yeast cells in 1896, and zymase in 1897. He was born on this date.

### May 23, 1854

Edgar F. Smith, who did research in electrochemistry and history of chemistry, was born on this date. He served as President of ACS three times.

### May 26, 1865

Max Julius Louis Le Blanc did research on electrochemical polarization and electrodes introducing the hydrogen electrode. He was born on this date.

### May 27, 1857

One hundred and fifty years ago, Theodor Curtius was born on this date. He was a researcher in chemistry of hydrazines and azides. He discovered the Curtius rearrangement.

### May 29, 1781

Henri Braconnot, who was born on this date, isolated glucose from plant material such as sawdust, linen or bark by boiling in acid. He prepared "xyloidine", a precursor for plastics, by treating starch, sawdust, and cotton with nitric acid.

### May 31, 1941

Louis J. Ignarro shared the Nobel Prize in Physiology or Medicine (1998) with Robert F. Furchgott and Ferid Murad for their discoveries concerning nitric oxide as a signaling molecule in the cardiovascular system. He was born on this date.

Additional historical events can be found at Dr. May's website,  
<http://faculty.cua.edu/may/ChemistryCalendar.htm>.

## ROGER PRINCE RECEIVES THE NORTH JERSEY SECTION LIFETIME ACHIEVEMENT AWARD

Sponsored by Novartis

Dr. Roger C. Prince of the Biomedical Sciences Division of ExxonMobil Research and Engineering Company is an internationally recognized leader and spokesperson for environmental science and pioneer in the fields of bioenergetics, bioinorganic chemistry and oil spill research. He has applied his penetrating insight to an incredible variety of scientific problems and is held in the highest esteem as a scientist. He has pursued an aggressive research program that has resulted in over 300 papers that have had substantial impact on the scientific community. His work is fueled by an intense interest in physical, biological and chemical processes that impact the fate of materials in the environment and has involved skillful interaction at the interface of chemistry, physics, biology, geology and oceanography.

Dr. Prince's research career has centered on biological redox chemistry and its central role in the energetics of life. His doctoral work at the University of Bristol was aimed at understanding the energetics of bacterial photosynthesis, and he has continued this work both while at the University of Pennsylvania and at ExxonMobil. He has made important contributions in the energetics of electron transfer, particularly the effects of kinetic limitations of protonation or conformational changes that make functional potentials very different from those measured at equilibrium. With colleagues at the University of Pennsylvania he discovered membrane attached electron carrier proteins that established a new paradigm of "hard-wired" electron transfer. Previously it was generally accepted that electron transfer was carried out by freely diffusible proteins such as cytochrome c. The efficiency and productivity of photosynthesis have important social consequences. Among other things they will determine the potential roles that biofuels might play in the nation's transportation fuel mix, and Dr. Prince has been working in this area for many years.

Another area of Dr. Prince's research has been application of sophisticated analytical tools to the investigation of the active sites of metalloproteins and clarification of the biochemistry and interactions amongst selenium, arsenic and mercury in plants. The latter are renowned for their toxicity, but a toxic dose of selenite can mitigate the effects of toxic doses of arsenite or inorganic mercury. Careful X-ray absorption spectroscopy studies unraveled the chemistry of these effects and showed how some plants can accumulate arsenic and selenium up to 1% of their dry weight. Understanding the biochemistry of these elements in plants was a prelude to understanding their fate in the environment and for exploiting such reactions for remediating contaminated areas for minimizing human health impacts. Dr. Prince's work has established an important research foundation upon which the solution to applied problems can be built, particularly the potential of using plants and microbes to control these elements in wastewater treatment and in soils, always bearing in mind that the chemical nature of the contaminant, and its redox state, are of vital importance.

Finally, Dr. Prince has been very actively involved in oil spill clean up and other remediation activities, noting that the fate of oil in the environment is principally controlled by biological oxidation under both aerobic and anaerobic conditions. Crude oils and their refined products are very complex mixtures of hydrocarbons, and one of his most important contributions was using conserved internal markers within hydrocarbon mixtures to follow the biodegradation of the more labile compounds. His work is heavily cited and many other groups now regularly employ the internal marker approach he pioneered. He was Exxon's lead scientist in the Bioremediation Monitoring Program following the Exxon Valdez spill in Alaska, which demonstrated, in a joint program with state and USEPA scientists, that bioremediation was a safe and effective way to clean up the spilled oil, and has subsequently been involved with a major successful trial in the Arctic. His understanding of the fate and behavior of spilled oil has resulted in major shifts in thinking regarding the impacts and effects of oil spills. The Exxon Valdez bioremediation program was the largest ever completed - over 60 miles of beaches in 1989-1990.

Underlying these at first glance disparate areas is a deep interest in the fundamental oxidation-reduction chemistry that underlies biochemistry and bioenergetics, and a desire to share that interest with students and colleagues. Dr. Prince has managed to maintain a

broad interest in biological chemistry with a focus on potential uses of this science in the energy industry, and effective collaborations with colleagues in universities and government laboratories and agencies. Bioremediation has proven to be a safe, reliable, environmentally-responsible, cost-effective technology for oil spills at sea and on land. And biofuels may yet play a substantial and important role in providing transportation fuels.

Dr. Prince has presented many invited seminars and lectures and serves on important scientific review panels and prestigious scientific planning committees. His unflinching level of high achievement has been recognized by invitations to join the advisory boards of the ACS journal *Environmental Science and Technology*, the Editorial Boards of *Bioremediation and Biochemica et Biophysica Acta*, and the Industrial Advisory Board of the Integrated Petroleum Environmental Consortium at the University of Tulsa.

Dr. Prince has a keen interest in the training and education of young scientists. He has passed on to many his enthusiasm for the written word, hands-on experimentation and meticulous attention to detail. His extremely encouraging and warm attitude, endless curiosity, encyclopedic knowledge, exquisite expertise in spectroscopy, and joy and enthusiasm for work has impacted scientists of all ages. He makes work a joy. At home he is a devoted family man, an avid gardener and bee keeper, but in addition, ever the scientist. To walk around his garden with him is to invite an education.

The mission of the ACS is "to encourage in the broadest and most liberal manner the advancement of the chemical enterprise and its practitioners". Dr. Prince's career exemplifies the role the ACS plays in educating people about the importance of chemistry in developing new solutions, protecting the environment and contributing to the economy. It truly embodies the spirit of the society's mission.

By Evelyn Drake, Ph. D.

**Editor's note:** The award will be presented at the annual NJ ACS award dinner on May 21 at Fairleigh Dickinson University.



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## North Jersey Meetings

<http://www.njacs.org>

### NORTH JERSEY EXECUTIVE COMMITTEE MEETING AND 50 & 60 YEAR MEMBERS AWARDS DINNER

Date: Monday, May 21, 2007

Time: Social 4:30 PM

Dinner and Presentation of Certificates 5:30 PM  
General Interest Talk to follow dinner: "Reflections of a Chemical Career" presented by Dr. Roger Prince, 2006 North Jersey Lifetime Achievement Award Recipient

Place: Fairleigh Dickinson University College at Florham Lenfell Hall, the Mansion Madison, NJ

Cost: \$35.00

Directions: can be found at [www.fdu.edu/default.aspx?id=238](http://www.fdu.edu/default.aspx?id=238).

Reservations: Call (732) 463-7271 or e-mail [njacs@aol.com](mailto:njacs@aol.com) prior to Monday, May 14, 2007.



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Mr. Laurence Barchi 33 years service



### 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, May 3, 2007**, 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.



### ChemTAG MEETING

Date: Wednesday, May 9, 2007

Times: 4:00 – 6:00 PM

Place: J.P. Stevens High School  
855 Grove Street  
Edison, NJ

Contact: Paul Sekuler at [researchhs@hotmail.com](mailto:researchhs@hotmail.com)



### TEACHER AFFILIATES

#### Executive Committee Meeting

Date: Monday, May 14, 2007

Time: 4:30 PM

Place: Chatham High School  
255 Lafayette Avenue  
Chatham, NJ

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



### NORTH JERSEY CHROMATOGRAPHY GROUP

#### May 2007 Symposium

Features: Chromatographic Industrial Needs — Quality by Design: PAT and Compliance

Several presentations from field experts in PAT, LC, Compliance and Statistics.

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Date: Thursday, May 17, 2007

Time: Full-day Symposium

Place: Somerset Marriott Hotel  
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Cost: \$75.00 Includes: Full-day Symposium, Continental Breakfast and Lunch Buffet.

To register online, go to [www.northjerseychromgroup.org](http://www.northjerseychromgroup.org). Or phone: David Kohler, ES Industries, (856) 753-8400.



### NMR TOPICAL GROUP

Structural NMR Studies of Small Molecule Dimers: Problems, Challenges, and Solutions

Speaker: Dr. Alexei V. Buevich  
Senior Principal Scientist  
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Schering-Plough Research  
Institute, Kenilworth, NJ

Dr. Buevich holds a Ph.D. and a Master's Degree in Physical Organic Chemistry from the Lomonosov Moscow State University, Russia. Prior to joining the Schering-Plough in 2001 he was a Research Associate at Rutgers University, NJ, a Post-Doctoral Fellow at Umea University, Sweden, and a Senior Research Scientist at the N.D. Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences. His current  
(continued on page 12)

## NMR TOPICAL GROUP

(continued from page 11)

research interests include the application of NMR spectroscopy and computational methods to the R&D problems of pharmaceutical industry.

Door Prizes!

**Date:** Wednesday, May 23, 2007

Times: Dinner 6:30 PM

Seminar 7:00 PM

Place: Woodbridge Hilton

Iselin, NJ

Cost: Dinner cost: \$30

(\$10 for student/postdoc).

No charge for seminar only.

Directions:

[http://njacs.org/d\\_woodhilt.html](http://njacs.org/d_woodhilt.html)

Register online: <http://njacs.org/nmr.html>,

or via e-mail to [WENQING.FENG@](mailto:WENQING.FENG@SPCORP.COM)

[SPCORP.COM](mailto:SPCORP.COM).



## CHEM CENTRAL

**Date:** Wednesday, May 23, 2007

Times: 4:00 – 6:00 PM

Contact: Roseann McCarthy at

[roseannmcc@comcast.net](mailto:roseannmcc@comcast.net) for details.



## ORGANIC TOPICAL GROUP

### New Methods and Strategies for Heterocyclic Synthesis

Invited Speakers:

*Stephen F. Martin*

(University of Texas, Austin)

"Strategies for the Synthesis of Heterocyclic Natural Products"

*Tomas Hudlicky*

(Brock University, St. Catharines, Ontario, Canada)

"Chemoenzymatic Synthesis of Alkaloids: A Multi-Generational Approach"

*Victor Snieckus*

(Queen's University, Kingston, Ontario, Canada)

TBA

*Patrick Harran*

(University of Texas Southwestern Medical Center, Dallas)

"Synthetic Means to Reach Natural Ends"

*Mohammad Movassaghi*

(MIT)

"Cascade Reaction in Complex Alkaloid Synthesis"

**Date:** Thursday, May 24, 2007

Times: Registration 8:30 AM

Symposium 9:15 AM

Lunch 12:00 Noon

Place: Embassy Suites

121 Centennial Avenue

Piscataway, NJ

Cost: \$95.00 (Symposium and lunch)

For directions, on-line registration and further details please visit our website

[www.njacs.org/organic.html](http://www.njacs.org/organic.html)

\*Due to limited seating, please complete the on-line registration form at

[www.njacs.org/organic.html](http://www.njacs.org/organic.html) and send a

check payable to "North Jersey Section ACS" c/o:

Dr. Binh Vu

Discovery Chemistry, 123/3

Hoffmann-La Roche, Inc.

340 Kingsland Street

Nutley, NJ 07110

**E-mail:** [binh\\_t.vu@roche.com](mailto:binh_t.vu@roche.com)

Name: \_\_\_\_\_

Affiliation: \_\_\_\_\_

Address: \_\_\_\_\_

E-mail: \_\_\_\_\_

North Jersey ACS, Organic Topical Group 2007 Committee Members:

Amjad Ali, (Chair) Merck, Binh Vu

(Treasurer) Hoffmann-La Roche, Ann

Gelormini, (Secretary) Sanofi-Aventis,

Lawrence Williams, Rutgers University,

Jianshe Kong Schering-Plough, Dong Xiao

Schering-Plough, Albert Delmonte Bristol-

Myers Squibb.

## New York Meetings

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

### WESTCHESTER CHEMICAL SOCIETY

#### THE DISTINGUISHED SCIENTIST AWARD AND DINNER and COLLEGE ACHIEVEMENT AWARDS

#### One Molecule at a Time: Using Nanoscale Imaging to Understand Biological Properties

*Awardee:* Mary K. Cowman, Ph.D.  
Polytechnic University

Atomic force microscopy (AFM) allows 3-dimensional imaging of single molecules and assemblies on surfaces. This lecture will describe how AFM works, and how it can be applied to structural analysis of polysaccharides, nanoparticles, and liposomes with medical and food applications. We will discuss how AFM has given us unexpected insight into disordered and ordered forms of flexible biopolymers, and into self-association patterns. The relationship between the molecular conformations and assemblies observed by AFM for the polysaccharide hyaluronan and its biological functions will be explained.

Mary K. Cowman, Ph.D., is an Associate Professor of Biochemistry and Director and Senior Faculty Fellow of the Othmer Institute for Inter-Disciplinary Studies at Polytechnic University. She obtained her B.S. and M.S. Chemistry degrees from Ohio University, and Ph.D. in Chemistry from Case Western Reserve University. She was a post-doctoral fellow in Biochemistry at Brandeis University and an NIH postdoctoral fellow in Ophthalmology at Columbia University. She has authored or co-authored over 100 professional articles, abstracts, and book chapters. She is the Founding Member and Treasurer of the Society for Hyaluronan Sciences; a Director of the Westchester Chemical Society, and Director-at-Large of the New York Section of the American Chemical Society. She received the 2006 Distinguished Teacher Award from Polytechnic University.

**Date:** Wednesday, May 2, 2007

Time: Social 5:00 PM

Lecture and Awards 5:45 PM

Dinner 7:00 PM

Place: Butcher Suite, The Campus Center

Pace University

Bedford Road – Entrance 2

Pleasantville, NY

Cost: \$10 students; \$20 ACS members;

\$25 non-ACS members

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[eweiser@pace.edu](mailto:eweiser@pace.edu)

Check the NY website



### CHEMICAL MARKETING & ECONOMICS GROUP

#### New Strategies for Technical Innovation in Petroleum Research

*Speaker:* Dr. W. Christopher Hollinsed  
Director

The Petroleum Research Fund  
(American Chemical Society)

Washington, DC

**Date:** Thursday, May 3, 2007

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, May 1**

(12 noon) before the meeting.

\$55 for Guests and Members

(at the door without reservations)

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## LONG ISLAND SUBSECTION

Eleventh Annual Frances S. Sterrett  
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"Liquified Natural Gas: Safe 'n Sound?"

*Speakers include:* Froydis Cameron  
Broadwater Energy  
Adrienne Esposito  
Citizens Campaign for  
the Environment  
Captain Peter Boynton  
United States Coast  
Guard

**Date:** Thursday, May 24, 2007  
**Times:** 8:30 AM – 2:00 PM  
**Place:** Hofstra University  
Business Development Center  
Room 246

Register now!

Fill out and return the form below. The annual Frances S. Sterrett Symposium is dedicated to presenting the public with up-to-date, factual scientific information on environmental topics. Email questions to Dr. Barbara Hillery at [hilleryb@oldwestbury.edu](mailto:hilleryb@oldwestbury.edu) or call (516) 876-2738.

### REGISTRATION FORM:

PLEASE COPY AND SEND TO: DR. NEIL JESPERSEN, DEPT. OF CHEMISTRY  
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(516) 883-7510; e-mail: [njesper1@optonline.net](mailto:njesper1@optonline.net)

REGISTRATIONS RECEIVED BY MAY 20 INCLUDE LUNCHEON

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PLEASE REGISTER \_\_\_\_\_ PEOPLE FOR THE FRANCES STERRETT ENVIRONMENTAL CHEMISTRY SYMPOSIUM ON "LIQUIFIED NATURAL GAS: SAFE 'N SOUND?" PLEASE LIST OTHER NAMES, ADDRESSES, AND PHONE NUMBERS ON A SEPARATE PAGE.

ENCLOSED IS \$ \_\_\_\_\_ FOR THE RESERVED SPACES INDICATED BELOW.

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\_\_\_\_ Students/Retired @ \$17.00



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

The Future of Monoclonal Antibody  
Biotherapeutics Production and  
Development

*Organizers:* Keith Canada  
Boehringer Ingelheim  
Gordon Moore  
Centocor, Johnson & Johnson  
Janet Kerr  
Merck Research Laboratories

*Speakers:* To be announced

This is a full day event.

**Date:** Tuesday, May 22, 2007

**Time:** 9:00 AM – 5:00 PM

**Place:** The New York Academy of Sciences  
7 World Trade Center – 40th floor  
250 Greenwich Street  
New York, NY

Directions: <http://www.nyas.org/about/directions.asp>

To reserve a seat, visit the NYAS calendar at [www.nyas.org/bpdg](http://www.nyas.org/bpdg) and complete the online reservation form, e-mail [BPDG@nyas.org](mailto:BPDG@nyas.org), or call tel: (212) 298-3725.

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>.

## CANDIDATES FOR THE NEW YORK SECTION 2007 ELECTIONS

At the January General Meeting and Section-wide Conference, the Nominating Committee presented the following candidates for the New York Section 2007 elections. ACS, New York Section members will receive a ballot in April. The ballot must be returned by May 31, 2007. If a ballot is not received by May 12th, please contact the New York Section Office at 516-883-7510 or [njesper1@optonline.net](mailto:njesper1@optonline.net). The Section extends a sincere thank you to the following candidates for accepting the nomination to run for office.

### Chair-elect for 2008

Barbara R. Hillery  
Robert P. Nolan

### Treasurer for 2008-2009

Stephen Z. Goldberg  
Elise G. Megehee

### Directors-at-Large for 2008

Mary Cowman  
Sharon I. Lall-Ramnarine  
Margaret Mandziuk  
Joseph Sencen  
Hessy L. Taft

### Councilors for 2008-2010

Richard D. Cassetta  
Jean D. Delfiner  
Ronald P. D'Amelia  
Richard M. Goodman  
Pamela K. Kerrigan  
Vijaya L. Korlipara  
Frank R. Romano  
Ralph Stephani

## Contribute to *The Indicator*

The Indicator is interested in adding new features to the publication. Your input would be appreciated. Please let us know which type of feature you would like to see in future issues; i.e., book reviews, member news, short articles about your research or other ideas. Would you be willing to assist in gathering or writing such material?

Contact the Editor at:  
[sturchio@optonline.net](mailto:sturchio@optonline.net)  
Phone: (973) 331-5142 • Fax: (973) 331-5143

## Call For Nominations

### THE ACS NEW YORK SECTION'S OUTSTANDING SERVICE AWARD FOR 2007

Each year the New York Section presents the **Outstanding Service Award** to a most deserving member of the section. Many members of the New York Section provide their time, leadership talent, and educational skills to the New York Section. The tradition of excellence of the New York Section is directly attributable to the cumulative effect of these individuals. Please help us to recognize the efforts of our colleagues by nominating them for this award. Nominations will be reviewed by a committee consisting of the previous five winners of the award. The Outstanding Service Award for 2007 will be presented at the New York Section's Section-wide Conference in January 2008.

Nominations with supporting data should be mailed to Mrs. Joan Laredo-Liddell, 391 Palmer Road, Yonkers, NY 10701 or Mrs. Jean D. Delfiner at 207 Lincoln Place, Eastchester, NY 10709. Nominations should describe in detail the contributions of the member. A Seconding nomination letter is highly recommended.

For more information about the award along with a list of former award recipients, please visit the New York Section website at [www.NewYorkACS.org](http://www.NewYorkACS.org).

Nominations should be forwarded to Mrs. Laredo-Liddell or Mrs. Delfiner **by June 30, 2007**.



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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.

## THE WILLIAM H. NICHOLS MEDAL AWARD for 2008



The ACS New York Section is accepting nominations for the William H. Nichols Medal Award for the year 2008. This distinguished award, established in 1902 by Dr. William H. Nichols, for the purpose of encouraging original research in chemistry, is the first award authorized by the American Chemical Society. It is presented annually in recognition of an outstanding contribution in the field of chemistry, and consists of a gold medal, a bronze replica and \$5000. The medals are presented at the William H. Nichols Meeting that consists of a Distinguished Symposium related to the medalist's field of expertise and a Medal Award dinner.

Investigators who have published a significant and original contribution in any field of chemistry during the five calendar years preceding the presentation meeting are eligible for consideration by the Nichols Medal Jury.

The nomination forms may be obtained from: The American Chemical Society's, New York Section, Inc., Department of Chemistry, St. John's University, 8000 Utopia Parkway, Jamaica, NY 11439. The request may be faxed to the New York Section Office at 516-883-4003 or e-mailed to [njesper1@optonline.net](mailto:njesper1@optonline.net). Nomination forms and a list of past recipients can be obtained also from the New York Section website at <http://www.NewYorkACS.org>.

Six copies of the nominating materials and the official nomination form should be sent to the above mail address. Nominations must be received **by May 31, 2007**. The Nichols Medal Award Jury will meet in June to select the Nichols Medalist for 2008.



THE INDICATOR-MAY 2007

## Others

### THE CHEMISTS' CLUB

#### Historic Chemical Landmark

The Chemists' Club was founded in 1898 by a pioneering group of educators and entrepreneurs in the burgeoning American chemical industry. This building was constructed to house the Club's world-class industry library, chemical research laboratories, and to provide a meeting place to discuss work and to socialize with peers; purposes it served at this site from 1911 until 1988. This plaque honors the building and the individuals who have devoted their time and effort to sustain the Club for more than one hundred years.

Presented by the American Chemical Society, New York Section on December 12, 2006.



### CHEMISTS' CLUB PLAQUE

The symbol on the plaque representing the ACS New York Section is the front of the William H. Nichols Medal. The design represents the allegorical figure of Dr. Faust, the alchemist portrayed in the play by Goethe.

The emblem for the Chemists' Club is in red and gold, the club's colors. In the upper half are crossed retorts, which symbolize distillation and, therefore, chemistry. The bottom half features a salamander breathing fire; the salamander was believed to have the ability to withstand flames, and in this design represents the spirit of fire. Surrounding the entire emblem is a horizontal hexagonal benzene ring, representing organic chemistry.



Left to Right: Dr. Arnold Thackray, President of Chemical Heritage Foundation; Joel W. Jones, President of the Chemists' Club and Corporate Account Executive, The Dow Chemical Company; Jill Rehmann, 2006 Chair-ACS-NY; John B. Sharkey of Pace University and Chair of the History of the New York Section.

**PROFESSOR NINA BEROVA  
WINNER OF 2007 CHIRALITY  
MEDAL**

Nina Berova, Research Professor, Department of Chemistry, Columbia University,



**Prof. Nina Berova**

New York, and Editor of the journal, Chirality, has been selected as the recipient of the 2007 Chirality Medal in recognition of her outstanding achievements in the field of chiroptical spectroscopy and the elucidation of a wide range of important chemical and bio-

logical problems related to molecular and supramolecular chirality.

Nina Berova is one of the foremost leaders in the field of organic stereochemistry and chiroptical spectroscopy. Her significant contributions in promoting circular dichroism (CD) and the exciton chirality method to the scientific community and in developing new methodologies and applications have had a profound impact in many areas in organic chemistry, biochemistry and the pharmaceutical industry. Her innovative development of versatile and sensitive CD reporter groups, such as porphyrin and metalloporphyrin "weezers", and her recent interests in theoretical aspects of chiroptical spectroscopy, renewed applications of optical rotatory dispersion, and fluorescence detected circular dichroism are opening new opportunities for studying and understanding structure in organic, bioorganic, and natural products chemistry.

Professor Berova is the first woman recipient of the Chirality Medal, and joins the ranks of the 17 other distinguished scientists who have been awarded the prize since its institution in 1991 by the Societa Chimica Italiana (SCI). The Medal is administered by the Chirality Medal Honor Committee and presented at a meeting of the International Symposium on Chirality. The formal presentation of the Chirality Medal to Professor Berova will take place at the 19th International Symposium on Chirality, on July 8, in San Diego. ([www.chirality2007.org](http://www.chirality2007.org))



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STATE OF NEW JERSEY  
EXECUTIVE DEPARTMENT

*Proclamation*

WHEREAS, during February, we celebrate Black History Month in recognition of the integral contributions made by African-Americans to every aspect of American life; and

WHEREAS, in the area of scientific discovery and invention, one of the most notable African-Americans was Percy Julian, the only Black American inducted into the National Academy of the Sciences and a brilliant research chemist known for his innovative work in the pharmaceutical industry to synthesize and identify a drug used to treat glaucoma, improve memory in Alzheimer's patients, and as an antidote to nerve gas; and

WHEREAS, the American Chemical Society has sponsored the production of the NOVA television documentary "Forgotten Genius," honoring Dr. Julian's life, which will air on PBS during February; and

WHEREAS, the North Jersey Section of the American Chemical Society celebrates the life of Dr. Julian as a model for past, present and future African-American chemists and sponsors the largest Project SEED program in the United States, a program for low-income high school students to be introduced to the idea of chemistry as a career;

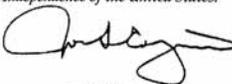
NOW, THEREFORE, I, JON S. CORZINE, Governor of the State of New Jersey, do hereby honor the African-American men and women chemists of the State of New Jersey and specifically recognize the achievements of

DR. PERCY JULIAN

as we commemorate Black History month in New Jersey, and further thank North Jersey Section of the American Chemical Society for its focus on introducing the wonders and challenges of chemistry to diverse student populations.



GIVEN, under my hand and the Great Seal of the State of New Jersey, this first day of February in the year two thousand seven, the two hundred and thirty-first year of the Independence of the United States.



GOVERNOR

BY THE GOVERNOR:



NINA MITCHELL WELLS  
SECRETARY OF STATE

### 39TH MIDDLE ATLANTIC REGIONAL MEETING (MARM) OPENS MAY 16

May 16 – 19 are the dates for MARM 2007 to be held at Ursinus College, Collegeville, Pennsylvania. Visit their website at [www.marmacs.org](http://www.marmacs.org) to view both their technical and social programs and for information on where to stay.

MARM 2007 designed an exciting and innovative program with the professional interests of the regional members in mind. Topics include biological chemistry, chemistry of aging, sirtuin biochemistry, molecular magnetism, carbon nanotubes, glycoproteins, and a symposium dedicated to Alan G. MacDiarmid. The symposia begin officially on Wednesday morning, but a welcome reception is scheduled for Tuesday evening.

Also planned is a Cope Scholars Award

symposium, along with a number of awards recognizing the contributions of chemists, industry, and educators in the region, a Women Chemists luncheon and half-day workshop on "Thriving in the Workplace" and ACS Career Management workshops.



### SUMMER WORKSHOPS FOR HIGH SCHOOL CHEMISTRY TEACHERS

The American Chemical Society is sponsoring teacher training workshops this summer throughout the country for high school chemistry teachers. Two types of workshops are available: *Chemistry in the Community*, and *Advanced High School Chemistry*, Teacher Training Workshops. In each workshop teachers are led by experienced secondary and/or college chemical educators who provide participants with

information and tools for teaching inquiry-based learning.

**Advanced High School Chemistry, Teacher Training Workshops**, led by experienced secondary and college chemical educators, provide participants with tools for teaching an inquiry-based honors or advanced high school chemistry course such as IB or AP. The activities used in these three-day workshops are from the ACS college text, *Chemistry* which emphasizes short experiments to introduce chemical concepts, and promote active and collaborative learning. All interested advanced high school chemistry teachers are encouraged to apply, regardless of current textbook.

*Chemistry in the Community, Teacher Training Workshops* are designed for teachers using or intending to use the ACS textbook *Chemistry in the Community*. In these five-day workshops, experienced ChemCom teacher leaders provide expert

instruction and hands-on experience with many of ChemCom's activities and laboratory investigations.

There is a \$50.00 registration fee for each workshop, which includes all materials, meals and on-site housing. The dates and locations appear below.

**June 24** - California State University, Northridge, CA

**July 8** - Concordia University, Ann Arbor, MI

**July 8** - Greater Hartford Academy of Math and Science, Hartford, CT

**July 15** - University of St. Thomas, Houston, TX

**August 5** - St. Thomas University, St. Paul, MN

More information, application forms and/or online registration may be found at [www.chemistry.org/education](http://www.chemistry.org/education) (follow the link for workshops and courses).

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