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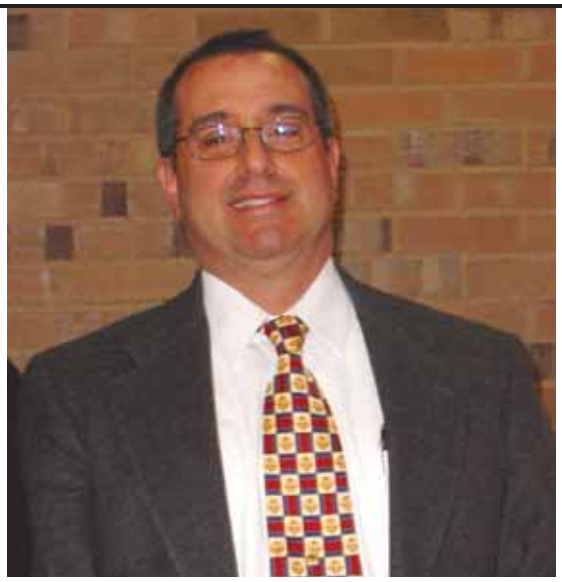

## Frank Romano

**NY Section's Outstanding Service Awardee, 2006**

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THE Indicator

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

# April Calendar

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



## 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**
**Phone: (973) 331-5142**
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### *THIS MONTH IN CHEMICAL HISTORY - PART I*

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

To increase my supply of background material for these columns, I bought a useful book: "The Illustrated Almanac of Science, Technology, and Invention" by Raymond L. Francis (Plenum Press, 1997). I plan to dip into its pages for the first column of the new year, since this book is arranged day by day throughout the year. The connections with chemical history will vary from close to tenuous, depending on my whim!

On January 1, 1801 the Italian astronomer Giuseppe Piazzi discovered the first and the largest of the asteroids, and called it Ceres after a Roman deity. In 1803 William Hyde Wollaston, an English chemist, while working on the purification of platinum isolated a new metal from platinum ores. Following an old tradition of associating metals with planets, that dates back to alchemical days, Wollaston at first thought of calling his new metal ceresium after the newly discovered asteroid. Apparently ceresium just didn't sound right to him, and luckily another new asteroid had just been discovered and named Pallas. Deciding that in this case second thoughts were best Wollaston in his initial announcement of the new metal (in an anonymous handbill offering samples for sale, but that's another story) called it palladium, a name it has retained.

On January 2, 1902, one of the greatest of popular science writers, Isaac Asimov, was born in Russia. When he was three his family emigrated to the United States. Asimov earned his Ph. D. in chemistry from Columbia University in New York, then taught biochemistry at Boston University, but soon found that writing was his preferred way of teaching. He published some 500 books in virtually every genre imaginable. Perhaps he is best known for his science fiction, but he wrote a vast amount of non-fiction including a lively (and occasionally misleading) short history of chemistry and a very valuable biographical dictionary of scientists that I have frequently made use of in writing these columns. Carl Sagan called him "… one of the master explainers of the age…"

On January 3,1888, one of the all-time great inventions received its first U.S. Patent – the artificial drinking straw. Marvin D. Stone, concerned about the use of potentially unsanitary natural rye straws in the imbibing of liquids, devised a process for coating manila paper with paraffin wax, a product of the young petroleum industry, and hand rolling them into straws. The first machine-rolled straws came off the production line some seventeen years later.

On January 4, 1896, Wilhelm Roentgen reported his discovery of a remarkable new radiation, which had the power to penetrate matter, to the Berlin Physical Society. He had been studying the tubes that generated cathode rays (electrons) and discovered that if the cathode rays struck metal targets the new penetrating radiation was emitted. It had the power to penetrate glass, paper, cardboard, and thin sheets of aluminum, but was stopped by lead. The new rays made a screen coated with barium hexacyanoplatinate fluoresce, and also affected photographic plates. With commendable modesty, since he was uncertain of the nature of the new radiations, Roentgen called them X-rays, where X is an unknown as in algebra. His colleagues tended to call them Roentgen rays.

On January 9, 1868, the Danish biological chemist Soren Sorensen was born in Havrebjerg. In 1886 he enrolled at the University of Copenhagen where he studied chemistry and medicine.After completing his Master's degree he taught at a Technical High School and became a consulting chemist to the Danish navy. Returning to University he completed work for his Ph. D. in inorganic chemistry and was then appointed Director of the Carlsberg Laboratory, succeeding Kjeldahl. There Sorensen began his life's work on amino acids, enzymes, and other proteins. He devised a method for titrating amino acids by blocking the amino group with formaldehyde. This method became a standard technique for many years; I recall doing Sorensen titrations during my undergraduate laboratory classes, but perhaps that just shows how out-of-date my university was at the time. Sorensen is best known today for his devising of the pH scale. The level of hydrogen ion concentration is critical to the rate of enzyme reactions, and Sorensen devised methods for controlling acidity. To express the actual values of hydrogen ion concentration, which can vary over many powers of ten, he dec ided to use a negative of the logarithm of the hydrogen ion concentration. He was also one of the first chemists to work on electrometric methods of measuring pH.

## *THIS MONTH IN CHEMICAL HISTORY - PART II*

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

In this second column of the new year I'd like to draw your attention to events that made an impact on chemistry and that have anniversaries in 2007. Access to a publication like "The Timetables of Science", by Hellemans and Bunch (Simon and Schuster, 1988) makes this an easy task. I suppose we could start, somewhat fancifully, with the publication in 1397 of a world map by Paolo Toscanelli that showed Asia only some 3000 miles west of Europe. It was this incorrect map that allegedly influenced Columbus to attempt his immortal voyage nearly a century later, and the rest, as they say, was (chemical?) history.

But let's turn to events more clearly chemical. In 1597 Andreas Libavius of Halle in Saxony published "Alchemia" which, despite its name, is a textbook of chemistry only moderately influenced by alchemical doctrines. I've only seen facsimiles of parts of this rare and costly book, which contains some fine plates showing, among other things, designs for a chemist's house and a laboratory. The experimental part of this text sets it apart from works on alchemy; the descriptions of preparations of hydrochloric acid and ammonium sulfate, for instance, are clear and easily followed. This work was truly an early and influential textbook of chemistry.

The year 1647 brings two events connected with pressure reduction and vacuum. In that year Evangelista Torricelli died in Florence. He had been, in his youth, Galileo's secretary. It was Torricelli who devised the mercury barometer, being the first to demonstrate in 1643 that if you took a straight glass tube sealed at one end, filled it with mercury, put your thumb over the open end, and then inverted the tube into a bowl of mercury, the mercury level in the tube would only fall so far, and would then stay put (more or less). He argued that the atmosphere must be exerting a pressure to balance that of the mercury column, and that the space above the mercury in the tube must be a vacuum. Also in 1647 Blaise Pascal, the French philosopher and scientist, published his "New Experiments on Vacuum" in which he describes barometers containing water and, of course, red wine. The mythology about Pascal is that he did most of his work, and all of his best thinking, in bed — a place from which he seldom stirred-- and so his experiments were usually thought out by Pascal and performed by others. One of the best known of these was carried out in the following year, 1648. Pascal reasoned that if the atmosphere were exerting pressure in the way Torricelli proposed, then that pressure should decrease as you climbed higher. He had his brother-in-law load a mule with the materials for a mercury barometer and ascend the mountain Le Puy de Dome. At the mountain top the mercury column in the barometer was noticeably shorter than it was down below, and Torricelli's view of the atmosphere as a sea of air was confirmed.

A very important theory for the history of chemistry was first proposed by Georg Ernst Stahl, physician and chemist, in 1697. Building on some obscure and quasi-alchemical writings of his compatriot Becher, and elaborating an idea that certainly goes back as far as Aristotle and beyond, Stahl invoked the idea that everything combustible contained phlogiston, the principle of flammability. Stahl's phlogiston was quite different from the vague principles of earlier writers, for he conceived of it as material and devised ingenious and elegant experiments to demonstrate the transfer of phlogiston from one combustible body to another. The theory was, in my judgment, a scientific approach to a central problem in chemistry, and it held the field without serious challenge for the best part of a century.



## *APRIL HISTORICAL EVENTS IN CHEMISTRY*

*by Leopold May*

**April 1, 1865**
Richard A. Zsigmondy, who was born on this day, received the Nobel Prize in 1925 for the elucidation of the heterogeneous nature of colloidal solutions and for the methods he devised. He introduced the ultramicroscope for the study of colloidal solutions.

**April 3, 1902**
The Electrochemical Society was organized on this date as the American Electrochemical Society.

**April 6, 1876**
The First official organizational meeting of the American Chemical Society was held at the College of Pharmacy of the City of New York (now New York University) on this date.

**April 7, 1914**
Walter H. Stockmayer, who was born on this date, did research in polymer chemistry.

**April 10, 1790**
The U. S. Patent Office was established on this date according to Article 8, Section 1 of the Constitution. The first patent was on potash and pearl ash granted to Samuel Hopkins.

**April 13, 1760**
Thomas Beddoes studied the medical treatment of disease by the therapeutic inhalation of different "factitious airs" or gases and vapors and established the Pneumatic Institution for Inhalation Gas Therapy in 1798. He was born on this day.

**April 17, 1869**
Robert Robertson did research in explosives including amato and tetryl (trinitrophenylmethylnitramine). He was born on this day.

**April 19, 1933**
Monsanto incorporated on this date. It was started as the Monsanto Chemical Works on November 29, 1901.

**April 20, 1912**
Gertrude E. Perlmann was born on this date and did research in protein chemistry. She received the Garvan Medal in 1965.

**April 22, 2007**
ACS celebrates Earth Day on this date.

**April 26, 1834**
Hugo Joseph Schiff discovered the condensation products of aldehydes and amines, or Schiff Bases. He invented the color test to distinguish aldehydes from ketones and was born on this date.

**April 27, 1896**
The developer of Nylon in 1935, Wallace Carothers, was born on this date

**April 28, 1924**
Alfred Bader, who was born on this date, founded the Aldrich Chemical Co., in 1951 and cofounded the Sigma-Aldrich Corp., in 1975.

**April 29, 1893**
Harold C. Urey was the first to isolate heavy water in 1932. He received the Nobel Prize in 1934 for the discovery of heavy hydrogen or deuterium and was born on this date.

**April 30, 1958**
Albert Ghiorso, et al., announced the discovery of mendelevium based upon research done at the University of California, Berkeley, on this day.

Additional historical events can be found at the CSW website or Dr. May's website, **http://faculty.cua.edu/may/ChemistryCalendar.htm**.

### *FRANK ROMANO — NEW YORK SECTION'S 2006 OUTSTANDING SERVICE AWARDEE*

The New York Section's 2006 Outstanding Service Award was presented to Frank R. Romano on January 20, 2007 at the Annual Meeting held at St. John's University.

Frank received his BA from Adelphi with a major in chemistry and his MS from St. John's in Pharmaceutical Science.

He is the Support Manager at Agilent Technologies in Life Sciences and Chemical Analysis.

An active member of the Long Island subsection, Frank served as chair in 1996 and 1999; secretary from 1991-1999; a Director; Membership chair; Environmental Chemistry Committee co-chair; just to name a few.

His other contribution is as the wonderful and entertaining MC for the Long Island's most successful High School Student Chemistry Challenge Competition.

On the Section Level, we have been most fortunate to be able to call upon Frank's expertise. He has been on the Board of Directors since 1996; Fund Raising Committee Chair since 1992; Public Affairs Chair in 2004; and Information Technology Committee member since 2003.

Frank was elected Treasurer in 2000 and served for 3 terms. During his tenure, the accounts became computerized and kept in a most professional manner, no easy feat considering the complexity and size of the New York Section. Frank also managed the yearly tax audits for the Section.

When the Section decided to adopt a professional web pate, Frank was on hand to discuss the finances with the web site developer.

Frank has also received the Salutes to Excellence Award.

Now as a councilor from New York to ACS National, Frank is a member of the Meetings and Expositions Committee.

Lesley Davenport, who nominated Frank, wrote: "The New York Section presents the 2006 Outstanding Service Award to a most worthy recipient, Frank Romano - for his devotion to the Section; giving freely of this time; and being professional in all his endeavors."





## New York Meetings

***www.newyorkacs.org***

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

**Commercial Spent Nuclear Fuel Storage: Technical and Policy Issues**

*Speaker:* Dr Louis J. Lanzerotti
Distinguished Research Professor of Physics
Center for Solar-Terrestrial Research
New Jersey Institute of Technology

Based upon the National Research Council Report "Safety and Security of Commercial Spent Nuclear Fuel Storage: Public Report (2005)"

A group of prominent scientists and engineers published in 2003 a technical analysis suggesting that spent nuclear fuel stored in cooling pools at the nation's nuclear power plants might be vulnerable to certain types of accidents or terrorist attacks. These authors recommended that plant operators be required to transfer older spent fuel from these pools into dry storage facilities to reduce the potential vulnerabilities. Such a move was estimated to cost the industry or taxpayers several billions of dollars. The nuclear power industry and its regulator (The Nuclear Regulatory Commission) disputed this analysis and asserted that pool storage was being carried out in a safe and secure manner. Congress called upon The National Academies to examine these competing claims, and Dr. Lanzerotti chaired the National Academies study committee that carried out this examination. This talk describes events leading up to this congressional request, the publicly-released study results, and some of the follow-on work that is being carried out by the federal government and industry to address the study recommendations. The technical issue of this study is used to illustrate how scientists and engineers and the organizations they work for help to shape important national policies that can affect large numbers of American citizens.

Louis J. Lanzerotti is a Distinguished Research Professor, Department of Physics, New Jersey Institute of Technology. He is also a consultant at Lucent Technologies' Bell Laboratories, where his career spanned 37 years of science and engineering research related to space plasmas and the effects of solar-terrestrial processes on technical systems. He has served as principal investigator or co-investigator on a number of NASA interplanetary and planetary space missions and has conducted geophysical research in the Antarctic and the Arctic since the 1970s, directed toward understanding of EarthÆs upper atmosphere and space environments. He is an elected member of the National Academy of Engineering and the International Academy of Astronautics, and is a Fellow of the IEEE, the AIAA, the AGU, the APS, and the AAAS. He was nominated by the President and confirmed by the Senate in 2004 to a six year term on the National Science Board. Dr. Lanzerotti received a B.S. degree in engineering physics from the University of Illinois in 1960 and A.M. and Ph.D. degrees in physics in 1963 and 1965 from Harvard University.

**Date:** **Thursday, March 22, 2007**
Times: Dinner 6.00 PM
Seminar 7.00 PM
Cost: $ 20, $10 for students
no cost for seminar only
Place: Ramapo College of New Jersey
Room: SC 136 (Alumni Lounge)
Mahwah, NJ

Contact: Dr. Stephen Anderson, Ramapo College, **standers@ramapo.edu**

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## *LONG ISLAND SUBSECTION*

**Polyoxometalates: Formation — Structure — Electrochemical Bahaviors and Catalytic Properties**

*Speaker:* Dr. Israel M. Mbomekalle
Hunter College-CUNY
New York, NY

Polyoxometalates (POMs) are a large and rapidly growing class of metal-oxygen anionic clusters. Current interest in polyoxometalate chemistry is driven by the diverse and highly alterable sizes, shapes, charge densities, acidities, and reversible redox potentials of these compounds. These properties have led to many applications in catalysis, medicine, and materials science. We are presently seeking ways to promote simultaneous multi-electron transfer reactions in POMs, which typically proceed by series of single-electron steps in the potential domain useful for electrocatalysis and where neither POM structure change nor electrode derivatization occurs. Taking advantage of the continuous progress in the synthesis and characterization of POMs which generates families of compounds suitable for physicochemical studies, we identified three factors that promote multi-electron transfer reactions in POMs. First, the pH of the solution is important because it will determine, at least partly, the stability domain of the POM as well as the merging of waves by ECE-type mechanisms. Second, a "substituent effect" was identified in which one or more of the skeletal $d^0$ (usually $W^{VI}$ or $Mo^{VI}$) centers of the POM structure are replaced by d-electron-containing transition metal cations. It was found that the location, nature, and number of the d-electron metals in the POM framework may influence the interactions between redox active centers within the molecule. Specifically, a comparison of the catalytic activity of

$\alpha\beta\beta\alpha$-$(Cu^{II}OH_2)_2Cu^{II}_2(H_4AsW_{15}O_{56})_2^{18-}$ (based on the novel asymmetrical Wells-Dawson complex $H_4XW_{18}O_{62}^{7-}$, where X = P(V) or As(V)) with those of the analogous monosubstituted Cu-POMs demonstrated a favorable effect of the accumulation of copper centers in the electrocatalytic reduction of nitrate. Finally, the nature of the central heteroatom was found to be a third factor in the promotion of multi-electron redox reactions. A comparison of a series of monosubstituted Wells-Dawson tungstodiphosphates and tungstodiarsenates revealed that the first several voltammetric waves are driven in a more positive potential (i.e., more favorable) direction by the presence of the As heteroatom.

These observations stimulated our interest to understand better the mysterious equilibria of formation of polyoxometalates, so that rational syntheses of novel species have been possible and new electrocatalytic behaviors revealed.

**Date:** **Thursday, April 5, 2007**
Times: Coffee 530 PM
Seminar 6:00 PM
Place: Queensborough Community College
Science Building S-111
222-05 56 Avenue
Bayside, NY
Times: Dinner 7:00 PM
Place: In neighboring restaurant
Cost: $20.00

Contact: Dr. Paris Svoronos, (718) 631-6280, **psvoronos@qcc.cuny.edu**.

## *THE HUDSON-BERGEN CHEMICAL SOCIETY AND THE SCHOOL OF NATURAL SCIENCES OF FAIRLEIGH DICKINSON UNIVERSITY*

**The 9th Annual Undergraduate Research Symposium**

The chemistry programs of the following colleges are members of the Hudson-Bergen Chemical Society:

- Essex County College
- Fairleigh Dickinson University
- New Jersey City University
- Ramapo College of New Jersey
- St. Peter's College
- Stevens Institute of Technology

This is a forum for undergraduate students and their faculty mentors from colleges and universities that participate in the subsection's activities to present the results of their research. Outstanding graduating students are also being recognized (they receive the Hudson-Bergen Chemical Society Award consisting of a certificate and a book, courtesy of John Wiley and Sons). All the presenters will receive certificates and a book, courtesy of McGraw-Hill.

Students who wish to present posters must send an abstract via e-mail to **mleonida@fdu.edu** by **April 2, 2007**. The abstract should be in MS Word format and must include the names and addresses of the student(s) and their faculty adviser(s) in addition to the title of the abstract. The abstract should not exceed 200 words. The name of the student presenting the poster should be underlined. There is no registration fee.

**Forensic Toxicology**

*Speaker:* Mr. Sorin Diaconescu
NJ State Toxicology Laboratory

Mr. Diaconescu will talk about forensic toxicology, his experience with the NJ State Toxicology Laboratory, and present some case studies. Forensic toxicology is the application of the study of adverse effects of chemicals on living organisms to medical-legal investigation.

Mr. Diaconescu obtained his M.S. in Forensic Science (Forensic Toxicology track) in 2005 from John Jay College of Criminal Justice in New York. He is a Forensic Analyst with the NJ State Toxicology Laboratory in Newark, NJ, and adjunct faculty with the School of Natural Sciences at Fairleigh Dickinson University in Teaneck, NJ. He is a member of the Society of Forensic Toxicologists, and 2007 chair-elect of the Hudson-Bergen Chemical Society.

**Date:** **Friday, April 13, 2007**
Times: Social/Poster Session 5:00 PM
Dinner 6:00PM
Awards/Lecture 7:00PM
Place: Dickinson Hall Café
Fairleigh Dickinson University
Teaneck, NJ
Cost: $20.00 for faculty and $10.00 for student. The lecture is free. (Dinner cost for student presenters and awardees is waived.)

Reservations: Dr. Mihaela Leonida (201) 692-2338, email: **mleonida@fdu.edu** by **Monday, April 9, 2007**.

## *WESTCHESTER CHEMICAL SOCIETY*

**When Can The NMR Spectrum Change?**

*Speaker:* Professor Abhijit Mitra
Department of Chemistry & Biochemistry
Manhattan College
Riverdale, NY

Understanding $\pi$-$\pi$ stacking plays an important role in determining the properties and behaviors of biomolecules and their interaction with drugs and proteins. We have recently shown that $\pi$-$\pi$ stacking interaction can be studied by hitherto unknown concentration dependent chemical shift changes, for a wide variety of heteroaromatic compounds, in $^1$H-NMR spectroscopy. Our initial findings were observed in quinoline, a common moiety in pharmaceuticals and biomolecules. Thus $\pi$-$\pi$ stacking involving quinoline molecules is an important phenomenon. Investigation of the $\pi$-$\pi$ stacking in quinoline dimers, initially based on experimental observations from $^1$H-NMR, has been extended to ab initio calculations of quinoline dimer stabilization energies and X-ray crystal structure studies.

Abhijit Mitra was born in Calcutta, India, where he received his B.Sc. in Chemistry with Honors in 1967 and his M.Sc. in Chemistry in 1970 from the University of Calcutta. He then did his graduate studies under the guidance of Prof. Gilbert Stork at Columbia University working on the total synthesis of prostaglandin A2, leading to the Ph.D.degree in 1977. After a short postdoctoral research with Prof. William Clark Still Jr.at Coluimbia, during which time he co-discovered the, now popular, flash column chromatography, he went to Harvard University where he worked with Prof. Yoshito Kishi. There he developed reaction methods for the control of stereochemistry in acyclic molecules and then worked on the total synthesis of ionomycin. He then joined Rohm & Haas as a Senior Research Chemist in 1980. Dr. Mitra's love for research and teaching brought him to Manhattan College / College of Mount Saint

*(continued on page 12)*

## *WESTCHESTER CHEMICAL SOCIETY*

*(continued from page 11)*

Vincent in 1988, where is today. His current research includes synthesis of biologically active molecules, molecular modelling and ab initio calculations and NMR spectroscopy.

**Date: Monday, April 16, 2007**

Times: Social Hour 5:30 PM
Presentation 6:15 PM
Dinner at a nearby restaurant
7:30 PM

Place: Polytechnic University
Westchester Graduate Center
40 Saw Mill River Road
Hawthorne, NY

For more information, contact Professor Mary Cowman: **mcowman@poly.edu**

## *WESTCHESTER CHEMICAL SOCIETY*

**December 2006 Meeting**

The Westchester Chemical Society meeting was held at Pace University, Pleasantville, in December.: "Bacillus Spores As Natural Ionic Nanoreservoirs: A Physico-chemical Approach" presentation was by Sergey Kazakov, Assistant Professor at Pace.

**L - R: Mary Cowman; Jean Delfiner; Anne O'Brien; Sergey Kazakov; Joan Laredo-Liddell; Joseph Sencen; Rolande Hodel.**

## *ADELPHI UNIVERSITY — 2007 DAKIN MEMORIAL LECTURE*

**Life's Adventure**

*Speaker:* Professor Christian de Duve
1974 Nobel Laureate in
Physiology or Medicine

Professor de Duve continues the tradition of distinguished scientists, including many Nobel Prize winners, who have given talks as part of this series of lectures aimed at both scientists and the general public.

Born in England in 1917, but educated in Belgium, Christian de Duve, earned medical and chemical degrees from the Catholic University of Louvain. After postdoctoral work under Hugo Theorell in Stockholm, and under Carl and Gerty Cori in St. Louis, MO, where he collaborated with Earl Sutherland, he was appointed professor of biochemistry at the Medical School of his alma mater in 1947. In 1962, he was appointed professor, and later Andrew W. Mellon professor, at The Rockefeller University in New York sharing his time between the two institutions. He is now emeritus in both. In 1974, he created the International Institute of Cellular Pathology (ICP), which now bears his name, in Brussels.

de Duve's early work was in the field of insulin and diabetes, where he is responsible for the rediscovery of glucagon. He moved over to cellular biochemistry, in which he is known for the discovery of lysosomes and peroxysomes. His interest in the last few years has been mainly with the origin and evolution of life, on which topic he has published several books. The latest one, "Singularities" came out in 2005.

In addition to the 1974 Nobel Prize in Physiology or Medicine, de Duve has earned many distinctions. He holds honorary degrees from 17 universities and is a member of many learned institutions, including the National Academy of Sciences of the USA, the American Philosophical Society, the American Academy of Arts and Sciences, the Royal Society of London, the Royal Society of Canada, as well as a number of other academies in Belgium and other European countries.

**Date: Wednesday, April 18, 2007**
Time: 7:00 PM
Place: University Center
Adelphi University

Travel directions and a map of the Adelphi Campus can be found at **http://www.adelphi.edu/visitors/maps.php**

## *LONG ISLAND SUBSECTION*

**CHEMISTRY CHALLENGE**

**Call for Participants**

On **Thursday April 19, 2007** the Seventh Chemistry Challenge of the ACS-Long Island section will be held at Queensborough Community College (Science Bldg, S-111) starting at 5:30pm. The competition involves three-member teams from participating colleges and the thirty questions asked are approximately 75% in General Chemistry and 25% in Organic Chemistry content.

The event is generously supported by Queensborough Community College's Student Government and its Chemistry Club for the fourth consecutive year.

The college is located at 222-05 56 Avenue, off exit 29 of the LIE (Springfield Blvd). For details please contact Dr. Soraya Svoronos at **ssvoronos@gmail.com** by April 10.

Looking forward to seeing you there with your institution's three-member team on April 19.

**Date: Thursday, April 19, 2007**
Time: 5:30 PM
Place: Queensborough Community College
Science Building S-111
222-05 56 Avenue
Bayside, NY

## *HIGH SCHOOL TEACHERS TOPICAL GROUP*

**Demo Derby**

An evening of non-stop demonstrations suitable for the science classroom by members of the Chemistry Teachers' Club of New York and the Physics Teachers Club of New York.

**Date: Friday, April 27, 2007**
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.

## *SCENES FROM HSTTG MEETINGS*

### *OCTOBER 2006 MEETING*

October meeting of the High School Teachers Topical Group topic: Using Video (Streaming and Nonstreaming) to Enhance Your Science Lesson.

**L - R: Joan Laredo-Liddell; Thomas Vesey and Christopher Ward, presenters; Rudi Jones; Lewis Malchick; Jean Delfiner.**

### *NOVEMBER 2006 MEETING*

The High School Teachers Topical Group meeting in November at NYU.

**L - R: Joan Laredo-Liddell; Lewis Malchick; John Roeder, presenter: Jack DePalma; Helen Creedon; Jean Delfiner.John's topic was "Energy Plans for the 21st Century."**

### *FEBRUARY 2007 MEETING*

For the February 2007 meeting of the High School Teachers Topical Group at NYU, Dr. Monica Plisch, Senior Research Associate, Center for Nanoscale Systems, Cornell University, Ithaca, NY presented: "The Phantastic Photon, a hands-on approach".

**L - R: Joan Laredo-Liddell; Dr. Monica Plisch; Helen Creedon; Jack DePalma; Lewis Malchick; Jean Delfiner.**



## *LONG ISLAND SUBSECTION — ELEVENTH ANNUAL FRANCES S. STERRETT ENVIRONMENTAL CHEMISTRY SYMPOSIUM*

**Liquified Natural Gas: Safe 'n Sound?**

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** or call 516-876-2738.

Mark your calendar and save the date!

**Date: Thursday, May 24, 2007**
Place: Hofstra University

## *WESTCHESTER CHEMICAL SOCIETY AND HIGH SCHOOL TEACHERS TOPICAL GROUP*

The New York Section received a grant to bring Dr. Joe Schwarcz from McGill University, Montreal, Canada to NY. He and Melodie Ko gave 2 presentations in Westchester to 1600 students and faculty before going to NYU for the HSTTG. Over 75 teachers attended the New York City meeting.

**L - R: Joan Laredo-Liddell; Lewis Malchick; Dr. Schwarcz: John Roeder; Melodie Ko; Jack DePalma; Jean Delfiner.**



## *NEW YORK SECTION 50 YEAR MEMBERS*

**New York Section 50 year members with their family, friends and Section members celebrated at the Le Biarritz Restaurant in New York City.**

# Call For Papers

## *55TH 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. Spiro Alexandratos, Professor of Chemistry at Hunter College CUNY, presentation of student papers (15 minute talks to small groups), followed by a luncheon.

To:
1. Submit an abstract on-line
2. Print a flyer for posting - Print "Call For Papers" frame
3. Obtain directions to Manhattan College.

Go To: **http://newyorkacs.org/grp_students.html**

**Date: Saturday, May 5, 2007**
Place: Manhattan College
Riverdale, NY

If you have any questions please contact:
Alison Hyslop, Co-chair
**hyslopa@stjohns.edu**

Sharon Lall-Ramnarine, Co-chair
**slallramnarine@qcc.cuny.edu**

JaimeLee I'olani Rizzo, Co-chair
**jrizzo@pace.edu**

# 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, April 23, 2007**
Time: 5:30 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**.

Please contact Bill Suits at **billsuits@earthlink.net** for dinner reservations prior to **Wednesday, April 18, 2007.**

**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.**

### *IN MEMORIAM*

| | |
|---|---|
| Mr. Charles V. Conway Jr. | 49 years service |
| Dr. Donald J. Kahn | 54 years service |
| Dr. Allen Noshay | 51 years service |
| Dr. Paul Turi | 50 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, April 5, 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**, if you plan on attending this meeting.

# Education

THE STATE UNIVERSITY OF NEW JERSEY
RUTGERS
NEWARK

**H. Martin Friedman Lecture**
**April 6, 2007**

**Josef Michl**
**Department of Chemistry and Biochemistry**
**University of Colorado at Boulder**

***CB11 Carboranes for Fun and Profit***

The lecture will be held on Friday, April 6 at 11:30 in Hill Hall, room 105, on the Newark Campus of Rutgers. A coffee social will precede the lecture at 11:00 in 338 Olson Hall. See http://chemistry.rutgers.edu for directions to the campus.



### *TEACHER AFFILIATES*

**Executive Committee Meeting**

**Date:** **Monday, April 9, 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**.

NJCG

### *NORTH JERSEY CHROMATOGRAPHY GROUP*

*Seminar is sponsored by Phenomenex, Inc*

**Chromatographic Behavior of the Most Recent HPLC Packing Materials. Surface Chemistry and Surface Area Effects**

*Speaker:* Dr. Yuri Kazakevich
Associate Professor of
Analytical Chemistry
Seton Hall University

**Increasing Separation Speed With Particle Size Reduction: Getting the Most From Your Separation**

*Speaker:* Jason A Anspach, Ph.D.
Research Scientist II
Phenomenex, Inc.

**Date:** **Tuesday, April 17, 2007**
Times: Social 5:30 PM
Dinner 6:30 PM
Seminar 7:30 PM
Place: Somerset Marriott Hotel
110 Davidson Avenue
Somerset, NJ

Reservations: Please reserve by **Friday, April 13, 2007**. **Please, note, seats are limited and pre-registration is required.**

To register online, go to **http://www.northjerseychromgroup.org/** or **www.njacs.org**, click on chromatography. Or phone: David Kohler, ES Industries, (856) 753-8400.

### *NMR TOPICAL GROUP*

**Time-shared NMR Experiments: Theory, Practical Details and Examples**

*Speaker:* Dr. Teodor Parella
NMR Service, Universitat
Autònoma de Barcelona (UAB)
Barcelona, Spain

Since receiving his Ph.D. degree in Organic Chemistry (1993), Dr. Teo Parella has been working in the NMR service of the "Universitat Autònoma de Barcelona" (UAB, Spain). He is currently the Technical Manager of the NMR Service and his research interest is basically focused on the development and application of new NMR methods. He has made contributions to NMR techniques based on the use of pulsed field gradients, heteronuclear cross-polarization in solution or time-shared experiments, among others... and their application in many structural and dynamic studies of small and medium-sized chemical molecules (mainly in the field of organic and organometallic chemistry). He has published over 110 scientific papers in the area of chemistry and NMR (see the complete list at **http://rmn3.uab.es/teo.htm**) and keeps a strong collaboration with Bruker Biospin to develop the NMRGuide project (including the pulse program catalogue, a descriptive classification of more than 1000 pulse sequences included into the TOPSPIN software package).

Door Prizes!

**Date:** **Thursday April 19, 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)**
Register online: **http://njacs.org/nmr.html**, or via e-mail to **WENQING.FENG@SPCORP.COM**.

## *NORTH JERSEY SECTION ANNUAL REPORT NARRATIVE*

*Stephen Waller*, 2007 Section Past-Chair

The North Jersey Section is the largest section in the ACS. Being so, we see many of the national challenges of the Society at a local level. One of the biggest challenges has been the relocation of jobs from layoffs and from off-shoring. Even local academic professionals are at risk from state budget decreases and reductions in scientific research grants. These challenges can not be addressed with simple monthly section meetings. They require a large effort by one hundred dedicated volunteers in all areas of the section, resulting in 94 section meetings with open attendance and countless hours of work on special projects and focused committee sessions. These meetings spanned the boundaries of academia, industry, government, and the Society.

To insure that everyone is working together in 2006, the section held regular planning and programming meetings with leaders from every interest. This provided the communication needed to accomplish cross-boundary event. Thus, academicians and industrialists were hailed at award symposia supported by local industry, and legislators spoke about the benefits of chemistry and chemists in our society. This made 2006 in our section a special year, a year where meetings were not considered to be self-contained, but were venues for creating a larger dialog. It is this dialog that brings a chance for change in opinions about the value of chemistry to our country. Without this positive shift in opinion in the executive leadership in companies, in the debates in government, in the hall of academia, and in the minds of the public, we will not be able to counteract downsizing, off-shoring, brain-drain, and negative public perceptions.

Our topical groups again organized many important meetings along these lines. The Small Chemical Business group explored how these factors affected local companies. The Younger Chemists Committee went outside the section to organize a dinner at the Middle Atlantic Regional Meeting 130 miles and two local sections away in Hershey, PA. The Chromatography group integrated industrial sponsor presentations with academic speakers. The Mass Spectrometry group reached out to students during their meetings and presented awards to leaders in industry, academia, and ACS volunteers. The Organic group initiated a new major award, supported completely with funds from industry and academia, an award with enough prestige that it may rival ACS national awards in a few years. They also reached out to executive leaders from major pharmaceutical companies to make them feel a part of our Society. The NMR group had meetings focused on the interests of academia and industry. Additionally, more effort was placed on communicating events to government officials and getting them to come speak and commit for future presentations.

The section's committees made it a point to reach out to all groups in the section. The Minority Affairs committee posted scholarship opportunities on the web page and promoted the accomplishments Percy Julian. The Women Chemists Committee went beyond talking about the careers of women and offered career advices to all student affiliates in the section. The section helped pay travel expenses for some of our student affiliates to go across the country to San Francisco for the national meeting. The Project SEED committee worked hard to gain publicity for Project SEED on New Jerseys Public TV news, NJN News (video report included on DVD and CD-ROM), and then had NJ government officials speak to the SEED students as well. This took the very successful SEED program in our section to a higher level of success this year.

Our Teachers Affiliates and Student Affiliate groups did numerous programs during the year. From workshops to help teachers teach chemistry to fun chemistry demos to fellow students, they accomplished everything with enthusiasm. Additionally, these groups came together with volunteers from industry to hold a great NCW chemistry expo with dozens of hands-on activities and hundreds of attendees from every part of our society.

This year also saw the seeds of a new Polymer group for the section. With a new interest in how polymers and materials can be used in medicine, companies and colleges in the area are moving into these areas of research and product development. Nearly 800 members of the section list themselves as polymer related chemists. With a committee put in place in 2006 and an energetic chair for 2007, the section is excited about what this group will be doing to support this component of our membership.

Of course, we accomplished a lot this year in our section. We had hugely successful symposia, recognized volunteers with awards, provided extensive programs for teachers and students, and supported our colleagues in search of professional assistance. But the biggest and most important thing our section did this year that can be a model for the ACS as a whole is that we crossed boundaries whenever possible. Each group and committee had a sense of working for more than just their meeting. They reached out to more groups and more ideas to provide leadership where they normally would not. This accomplishment can not be captured on paper as a list of meetings and events, but it can be captured as part of the culture of a successful section and can change the landscape of chemistry at least in North Jersey.



# Others

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

**Seminar Series — Spring 2007**

**Wednesday, April 4, 2007**
"Vibrational Microspectroscopy and Imaging: Applications to Bone Disease and Drug Permeation into Skin"
*Dr. Richard Mendelsohn*
Rutgers University, Newark, NJ

**Wednesday, April 11, 2007**
"Nitric Oxide: Foe or Friend of its Receptor, The Soluble Guanylyl Cyclase?"
*Dr. Annie Benuve*
Department of Pharmacy & Physics
UMDNJ, Newark, NJ

**Wednesday, April 18, 2007**
Topic TBA
*Dr. Ron Kong*
DMPK Lundbeck Research

Times: 11:30 AM - 1:00 PM
Place: New Jersey Institute of Technology
Tiernan Hall, Room 373

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

**Seminar Series — Spring 2007**

**Monday, April 9, 2007**
The Wonderful Enzyme Zoo
*Professor Peter Reilly*
Professor of Chemical Engineering and Anson Marston Distinguished Professor in Engineering
Iowa State University
Ames, IA

**Monday, April 16, 2007**
Complex Geometry Flows of Concentrated Suspensions
*Professor Nina C. Shapley*
Assistant Professor
Department of Chemical Engineering
Columbia University
New York, NY

**Monday, April 23, 2007**
Recent Developments in Plastics Foam Research
*Professor Chul Bum Park*
Canada Research Chair Tier 1 in Advanced Polymer Processing Technology
University of Toronto
Toronto, Ontario, Canada

Times: Refreshments 2:30 PM
Seminars 2:45 PM
Place: New Jersey Institute of Technology
Room 117, Kupfrian Hall

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

SEMINAR SERIES SPONSORS
Bradley Pharmaceuticals, Inc. – ConocoPhillips Bayway Refinery – Engelhard Corporation – Infineum USA L.P.

## *BROOKLYN COLLEGE OF THE CITY UNIVERSITY OF NEW YORK*

**Chemistry Department Colloquium — Spring 2007**

**Friday, April 13, 2007**
2:30 PM, Room 432NE
Topic to be announced

*(continued on page 20)*

### *BROOKLYN COLLEGE*

*(continued from page 19)*

*Prof. Ishita Mukerji*
Department of Molecular Biology and Biochemistry
Wesleyan University

**Friday, April 20, 2007**
2:30 PM, Room 432NE
"Mouse Models of Disease: Applications of MRI and Image Reconstruction in Heart Disease and Cancer Research"
*Prof. Linda A. Jelicks*
Department of Physiology and Biophysics
Albert Einstein College of Medicine

**Friday, April 27, 2007**
2:30 PM, Room 432NE
Topic to be announced
*Prof. Beatrice Wittenberg*
Department of Physiology and Biophysics
Albert Einstein College of Medicine

**Friday, May 4, 2007**
2:30 PM, Room 432NE
Topic to be announced
*Dr. Arokiasamy J. Francis*
Brookhaven National Laboratory
Department of Environmental Sciences

Place: Brooklyn College of CUNY
2900 Bedford Avenue
Brooklyn, NY

## Book Review

### *NONTRADITIONAL CAREERS FOR CHEMISTS – NEW FORMULAS IN CHEMISTRY*

*Lisa M. Balbes*
Oxford University Press
New York, 2007

Choosing a career in chemistry can be an ever evolving process as this book amply demonstrates. Balbes reviews a wide range of areas other than the research laboratory in which people can use their education in chemistry. The book is intended to provide a road map for thinking of careers in fields ranging from information science to business development. Each chapter is organized in broad categories such as communications, public policy or education, and gives an overview of careers within these categories as well as the education requirements and personal characteristics needed to succeed. The chapters then move on to personalize individuals within the relevant careers. The personalization makes the book highly readable and gives excellent guidance on how to proceed in building a new career. Four dozen chemists are profiled with their educations, current positions and career paths described. They give advice to those seeking similar careers and predict the futures in their fields. The interviews are excellent and the profilees are an impressive and frank group. I know some of them personally and really enjoyed reading their comments and getting to know how they achieved their present positions. The chapters end with useful directions to additional publications and web sites related to the careers discussed.

I highly recommend this book for both students and career chemists seeking to explore new fields. I also recommend it for anyone counseling chemical scientists and for those interested in having an overview of a part of the chemical enterprise we do not always consider. The book is an easy read and attractively illustrated. I would love to see a similar book about chemists in a laboratory environment.

This book is a February selection of the ACS Careers Bookclub Group and more information on it and other recommended books can be found at **http://acsbookclub.wordpress.com** or through the ACS webpage.

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## Career Opportunity



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