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- Evolution of Modern Chromatography: Celebration of 25 years of the Subdivision on Chromatography and Separation Chemistry
- The Future of HPLC-Method Development: Quality by Design—Evaluating the Control Space of Robust HPLC Methods
- New Dimensions in Multidimensional Separations
- Young Investigator Award from Subdivision on Chromatography and Separation Chemistry
- · Pressurized Fluids in Separations Technology

ORGANIZED CONTRIBUTED SESSIONS · Validation of Bioanalytical Methods: Addressing matrix

- effects, ion suppression and ISR (incurred sample reanalysis) New Concepts and Instruments for Electrochemical Sensors
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THE INDICATOR-NOVEMBER 2008

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

November Calendar

NEW YORK SECTION

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Saturday, November 1, 2008 7th Annual November 1st Chemistry Symposium See page 10.

Thursday, November 6, 2008 Long Island Subsection See page 10-11.

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Friday, November 7, 2008 Hudson-Bergen Chemical Society See page 12.

Friday, November 14, 2008 High School Teachers Topical Group See page 12.

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Calendar

NORTH JERSEY SECTION

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Monday, November 10, 2008 Teacher Affiliates Executive Committee See page 6.

Wednesday, November 12, 2008 ChemTAG Meeting See page 6.

Wednesday, November 12, 2008 Laboratory Robotics Interest Group See page 7.

Thursday, November 13, 2008 NoJ Organic Topical Group See page 7-8.

Thursday, November 20, 2008 NoJ Group of Small Chemical Businesses See page 8.

Monday, November 24, 2008 NoJ Executive Committee Meeting See page 6.

The Indicator is posted to the web on the 15th of the previous month at www.TheIndicator.org

Deadline for items to be included in the January 2009 issue of *The Indicator* is November 15, 2008.



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NOVEMBER HISTORICAL EVENTS IN CHEMISTRY

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

November 4, 1862

Charles L. Reese, who improved the manufacture of dyes and explosives, was born on this date.

November 6, 1886

Ian M. Heilbron, who was born on this date, synthesized naturally occurring compounds, such as vitamins A and D.

November 10, 1887

Johnson & Johnson was incorporated on this date.

November 13, 1867

Kristian Birkleland and S. Eyde performed the first industrial fixation of nitrogen. Kristian Birkleland was born on this date.

November 14, 1863

Leo Baekeland, who invented Velox paper and the plastic, Bakelite patented in 1909, is known as the "father of the plastic industry". He was born on this date.

November 18, 1789

Louis J. M. Daguerre, a photographic pioneer and inventor of the daguerrotype, was born on this date.

November 20, 1892

James B. Collip, who was born on this date, refined a method of removing and purifying insulin with Frederick Banting and Charles Best.

November 22, 1875

Dmitri I. Mendeleev stated that gallium (Ga, 31) is identical to eka-aluminum on this date.

November 24, 1833

One hundred and seventy five years ago, Alexandre P. Borodin was born. He was a researcher on organofluorine compounds; and the Borodin-Hunsdieker reaction. He was also a chemist-composer of classical music.

November 25, 1960

First atomic reactor for research and development began operation at Richland, Washington, on this date.

November 26, 1801

Charles Hatchett announced his discovery of columbium (niobium) before the Royal Society on this date.

November 28, 1962

It was announced on this date that the first pure compound of berkelium (Bk, 97) based on work at University of California, Berkeley, was prepared on this date.

November 29, 1947

Robert A. Swanson, who was born on this date, cofounded with Herbert Boyer, Genentech, Inc. in 1976. This company pioneered the biotechnology industry and developed techniques for the possibility of genes transfer from one organism to another. It began mass-producing their first human protein by splicing a gene into bacteria in 1978, created the first drug produced by genetic engineering, human-type insulin, and was the first company to sell its own drug, human growth hormone.

November 30, 1915

Seventy-five years ago, Henry Taube received the Nobel Prize in Chemistry for his work on the mechanisms of electron transfer reactions, especially in metal complexes. He was a researcher in electron transfer reactions and was born on this date.

Additional historical events can be found at Dr. May's website, http://faculty.cua.edu/ may/ChemistryCalendar.htm or the "This Week in Chemical History" at the ACS website: http://www.acs.org/whatischemistry.

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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, November 24, 2008
Time:	6:30 PM
Place:	Fairleigh Dickinson University
	College at Florham

Hartman Lounge, the Mansion Madison, NJ Cost: \$5.00 - pizza dinner

Directions: can be found at view.fdu.edu/default.aspx?id=238

Reservations: call (732) 463-7271 or email

njacsoffice@aol.com prior to Wednesday, November 19, 2008.

Dinner at the Section Meeting is payable at the door. However, if you are not able to attend and did not cancel your reservation, you are responsible for the price of your dinner.



CAREERS IN TRANSITION GROUP Job Hunting??

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

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

The next meeting for the Careers In Transition Group will be held **Thursday**, **November 6**, 2008, in the Rice Lounge on the first floor of the New Academic Building. The meeting will start at 5:30 PM and end at 9:00. There will be a Dutch-treat dinner. To get the most from the meeting, be sure to

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bring transparencies of your resume. Please contact vjkuck@yahoo.com, if you plan on attending this meeting. TEACHER AFFILIATES Executive Committee Meeting Date: Monday November 10, 2008

Time: 4:30 PM Place: Chatham High School 255 Lafayette Avenue Chatham, NJ Contact: Cheryl Litman at 1-732-289-3700

Ext. 4034, clitman@mail.nbtschools.org

ChemTAG MEETING

Electrochemistry

Date: Wednesday, November 12, 2008 Time: 4:00 – 6:00 PM Place: Madison High School Madison, NJ (directions: mapquest to 170 Ridgedale Ave., Madison, NJ

Contact: Claire Miller millerc@madisonpublicschools.org.



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LABORATORY ROBOTICS INTEREST GROUP

Workshop on ADMET/PK Technical Program:

"Practical Human PK Prediction Approaches Using *in Silico, in Vitro* and *in Vivo* Animal Data"

Speaker: Dr. Handan He Director and Head of Preclinical PK/PD Novartis Pharmaceuticals Corporation.

"Improving Caidate Quality Through the Prediction of Clinical Outcome"

Speaker: Dr. Simon Thomas Head of Scientific Computing

Cyprotex Discovery Ltd. "Formulation Approaches in Addressing

PK Related Issues"

Speaker: Dr. Hong Wen Pharmaceutical Development Novartis Pharmaceuticals Corporation.

"R&D Knowledge Assessment Shapes Scientific Information Strategy"

Speaker: Bob O'Hara Managing Partner at ResultWorks, LLC

- ResultWorks, LLC
 Date: Wednesday, November 12, 2008
 Times: Social Hour with appetizers
- 4:30 to 5:45 PM Dinner 5:45 to 6:30 PM Technical program 6:30 to 9:00 PM
- Place: Crowne Plaza Hotel Somerset, NJ
- Cost: There is no cost to attend.

ORGANIC CHEMISTRY TOPICAL GROUP

The Award for Creativity in Molecular Design and Synthesis

2008 Award Recipient: Dr. Malcolm MacCoss

Speakers: Professor David Evans Harvard University

> Professor David MacMillan Princeton University Dr. Sandy Mills

Merck & Co., Inc. Professor Dean Toste

University of California, Berkeley

Professor Barry Trost Stanford University

Keynote Award Presentation

Speaker: Dr. Malcolm MacCoss Schering-Plough Research Institute

Date: Thursday, November 13, 2008 Times: Registration will begin at 12:00 noon Symposium 1:00 PM Dinner 6:30 PM Award address 7:30 PM Reception 5:45 PM Place: The Palace at Somerset Park 333 Davidson Avenue

Somerset NJ Cost: Registration fee: Symposium, Reception, and Dinner \$125.00.

Students or Post-docs: Symposium, Reception, and Dinner \$100.00

Due to limited seating, registration and

(continued on page 8)



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ORGANIC CHEMISTRY TOPICAL GROUP

(continued from page 7)

payment are required by November 1, 2008.

For directions, information and on-line registration please visit our website: www.njacs.org/organic.html

Organizing Committee: Lawrence Williams, (Chair), Rutgers University, Dong Xiao (Schering), Joe Kozlowski (Schering), Amjad Ali (Merck), Albert DelMonte (BMS), Binh Vu (Roche), Eric Metz (Roche)

ř

THE NEW JERSEY GROUP OF SMALL CHEMICAL BUSINESSES

The Professional Advantage: Are You Getting the Most out of Your Sales Team?

Speaker: Danny Wood

- Danny Wood Enterprises

 Do you fail to close prospects ...and
- you're not sure why?
- Do traditional sales practices turn you into an unpaid consultant?
- Do you prepare too many proposals...and you're not getting the business?
- Do prospects often fail to reveal their real buying motives?
- Do you have to cut prices to close more sales?
- Do you feel uncomfortable in selling situations because you don't want to look like a salesperson?
- Do you have a system that generates referrals on consistent basis?

Whether you are in Business Development, Marketing, or Client Management; like it or not, we all have to Sell! This presentation will include an investigation of selling systems, possible pitfalls in the sales process and methods to match the real needs of buyers and sellers.

Danny Wood is recognized nationally as a

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business development expert, specializing in Executive Sales Consulting and Sales Productivity Training. He is an affiliate of the Sandler Sales Institute and is a seven time recipient of the Platinum Award for superior selling. Danny specializes in working with business owners, CEO's and senior managers to maximize the return on what is often their most underutilized resource ... the sales team. He utilizes the only Management Development Curriculum that has been ranked #1 for six consecutive years by Entrepreneur Magazine. His work has been recognized by business leaders and corporate managers for providing their people with the aptitude to realize millions of dollars in additional business that would otherwise have never materialized or been lost to competitors.

- Date: Thursday, November 20, 2008 Times: Networking – Cash Bar 5:30 PM Dinner and Introductions 6:30 PM Presentation 7:15 PM Networking and Dessert/Coffee 8:15 PM
- Place: Holiday Inn, North (north side of Newark Airport) 160 Frontage Rd. Newark, NJ For map and directions, see
- www.NJGSCB.org Cost: In advance: \$45 for members of NJGSCB. \$55 for non-members Walk-ins: \$55 for members and non-members

All reservations must be made in advance at our web site: www.NJGSCB.org. To pay by check, reserve by sending an email info@NJGSCB.org and mail check to:

NJ Group of Small Chemical Businesses 16 Park Terrace

Montclair, NJ 07043 Checks must arrive no later than Monday, November 17.

Questions? Call Pete Sibilski at 732-254-1901 Ext 140 or Psibilski@mail.alzointernational.com

Reserve by: Please reserve by Nov. 17, 2008 EOB. Cancel in advance – EOB Nov. 17 - or be invoiced. Walk -ins will be accommodated if space is available.

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New York Meetings

www.newyorkacs.org

THE ACADEME INDUSTRY COMMITTEE OF THE NEW YORK SECTION

Interfacial Chemistry Used in Medical Applications

Technical Program

Nanoparticles and Surfaces for Anion Sensing and Medical Imaging Speaker: David P. Cormode, PhD

Mt Sinai Hospital

Nanoparticles and surfaces have a great number of practical applications. We have developed selective anion sensors based at gold surfaces. Furthermore, we have created a variety of high density lipoprotein based nanoparticles for medical imaging. These particles include gold, iron oxide and quantum dots and may thus be used as contrast agents for computed tomography, magnetic resonance imaging and fluorescence imaging. They have been exploited for the detection of heart disease risk.

Lipid Membrane Heterogeneities Controlled by pH: Basic Studies and Potential Applications of Lipid-based Drug Delivery Carriers

Speaker: Stavroula Sofou, PhD Laboratory for Drug Delivery Systems Polytechnic Institute of NYU

Nature uses lipid membranes as a universal wrap around cells to control critical functions by reorganizing lipid membranes into rafts. Lipid-rafts are nanometer- to micronsized domains of laterally phase separated lipids whose occurrence coincides with locally confined and clustered membrane proteins and other macromolecules on the surface of cells. Understanding the biophysical forces from the membrane perspective that play a role in these phenomena can be translated into lipid-based drug delivery carriers containing environmentally responsive lipid heterogeneities.

Development of Surfactant and Lipidbased Solid Dispersions and Solid Micro emulsion Preconcentrates for Oral Delivery of Poorly Water-soluble Drugs

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Speaker: Abu Serajuddin, PhD Professor of Pharmaceutical Sciences St. John's University

Development of water-insoluble or poorly water-soluble drugs into bio available oral dosage forms is one of the most difficult challenges in the pharmaceutical industry. In recent years, the introduction of surface active and self-emulsifying excipients that are solid at room temperature has greatly renewed interest in commercial development of solid dispersions. The new surfactant and lipid-based systems not only increase dissolution rates of poorly watersoluble drugs, they may also be filled directly into hard gelatin capsules in the molten state that solidifies at room temperature, thus simplifying the manufacturing process.

Application of Surface /Membrane Chemistry for the Design of Drug Delivery Systems for Water Insoluble Drugs

Speaker: Narendra Desai, PhD Wyeth Laboratories

- Discussion of interactions of hydrophobic drugs with the biological membranes and receptors in the non-accessible receptor cavities
- Use of Surface chemistry to augment the aqueous "solubility" and drug release and transport to the therapeutic targets
- Examples of micelles, emulsions, lipid complexes and liposomes with selected in vitro and biological data.

"Vendors supporting study/development of formulations involved in the presentations will also participate".

This symposium is presented by the Academe Industry Committee of the New York Section of the American Chemical Society. It features presentations contributed by leading scientists from

Academia and industry. The symposium is meant to showcase the amazing diversity of interfacial chemistry as applied to medical applications both for fundamental and practical applications.

Whether you are from academia or industry, this is a good opportunity for you to network with other people sharing your common interests. We look forward to seeing you at

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ACADEME INDUSTRY COMMITTEE

(continued from page 9)

this symposium and hope that you would take advantage of the scientific and networking opportunities it offers.

The Academe Industry Committee expresses its gratitude to Pace University for providing the facilities and coffee/ snacks for the coffee break and throughout the symposium. Lunch is available at Pace Student Center Cafeteria after the symposium.

Date: Saturday, November 1, 2008 Time: 9:00 AM to 1 PM Place: Pace Campus Center Butcher Suite Pleasantville, NY

Cost: Free for all, but you must register Online registration will start in late September at http://www.nyacs.org or

register by email to RGoodman2@ pace.edu.

Directions: Can be found at the Pace University website

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7TH ANNUAL NOVEMBER 1ST CHEMISTRY SYMPOSIUM

Photochemistry and Photophysics: Harnessing Light to do Our Work Speakers: Claudia Turro

The Ohio State University Stefan Bernhard Princeton University Harry Gafney Queens College, CUNY Jack Preses Brookhaven National Laboratories Richard Eisenberg University of Rochester

Date: Saturday, November 1, 2008 Times: 1:00 to 5:00 PM Place: Department of Chemistry St. John's University B70-75 St. Albert Hall Dinner to Follow Cost: \$15.00 per person \$10.00 per student

Respond by October 24th.

For Information Please Contact Alison Hyslop at (718) 990-5218 **hyslopa@** stjohns.edu or Elise G. Megehee at (718) 990-5276 megeheee@stjohns.edu Please see the New York Section Website

for full details.

LONG ISLAND SUBSECTION Fingerprinting Molecules by NMR Spectroscopy

Speaker: Dr. Abhijit Mitra College of Mount Saint Vincent Department of Chemistry

Understanding π - π 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 π - π stacking interaction can be studied by hitherto unknown concentration dependent chemical shift changes, for a wide variety of heteroaromatic compounds, in 1H-NMR spectroscopy. Our initial findings were observed in quinoline, a common moiety in pharmaceuticals and biomolecules. Thus π - π stacking involving quinoline molecules is an important phe-

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nomenon. Investigation of the $\pi\text{-}\pi$ stacking in quinoline dimers, initially based on experimental observations from 1H-NMR, has been extended to ab initio calculations of quinoline dimer stabilization energies and X-ray crystal structure studies.

Date:	Thursday, November 6, 2008	
Times:	Coffee 5:30 PM	
	Seminar 6:00 PM	
Place:	Hofstra University	
	Chemistry/Physics Building	
	Lister Auditorium	
Times:	Dinner: 7:00 PM	
Place:	Neighboring restaurant	
Cost:	\$20.00	
	\$\$ \$	
CUEMICAL MARKETING &		

CHEMICAL MARKETING & ECONOMICS GROUP

Improved Crop Yields to Feed the World Speaker: Dr. Jonathan Bryant

Director of BASF North American Plant Science Business BASF Corp.

Date Thursday, November 6, 2008 Times: Cocktails 11:30 AM Luncheon 12 noon

Presentation 1:15 PM Place: Club Quarters

- 40 West 45th Street New York, NY \$45 discount price for Members who reserve by **Tuesday**, **November 4th** (12 noon).
- November 4th (12 noon). \$55 for Guests and Members (at the door without reservations)

To reserve: Please reserve early to be eligible for discount price. Call Vista Marketing at (917) 684-1659 or via e-mail to: **cmegroup@yahoo.com**. You can also pay online (via PayPal): go to our Website: http://www.nyacs-cme.org/ and click the proper "Buy Now" button (\$45 for Members; \$55 for Non-Members), which is below the

* * * * * Next Meeting:

credit card logos.

Water: The Next "Oil" (full-day conference)

Co-Founding Sponsors: AIChE, Metro NY & the Chemical Marketing & Economics Group)

Date: Thursday, December 4, 2008 Place: Con Edison Building

4 Irving Place (14th-15th Streets) New York, NY

Updated details at:

http://homepage.mac.com/daviddee/ page1/Water%20Conference.html

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Education

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HUDSON-BERGEN CHEMICAL SOCIETY — JOINT MEETING WITH THE SCHOOL OF NATURAL SCIENCES OF FAIRLEIGH DICKINSON UNIVERSITY

Between Chemistry and Archaeology

Speaker: Dr. Mihaela Leonida Fairleigh Dickinson University

In celebration of the National Chemistry Week you are invited to come and explore the territory between the study of matter and its changes and the study of material traces of past societies. Come and listen to the story, the science, and the controversy. From materials science and using chemical analysis the lecture offers an insight into how science becomes an analyst of past cultures and creator of present ones.

Trained as a chemical engineer (MS and Ph.D), Mihaela Leonida worked as an analytical chemist and then taught physical chemistry for a while. Somewhere down the road she noticed that everybody in chemistry had turned to Mother Nature, so she went back to school for a Ph.D. in bioorganic chemistry. At present she teaches at Fairleigh Dickinson University in Teaneck, NJ. All her research work and teaching explore interdisciplinary topics from biosensors to materials used in old art objects and everything in-between.

Date:	Friday, November 7, 2008
Times:	Social 5:30 PM
	Dinner 6:00 PM
	Lecture 7:00 PM
Place:	Dickinson Hall Cafe
	Fairleigh Dickinson University

Teaneck, NJ Cost: \$20.00 for dinner. The lecture is free. The dinner cost for students

is \$10.00. Reservations: Dr. Mihaela Leonida

(201)692-2338, e-mail: mleonida@fdu.edu by Tuesday, November 4, 2008.

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HIGH SCHOOL TEACHERS TOPICAL GROUP Physics Demonstrations as Theater

Speaker: David Maiullo Physics Support Specialist Department of Physics and Astronomy

Rutgers the State University of NJ Physics demonstrations should be fun and exciting. They hold the interest of students while introducing and reinforcing important concepts. You should enjoy performing the demonstrations as much as your students enjoy watching them. I'll try to show the common problems and pitfalls teachers and instructors run into while doing demonstrations, as well as illustrate how a successful physics demonstration can be performed.

Date: Friday, November 14, 2008

- Times: Social and Dinner 5:45 PM Place: No reservations required Caffe Pane e Cioccolato 10 Waverly Place at Mercer Street (South-west corner) New York, NY (You eat, you pay cash only, no credit cards.) Times: Meeting — 7:15 PM
- Place: New York University Silver Center Room 207 32 Waverly Place (South-east corner Washington Sq. East) New York, NY

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

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

Exercise <u>One</u> of America's Greatest Freedoms and <u>VOTE</u> on November 4

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NEW YORK NANOSCIENCE DISCUSSION GROUP

Hosted by: The Department of Chemistry New York University

The NYNDG is an ACS Topical Group that meets in the New York University Department of Chemistry. Sessions feature three 30-minute presentations on nanoscience, one each with strong orientation in biology, chemistry, and physics/applied mathematics. Presentations will be focused on discussion of recent work, although speakers will place the work in a context understandable to a broad audience.

Date: Tuesday, November 18, 2008

For more information, contact: James Canary (james.canary@nyu.edu) http://www.nyu.edu/projects/nanoscience

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

Tau and Beyond: Phosphorylation in Neurodegenerative Disorders

Organizers: Steven Braithwaite Wyeth Research Marco Baptista

Schering-Plough Speakers: Peter Davies

Albert Einstein College of Medicine

Paul Lombroso Yale University

Steven Braithwaite Wyeth Research

Hilal Lashuel Ecole Polytechnique Federale de Lausanne, Switzerland Asa Abeliovich

Columbia University

Phosphorylation is a key regulatory mechanism controlling normal cellular function. In the field of neurodegeneration the hyper-

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phosphorylation of tau has been the focus of the majority of research and drug development over the past decade. However, recent studies have proven this is only the tip of the iceberg, with phosphorylation being a critical process that can underlie the pathophysiological state in Alzheimer's Disease, Parkinsonism and stroke. In this symposium we will address where research on tau has taken us and how a number of other kinases, phosphatases and phosphorylation events can increase our understanding of these disorders, leading to the development of novel therapeutic strategies.

Date: Tuesday, December 9, 2008

Time: 1:00 – 5:00 PM

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

Reserve a seat on-line at: http://www. nyas.org or email: nymeetings@nyas.org NYAS Members and BPDG Affiliates may

attend BPDG meetings free of charge. Non-members may attend for a fee of \$20

per event; Student Non-members for \$10.

To become a Member of the Academy, visit http://www.nyas.org/landing.html



CHEM LUMINARY AWARDS FOR 2007

Outstanding High School Student Program Award

The High School Program benefited over 1000 students and teachers. Major activities included Project Seed, chemagination,

Chemistry Olympiad, High School Chemistry Day and the 12th Annual High School Poster Session. The award program was held in Philadelphia.

Below is a picture of members of the NY Section in front of the NY Poster prior to ChemLuminary Awards.



Left to Right: Marc Walters, Ann O'Brien, Joan Laredo-Llddell, Frank Romano, Hiroko Karan, Yorke Rhodes, Neil Jespersen.



(Left to Right): Bryan Balazs, Chair, SOCED, Joan Laredo-Liddell, New York Section, Thomas H. Lane, President-Elect.

Picture taken by Peter Cutts

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Others

SCIENCE OUTREACH PROGRAM FOR K-12 TEACHERS AND HIGH SCHOOL STUDENTS

Description: This non-residential professional development program exceeds National Science Education Standards by offering mentored lab research internships for K-12 science teachers from public, private and parochial schools in Greater New York City. Our ScienTific Reading And Writing Course (STRAW) teaches the specialized communication skills essential for understanding one's research and teaching those same skills to one's students. Weekly seminars given by Rockefeller scientists extend teachers' knowledge of the research outside of their host labs. Teachers present their research in a Poster Session and in their Research Report. Applications can be downloaded from the Web site. Content: Research in Neuroscience, Medical Sciences, Human Genetics, Immunology, Microbiology, Biochemistry, Structural Biology, Chemistry, Physics, Mathematics, Computer Sciences, Molecular, Cell & Developmental Biology.

Qualifiers: Designed as a two-year program, returning teachers craft Action Plans with the help of Outreach staff that they present at Teacher Seminars. Action Plans describe how teachers will translate their research experiences into inquiry-based learning for their students.

Dates: June 29 - August 14, 2009

Scholarships: No cost and some funding for stipends, travel, and Action Plan. Similar summer program for high school students who must be at least 16.

Application deadline: February 2, 2009 but let us know if you need more time.

Contact: Bonnie Kaiser, PhD, Director, Science Outreach Program, Rockefeller University, 1230 York Avenue, Box 53, New York, NY 10065-6399

Telephone: 212-327-7431 - Fax: 212-327-7519

Email: outreach@rockefeller.edu. Website: www.rockefeller.edu/outreach

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NEW JERSEY INSTITUTE OF TECHNOLOGY — OTTO H. YORK DEPARTMENT OF CHEMICAL, BIOLOGICAL AND PHARMACEUTICAL ENGINEERING

Seminar Series – Fall 2008

November 3 "Lithium Ion Batteries" Dr. Ivan Petrovic BASF Catalysts LLC

November 10 "Combustion Reactions of Metal Atoms, Ions, and Small Radicals" Arthur Fontijn Professor Emeritus (Prof) CHEG Research Rensselaer Polytechnic Institute

November 17

AIChE National Meeting (100th Anniversary)

Times: 2:30 – 4:00 PM Place: Guttenberg Information Technology Center (GITC) – Room 1400

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RUTGERS UNIVERSITY GRADUATE SEMINAR SERIES — FALL 2008

Materials Science & Engineering

November 4 "An overview of microfluidics*" Prof. Shaurya Prakash Mechanical & Aerospace Engineering

Rutgers University, Piscataway, NJ, sprakas1@rutgers.edu

November 11

"Phase-field crystal modeling of deformations and phase transformations at the nanoscale"

Prof. Mikko Haataja Mechanical & Aerospace Engineering, Princeton University, Princeton, NJ mhaataja@Princeton.edu

November 18

"ZnS nano particles by chemical routes*" *Prof. Chekesha Liddell* Materials Science & Engineering, Cornell University, Ithaca, NY

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RUTGERS UNIVERSITY GRADUATE SEMINAR SERIES

(continued from page 15

cliddell@ccmr.cornell.edu		
Date:	Tuesdays	

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Duto.	racoaayo
Times:	Refreshments 11:45 AM
	Seminar 12:10 PM

Place: Center for Ceramic Research Room 201, 607 Taylor Road Busch Campus Piscataway, NJ

*Note, titles are tentative at this time. Questions: contact Lisa C. Klein, licklein@rci.rutgers.edu or 732 445-2096



Call for Nominations

THE 2009 LIFETIME ACHIEVEMENT AWARD OF THE NORTH JERSEY SECTION

The biennial award consists of a recognition plaque and \$1,000 prize. It recognizes a North Jersey chemist or chemical engineer over fifty years of age, for conspicuous achievements in chemistry, not heretofore recognized by any major scientific awards.

Please submit nominations and supporting letters to Jiwen Chen, Awards Committee Chair, c/o NJ ACS, 4 Cameron Road, Piscataway, NJ 08854. Tel: 609-818-6319, email: jchen@njacs.org. Nominations must be received by Feb. 16, 2009. Visit http://www.njacs.org/awards.html for the nomination form and a list of past recipients.



Contribute to The Indicator

The Indicator is interested in adding new features to the publication. Your input would be appreciated. Please let us know features you would like to see in future issues; i.e., historical stories like the one on page 17, book reviews, member news, short articles about your research or other ideas. It has been suggested that we might include a "Remember

When?" section where our readers could provide photos (with captions) and/or short articles about their careers, awards, memorable symposia they attended, or to honor a colleague. In the past we have run crossword and CHEMdocu puzzles.

Would you be willing to assist in gathering or writing such material? Contact the Editor at:

linatkins@tampabay.rr.com or Fax: (352) 200-5195

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NOVEMBER IN CHEMICAL HISTORY

Harold Goldwhite, California State University, Los Angeles

One of the great industrial chemical innovators, a man who, more than any other, was responsible for the growth of the plastics industry, was born in Ghent, in Belgium, on November 14, 1863. Leo Hendrik Baekeland grew up in modest circumstances but, encouraged and supported by his mother, he was able to attend the Ecole Industrielle and won a scholarship to the University of Ghent. There he immediately distinguished himself in science and was appointed assistant in general chemistry, under Professor Theodore Swarts (Kekule's successor at Ghent), after his first year. Baekeland studied for his doctoral degree with Swarts, was awarded it at the age of 21, and was appointed Assistant at the Ecole Normale in Bruges in 1885. There he began independent research but, more significantly, entered an essay competition sponsored by the Ministry of Higher Education, and won the first prize for his paper on "The phenomena of dissociation". The prize included a substant tial grant for travel abroad.

Baekeland did not leave Belgium immediately. He returned to Ghent as Assistant Professor, continued research, and married Professor Swarts' daughter Celine. In 1890 the young couple began their travels, and Baekeland had some unusual ideas about what he wanted to learn. He felt that while his grasp of academic chemistry was sound, he needed to learn more about practical industrial chemistry. After a brief stay at the University of Edinburgh, the Baekelands left for the United States and, in particular, Columbia University, in New York, where industrial chemistry was a strong feature of the program under Charles F. Chandler. Baekeland was an enthusiastic photographer and had become interested in photographic chemistry. Through contacts made at the New York Camera Club he was offered and accepted a position at the Anthony photographic supply company (later part of the Ansco Company). After 2 years he set up as an independent consulting chemist, and began working on his own ideas.

Baekeland's first major invention led to financial independence. He developed a sensitive new printing paper that could be exposed in artificial light, and organized a company to produce this "Velox" paper. It was very successful with amateur photographers, sales grew steadily, and in 1899 George Eastman, of Kodak fame, bought the rights to "Velox" from Baekeland for \$1,000,000! The Baekelands travelled to Europe, then settled on an estate in Yonkers where Leo had a modern laboratory constructed. He helped solve some critical problems with diaphragms of chlor-alkali cells, and then began a detailed and laborious study of the products of the phenol-formaldehyde reaction, a series of sticky, tarry messes that many chemists had briefly examined and abandoned. By 1906 Baekeland had controlled this process to yield the first thermo-setting synthetic polymers and started pilot-plant production in his own laboratory. A German company, Bakelite Gesellschaft, was formed in 1910 and eventually, after a long series of legal battles involving alleged patent infringements, the Bakelite Corporation was formed in 1922. The new plastic, with its moldability, ly rose to over 100,000 tons year. In 1939 the Corporation was acquired by Union Carbide.

Baekeland was a prodigiously hard worker, with over 400 patents to his credit, but towards the end of his career he found time to pursue his hobbies which included raising tropical plants on his second estate in Florida, motor touring (he toured Europe by car as early as 1907) and sailing his yacht "lon". He was honored by his scientific peers with medals and offices in societies, including the Presidency of the American Chemical Society in 1924. He died in New Jersey on February 23, 1944.

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