

THE
Indicator ▶

APRIL 2004

Vol. 85 • No. 4

ISSN0019-6924



DR. ALLEN J. BARD

WILLIAM H. NICHOLS MEDALIST FOR 2004

RECYCLE THIS PAPER

PERIODICALS POSTAGE

Education

THE STATE UNIVERSITY OF NEW JERSEY
RUTGERS
NEWARK

H. Martin Friedman Lecture
April 30, 2004

Mapping Protein Folding Landscapes

Harry Gray

**Division of Chemistry and
Chemical Engineering
California Institute of Technology**

The lecture will be held on Friday, April 30 at 11:30 in Hill Hall, room 108, on the Newark Campus of Rutgers. A coffee social will precede the lecture at 11:00 on the 3rd floor of Olson Hall.

See <http://chemistry.rutgers.edu> for directions to the campus.

Where speed and accuracy are elemental



Robertson Microlit Laboratories

- Elemental CHN Analysis
- Atomic Emission Spectroscopy
- Atomic Absorption Spectroscopy
- FTIR Spectroscopy
- UV/ VIS Spectrophotometry
- Mass Spectrometry
- Chromatography
- Bioavailability
- Polarimetry
- Calorimetry
- Titrimetry
- Wet Chemistry
- KF Aquametry

P. O. Box 927 • 29 Samson Avenue • Madison, NJ 07940
Tel: (973)966-6668 Fax: (973)966-0136
www.robertson-microlit.com
email: results@robertson-microlit.com

THE INDICATOR

Manager / Editor

MALCOLM STURCHIO

1 Cable Court, Montville, NJ 07045

973-331-5142; Fax 973-331-5143

e-mail: sturchio@optonline.net

Advertising Manager

VINCENT GALE

MBO Services, Inc.

PO Box 1150, Marshfield, MA 02050-1150

781-837-0424; Fax 781-837-8792

e-mail: vincegale@adelphia.net

INDICATOR COMMITTEE

New York Section Rep.

EVELYN SARNOFF

97-37 63rd Road, Rego Park, NY 11374-1624

718-459-3097

North Jersey Section Rep.

DIANE KRONE

Northern Highlands Regional High School

298 Hillside Avenue, Allendale, NJ 07401

e-mail: kroned@optonline.net

Web Master

ED HARRIS — e-mail: harris7@optonline.net

NEW YORK SECTION

<http://newyorkacs.org>

Chair

VIJAYA L. KORLIPARA

College of Pharmacy, St. John's University,

8000 Utopia Parkway, Jamaica, NY 11439

718-990-5369; Fax 718-990-1877

e-mail: korlipav@stjohns.edu

Chair-Elect

JAMES W. CANARY

Department of Chemistry, New York University

New York, NY 10003

212-998-8422

e-mail: james.canary@nyu.edu

Secretary

PAMELA K. KERRIGAN

Manhattan College, 4513 Manhattan College

Parkway, Riverdale, NY 10471-4098

718-862-7211; Fax 718-862-7814

e-mail: pam.kerrigan@manhattan.edu

Section Office

St. John's University, Chemistry Dept.

8000 Utopia Parkway, Jamaica, NY 11439

516-883-7510; Fax 516-883-4003

e-mail: njesper1@optonline.net

NORTH JERSEY SECTION

<http://www.njacs.org>

Chair

ANNE KELLY

Bristol Myers Squibb, P.O. Box 191,

New Brunswick, NJ 08903

732-227-7410

e-mail: Anne.Kelly@bms.com

Chair-Elect

JACQUELINE ERICKSON

GSK, 1500 Littleton Road, Parsippany, NJ 07054

973.889.2368

e-mail: jacqueline.a.erickson@gsk.com

Secretary

BETTYANN HOWSON

49 Hillside Avenue, Madison, NJ 07940-2612

973-822-2575

e-mail: chemphun@optonline.net

Section Office

4 Cameron Road, Piscataway, NJ 08854

732-463-7271

THE Indicator

CIRCULATION: 12,000

The monthly newsletter of the New York & North Jersey Sections of the American Chemical Society. Published jointly by the two sections.

CONTENTS

Advertisers Index	27
Biography, Dr. Alan Bard	5
Call for Nominations	20-21
Career Opportunities	27
Education	2, 17, 28
New York Meetings	7-14
Nichols Symposium	6
North Jersey Meetings	15-18
Others	21-23
Professional/Product Directory	24-26
Puzzle	19
Puzzle Solution	23

EDITORIAL DEADLINES

June	April 15
September	July 15
October	August 15
November	September 15
December	October 15
January 2005	November 14
February	December 13
March	January 14, 2005
April	February 13
May	March 15

MEETING ANNOUNCEMENTS

If your meeting is held before the 10th of the month, your announcement should appear in the previous month's issue of THE INDICATOR. See the deadlines above.

POSTMASTER: Send address changes to American Chemical Society, Department of Member and Subscriber Services, *THE INDICATOR*, P.O. Box 3337, Columbus, OH 43210, or e-mail: service@acs.org. Periodicals postage paid at Montville, NJ and additional mailing offices.

Published monthly except July and August. All views expressed are those of the editor and contributors and do not necessarily represent the official position of the New York and North Jersey Sections of the American Chemical Society unless so stated. Subscription price included in dues paid by New York and North Jersey Section members. **Subscription price to non-members of either Section \$20.00 per year.** To subscribe, make checks payable to The Indicator and mail to the Manager/Editor (see top of left column on this page).

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

April Calendar

NEW YORK SECTION

Thursday, April 1, 2004

Long Island Subsection
See page 7.

Thursday, April 8, 2004

Chemical Marketing & Economics Group
See page 8.

Friday, April 16, 2004

Nichols Symposium & Medal Award Banquet
See page 6.

Friday, April 23, 2004

High School Teachers Topical Group
See page 8.

Friday, April 23, 2004

Hudson-Bergen Chemical Society
See page 9.

Tuesday, April 27, 2004

Biochemical Topical Group
See page 10.

Thursday, April 29, 2004

Westchester Chemical Society
See page 11.

Saturday, May 1, 2004

52nd Undergraduate Research Symposium
See page 12.

NORTH JERSEY SECTION

Thursday, April 8, 2004

Careers in Transition
See page 15.

Thursday, April 8, 2004

Drug Metabolism Discussion Group
See page 16.

Monday, April 12, 2004

No. Jersey Teacher Affiliates
See page 16.

Tuesday, April 20, 2004

North Jersey Chromatography Group
See page 17.

Monday, April 26, 2004

No. Jersey Executive Committee
See page 15.

William H. Nichols
2004 Distinguished
Symposium & Medal Award
Banquet, April 16, 2004.

Deadline for items to be included in the June 2004 issue of
The Indicator is April 15, 2004.

BIOTECHNOLOGY

**PULVERIZING
& BLENDING**

**PRESSING &
PELLETIZING**

FUSION

**XRF
ACCESSORIES**

Make Your Sample Preparation Problems Disappear.

SPEX CertiPrep has provided spectroscopists with durable, reliable and economical sample preparation equipment for 50 years. Products available include: Grinders, Mills, Presses, Dies, XRF Accessories, Fusion/Flux Equipment and Cryogenic Grinders.

1-800-522-7739

203 Norcross Avenue, Metuchen, NJ, USA 08840

Phone 732-549-7144 • Fax 732-603-9647

<http://www.spexcsp.com>

sampleprep@spexcsp.com

**SPEX
CertiPrep** 

NICHOLS SYMPOSIUM — BIOGRAPHY OF ALLEN J. BARD, 2004 NICHOLS MEDALIST

The ACS New York Section congratulates and extends its best wishes to Professor Allen J. Bard who will receive the William H. Nichols Medal Award on Friday, April 16, 2004 in White Plains, NY. The Medal will be presented at an Award Dinner following the Nichols Distinguished Symposium. Professor Bard will be honored "For the Invention and Development of the Scanning Electrochemical Microscope (SECM) which has Allowed High Resolution Chemical Imaging of Surfaces and Reactions on the Nanometer Scale".

Professor Allen J. Bard was born in New York City and attended public schools there, including the Bronx High School of Science. He attended The City College of New York (B.S., 1955) and Harvard University (M.A. 1956, Ph.D. 1958), working with James J. Lingane. He joined the faculty at The University of Texas at Austin (UT) in 1958.

Essentially all of Dr. Bard's research has been carried out at UT-Austin, where he has held the Hackerman-Welch Regents Chair in Chemistry since 1985. The vast majority of his research has been done in collaboration with the numerous graduate students and postdoctoral associates that have worked in his laboratories during his 40 years at the University of Texas. At UT he has mentored and collaborated with 73 Ph.D. students, 16 M.S. students, over 130 postdoctoral associates, and numerous visiting scientists. He has always helped his junior colleagues to attain their maximum level of achievement both in his laboratories and afterwards, a large number of whom have gone on to develop independent research careers.

Known for the broad scope of his research, Professor Bard – who co-discovered the phenomenon of electrogenerated chemiluminescence (ECL) in the late sixties - developed ECL into a highly sensitive and selective technique for biological applications, such as immunoassay. This technology has been commercialized by IGEN and others, and is widely used in clinical laboratories. Additionally, while developing much of the theoretical understanding of the electrochemistry involved in photoelectrochemistry, he has demonstrated that the semiconductors need not be highly pure, single-crystal materials.

Professor Bard has collaborated often with faculty colleagues in the UT chemistry department and elsewhere. He spent a sabbatical in the CNRS lab of Jean-Michel Savéant in Paris in 1973, where he obtained a deeper understanding of the use of cyclic voltammetry for elucidating reaction mechanisms. It was in Paris that he started work on semiconductor photoelectrochemistry, a research area that his group has contributed to for the past 25 years. He also spent a semester in 1977 at the California Institute of Technology, where he was a Sherman Fairchild Scholar, working with Fred Anson on the electrochemistry of polymers.

Professor Bard has received numerous well-deserved honors and awards, including election to the National Academy of Sciences in 1982. A small sample of awards include the Carl Wagner Memorial Award (The Electrochemical Society), the Fisher Award in Analytical Chemistry (American Chemical Society), the Charles N. Reilley Award (Society of Electroanalytical Chemistry), Docteur Honoris Causa (Université de Paris-VII), the New York Academy of Sciences Award in Mathematics and Physical Sciences, the Willard Gibbs Award (American Chemical Society, Chicago Section), the EAS Award in Electrochemistry, the Olin-Palladium Medal (Electrochemical Society), the Analytical Chemistry Award in Electrochemistry (American Chemical Society), the Luigi Galvani Medal (Società Chimica Italiana), the Priestley Medal (American Chemical Society), the Pauling Award (American Chemical Society, Puget Sound and Portland Sections), the National Academy of Sciences Award in Chemical Sciences and the Pittsburgh Analytical Chemistry Award. He was named the Woodward Professorship at Harvard University and the Sherman Mills Fairchild Scholar at California Institute of Technology. He has given over seventy-five named lectureships at universities and colleges throughout the United States and overseas.

Dr. Bard has published over 700 peer-reviewed research papers and 75 book chapters and other publications, and has received over 23 patents. He has authored three books, *Chemical Equilibrium* (1966), *Electrochemical Methods—Fundamentals and Applications* (1980, 2nd Ed., 2001, with L. R. Faulkner), and *Integrated Chemical Systems: A Chemical Approach to Nanotechnology* (1994). He has edited the series, *Electroanalytical Chemistry*, founded in 1964 (22 volumes to date), the *Encyclopedia of the Electrochemistry of Elements* (Vols. I – XIII, 1973 – 89) and *Standard Reduction Potentials in Aqueous Solutions* (with Roger Parsons and Joseph Jordan) (1985). He recently co-edited, with Professor Martin Stratmann, the *Encyclopedia of Electrochemistry*. He also served for two decades as Editor-in-Chief of the prestigious *Journal of the American Chemical Society*.

Professor Allen Bard and his lovely wife, Frances, whom he married while in graduate school, have two grown children, Ed and Sara, and four grandchildren.



WILLIAM H. NICHOLS 2003 DISTINGUISHED SYMPOSIUM & MEDAL AWARD BANQUET



Symposium: So What's New in Electrochemistry (and Why Should We Care)?

Award Recipient: Professor Allen J. Bard
 Hackerman-Welch Regents Chair in Chemistry
 University of Texas, Austin, Texas

Date: Friday, April 16, 2004
Times: Registration 1:00 PM
 Symposium 1:30 PM – 5:30 PM
Place: Crowne Plaza Hotel
 White Plains, NY

PROGRAM

1:30 PM	Welcome	Professor Vijaya L. Korlipara 2004 Chair, ACS, New York Section St. John's University
1:35 PM	Opening of the Distinguished Symposium	Professor James W. Canary 2004 Chair-elect, ACS, New York Section New York University
1:45 PM	Fuel Cells: Why, When, and Where	Professor Paul A. Kohl Georgia Institute of Technology
2:30 PM	Electrochemical Detection and Photonic Reporting in Microfluidic Systems	Professor Richard M. Crooks Texas A&M University
3:15 PM	Coffee Break	
3:45 PM	Electrochemistry in Tight Spaces	Professor Henry S. White University of Utah
4:30 PM	High Resolution Electrochemistry with the Scanning Electrochemical Microscope	Professor Allen J. Bard NICHOLS MEDALIST University of Texas, Austin
6:00 PM	Social Hour	
7:00 PM	William H. Nichols Medal Award Banquet	

Tickets may be reserved using the following form:

RESERVATION FORM

2004 WILLIAM H. NICHOLS DISTINGUISHED SYMPOSIUM & MEDAL AWARD BANQUET in honor of Professor Allen J. Bard, University of Texas, Austin

Return to: ACS, New York Section, c/o Dr. Neil D. Jespersen, Department of Chemistry,
 St. John's University, 8000 Utopia Parkway, Jamaica, NY 11439 • (516) 883-7510

Please reserve _____ places for symposium & banquet at \$85/person ACS member
 _____ places for symposium & banquet at \$95/person Non-member
 _____ places for banquet at \$75/person
 _____ places for symposium at \$30/person, ACS member; \$40 non-member
 (Student or unemployed at \$10/person)

(For table reservations of 8 or more, use the ACS member \$85/person rate for combination tickets.)

Reserve a table in the name of _____

Names of guests are:

Indicate number in your group who choose:

Chicken _____
 Prime Rib _____
 Salmon _____

Mail Tickets to:

Name: _____
 Address: _____

RESERVATION DEADLINE — April 1, 2004

Please make checks payable to: **ACS, NEW YORK SECTION** Check for \$ _____ enclosed.

New York Meetings

www.newyorkacs.org



LONG ISLAND SUBSECTION

Synthesis and Characterization of New Categories of Ionic Liquids - LIPs and PILS

Speaker: Dr. Sharon I. Lall-Ramnarine
Queensborough Community
College, Chemistry Department
Bayside, NY

The field of ionic liquid research has generated much excitement and interest among sections of the scientific community in recent years. These intriguing new species promise significant applications in an extensive number of areas.

Applications include use as alternative reaction media, electrolytes in batteries and fuel

cells, in separations, in electrochemistry and for the clean up and storage of nuclear waste materials. However, much remains to be uncovered and understood about the physical and chemical properties of ionic liquids before these applications can be fully exploited.

The synthesis and characterization of liquid ionic phosphates (LIPs) and polyammonium ionic liquid sulfonamides (PILS) will be reported. LIPs are based polyammonium cations and the simple phosphate anion, while PILS are based on the same cations and the bis(trifluoromethylsulfonyl)imide anion. As a result LIPs are hydrophilic whereas PILS are hydrophobic.

Date: Thursday, April 1, 2004

Times: Coffee 5:30 PM

Dinner (optional) 6:00 PM

Place: Hofstra University
Chemistry Building
Lister Lecture Hall
Hempstead, NY

Cost: \$15 per person
\$20 wine included

SOLUTIONS

"When drug approval depends upon successful analytical development... WE GET IT DONE!"

**A N A L Y T I C A L
D E V E L O P M E N T
V A L I D A T I O N
S T A B I L I T Y**

Solutions for the New Millennium

QTI

**Phone: 908-534-4445
Fax: 908-534-1054
Web address: www.qtionline.com
E-mail: info@qtionline.com**

CHEMICAL MARKETING & ECONOMICS (CM&E) GROUP

The Dynamics of Doing Business in China

Speaker: Leonard S. Schwartz
Chairman, President & CEO
Aceto Corp., Lake Success, NY

Date: Thursday, April 8, 2004

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

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

Fees: \$35 discount price for Members who reserve by **Tuesday, April 6** (12 noon); \$50 for Guests and Members (at door without reservations)

Reserve: Please reserve early to be eligible for discount price. Call Probe Economics at (914) 923-4505, or via E-mail to: cmegroup@yahoo.com.

The mission of the Chemical Marketing & Economics (CM&E) Group is to inform members of economic and marketing issues of timely interest to the chemical and life science industries. To this end, the group has monthly meetings that take place September through June on the second Thursday of the month, at the Chemists' Club, 40 West 45th Street, New York City, where an invited speaker presents a talk. The meetings allow an opportunity to make contacts and exchange ideas with our peers in an informal atmosphere.

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 23, 2004

Times: Social and Dinner 5:45 PM
Place: Caffe Pane e Cioccolato

10 Waverly Place at Mercer Street
(southwest corner)
New York, NY

Cost: You eat, you pay — cash only, no credit cards.

Times: Meeting 7:15 PM

Place: New York University
Main Building Room 207
32 Waverly Place (southeast corner Washington Square East)
New York, NY

Security at NYU may require 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. For other info: (914) 961-8882.

Note: 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.



IMPACT ANALYTICAL:

MORE THAN A TESTING LAB - YOUR RESEARCH PARTNER

Our specialty: Using the best instruments and our collective years of staff experience to solve real-life, production-halting, career-threatening, boss-panicking problems. Quickly. Affordably. Authoritatively.

BRING ON THE TOUGH PROBLEMS.

1910 W. St. Andrews Rd., Midland, MI 48640

Phone: 989-832-5555 Fax: 989-832-5560

info@impactanalytical.com www.impactanalytical.com



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

**The 6th Annual Undergraduate
Research Symposium: "Nanoscale
processes in solar energy conversion,
design of new model chromophores"**

Speaker: Dr. Elena Galoppini
Rutgers University

In order to study electron transfer processes at chromophore-nanoparticle interfaces, including charge injection, charge recombination and distance dependence, we have prepared a series of rigid chromophores made of tripodal and rigid-rod linkers substituted with Ru(II)-polypyridyl complexes and other sensitizer groups. These molecules bind covalently to TiO₂ nanoparticle thin films through COOR groups and, since are rigid, provide a high degree of control over the position of the chromophoric groups on the nanoparticle surfaces. The synthesis and photophysical studies of the "tripods" and "rods" will be discussed. More recent work aiming at studying the effect of the bridges structure (conjugated Vs. non-conjugated) and of the footprint size will be presented.

Elena Galoppini obtained her MS (Laurea in Chimica) degree from Università degli Studi di Pisa, Italy in 1989 and her Ph.D. at the University of Chicago in 1994 working on ethynylcubanes in the group of Phil Eaton. After spending 2 years as a postdoctoral fellow at the University of Texas at Austin in the group of Marye Anne Fox studying helix dipole effects on electron transfer rates in oligopeptides, she joined Rutgers University-Newark in 1996, where she is now Associate Professor of Chemistry.

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). This year high school students from our area are invited for the symposium as well. They are going to present results obtained in research programs designed for secondary school students. All the presenters will receive certificates.

Students who wish to present posters must send an abstract via e-mail to mleonida@fdu.edu by **April 12, 2003**. 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.

Date: Friday, April 23, 2004

Times: Social/Poster Session 5:00 PM
Dinner 6:00 PM

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 **April 19, 2004**.



DuPont Analytical Solutions

From rapid, routine testing to complex problem-solving. One of the world's largest, and most diverse analytical laboratories, with the experience to solve your analytical challenges in :

Electronic Materials • Personal Care • Catalysis • Coatings, Pigments, and Adhesives
Specialty Chemicals • Films and Packaging • Pharmaceuticals • Plastics • Fibers • Textiles

DuPont Analytical Solutions
P.O. Box 80302
Wilmington, DE 19880-0302
Phone: (302) 695-1018

e-mail: DASolutions@usa.dupont.com
web: <http://analyticalsolutions.dupont.com>
FAX: (302) 695-1717

Contact us for all your analytical needs.



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

Targeting Protein Phosphatases for Drug Discovery

Organizers: Robert S. Garofalo
Pfizer Global Research and Development
Bin-Bing Zhou
Incyte Corporation

Many cellular signaling pathways are regulated by phosphorylation through the actions of kinases and phosphatases. With the recent advancement of kinase inhibitors into the clinic, increased drug discovery efforts are being focused on phosphatase inhibition as a therapeutic approach. The purpose of this meeting is to review the current thinking on phosphatases as drug targets and discuss the potential for this area.

“The protein tyrosine phosphatases as a platform for development of novel therapeutics”

Nicholas K. Tonks
Cold Spring Harbor Laboratory

“Tyrosine phosphatase inhibitors and their use as potential anti-diabetic agents”

Andree R. Olivier
Hoffman La-Roche, Inc.

“Cell-based assays for identifying inhibitors of dual-specificity

phosphatases”

John S. Lazo
University of Pittsburgh

“Chemical genetic and proteomic studies of protein tyrosine phosphatases”

Zhong-Yin Zhang
Albert Einstein College of Medicine

“PTP1B inhibitors: Progress and pitfalls”

Scott Taylor
University of Waterloo

Date: Tuesday, April 27, 2004

Time: 1:00 – 5:00 PM

Place: Goldwurm Auditorium
East Building
Mount Sinai School of Medicine
1425 Madison Avenue
(between 98th & 99th Street)
New York, NY

Directions to MSSM Campus: <http://www.mssm.edu/theschool/directions.shtml>

Contact Information: New York Academy of Sciences, Tel.: 212.838.0230, x324, Fax: 212.838.5640, Email: conference@nyas.org, Website: www.nyas.org

Reserve your seat today by completing the NYAS online reservation form at: http://www.nyas.org/calendar/cal_details.cfm?itemID=789

NYAS Members, BPDG Affiliates, and Students may attend BPDG meetings free of charge. Non-members may attend for a fee of \$20 per event. To become a Member of the Academy, visit https://www.nyas.org/orders/mem_new.cfm.

chemodynamics

- Custom Synthesis
- Combinatorial Building Blocks
- cGMP Synthesis
- Small Lots Manufacturing

CONTACT
John Arnett PhD, Dir. of Operations
732-721-4700

Chemo Dynamics, LP
3 Crossman Road South, Sayreville, NJ 08872
732-721-4700 (Fax) 732-721-6835
www.chemodynamics.com

WESTCHESTER CHEMICAL SOCIETY

Distinguished Scientist of Westchester Award Lecture on " Our Chemical Heritage: Its Impact On Our Daily Lives: The History of Cancer Chemotherapy" and College Chemistry Students Awards

Speaker: Sr. Mary Virginia Orna, OSU
Department of Chemistry
College of New Rochelle

Cancer chemotherapy is one of the most common and well-known weapons in the arsenal of modern medicine, but not many people realize that it has its roots far in the past. Dioscorides and Galen early recognized the occurrence of malignant tumors, and they list many topical and internal medications, extracted from plant sources, that they recommended to their patients. Modern medicine has drawn upon some of the discoveries from ancient and medieval medicine and building upon naturally occurring molecules, has developed semi-syn-

thetic methods that improve upon what nature has given us. The presentation will outline these developments and cite some important modern examples.

Date: Thursday, April 29, 2004

Times: Social 5:00 PM
Lecture and Awards 6:00 PM
Dinner 7:00 PM

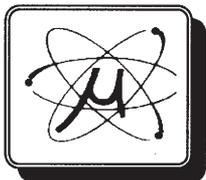
Place: Butcher Suite
The Campus Center
Pace University
Bedford Road (Entrance #3)
Pleasantville, NY

The Campus is opposite north-bound Taconic Parkway - exit Bedford Road - NY 117

Cost: \$15.00 ACS members
\$20.00 non-members

For information and reservations, please call Joan Laredo-Liddell at (914) 476-6860

Check the New York Section Website for any change.



micron inc.
ANALYTICAL SERVICES

MATERIALS CHARACTERIZATION

MORPHOLOGY CHEMISTRY STRUCTURE

**SEM/EDXA, TEM/SAED, EPA/WDXA
XRD, XRF, ESCA, AUGER, FTIR
DSC/TGA**

**3815 LANCASTER PIKE WILMINGTON DE. 19805
Voice 302-998-1184, Fax 302-998-1836**

E-Mail micronanalytical@compuserve.com

WEB PAGE : www.micronanalytical.com

NEW YORK CHEMISTRY STUDENTS' ASSOCIATION

52nd Annual Undergraduate Research Symposium

The New York Chemistry Students' Association of the ACS, NY-Section will hold its 52nd Annual Undergraduate Research Symposium at Queensborough Community College, Bayside, NY, on **Saturday May 1, 2004**. Information regarding the symposium including electronic abstract submissions will be available on the following website:

http://www.newyorkacs.org/grp_students.html.

Deadline for submission is April 1, 2004

The highlight of this year's symposium is the keynote address "Electrospray Wings for Molecular Elephants" to be delivered by Nobel Laureate Dr. John B. Fenn, who developed the electrospray ionization (ESI) method and revolutionized the field of mass spectrometry. Faculty who are directing the research efforts of undergraduate chemistry students are asked to encourage their students to participate in this worthwhile event.

Guests are welcome to attend this event and should register at the above website. For further information contact: **rkabbani@pace.edu** or **jrehmann@sjcnj.edu**.



DAKIN MEMORIAL LECTURE IN BIOCHEMISTRY

Powering the Planet: Fuel from Sunlight and Water

Speaker: Professor Harry B. Gray
Arnold O. Beckman Professor
of Chemistry
California Institute of Technology

Date: Wednesday, April 28, 2004

Time: 700 PM

Place: University Center Ballroom, 203
Adelphia University
Garden City, NY

Open to the public. For information, contact Professor Joseph Landesberg (516) 877-4148 or Mrs. Blanche Crawford (516) 877-4130 or landesbj@adelphja.edu.

Posi-Trap™ Positive Flow Vacuum Inlet Traps



- Positive Flow**
- No "Blow-By"**
- Variety of Elements**
- Positive Trapping**
- Easy Changing**
- Easy Cleaning**

It's bye-bye to "blow-by" with Posi-Trap™. Unlike others, our filter is sealed at both the inlet and the exhaust so that all the particles must flow through the element. We've got the perfect trap for your system, and should your application change, simply choose from our wide variety of filter elements and you're back on-line! Protect your vacuum pump and system with Posi-Trap™ from MV Products.

We've got the perfect trap for your system!



PRODUCTS

A Division of Mass-Vac, Inc.

247 Rangeway Road • PO Box 359 • North Billerica, MA 01862

978-667-2393

FAX 978-671-0014

E-MAIL sales@massvac.com

WEB www.massvac.com

NICHOLS FOUNDATION HIGH SCHOOL CHEMISTRY TEACHER AWARD — 2003

Josephine N. Parlagraeco

Josephine Parlagraeco of Wellington C. Mephram High School in Bellmore, NY, is the recipient of the 2003 Nichols Foundation High School Chemistry Teacher Award. The award is presented annually by the ACS New York Section to recognize an outstanding high school chemistry teacher residing or teaching within the New York Section. It was presented at the Section-wide Conference held on January 24, 2004 at St. John's University.

After receiving her B.S. degree as a chemistry major, education minor from William Smith College and a Masters of Science degree in education from SUNY-Stony Brook, Josephine has been a science teacher for 20 years. Her teaching programs included: Regents Chemistry, Honors Chemistry, Non-regents Chemistry, Accelerated Chemistry, Applied Chemistry, AP Chemistry, Forensic Science, Ecology and Science Research Mentoring.

Josephine is a vital force in the Chem-Union monthly meetings (Long Island Chemistry Teachers Association); New York State Chemistry Mentor Network; chair of the Nassau Section of STANYS (Science Teachers Association of New York State); and the Long Island Science Education Leadership Association. Her innovative curriculum materials are currently ground work for the new chemistry-based Forensic Science Course introduced in 3 Bellmore-Merrick High Schools. She was a co-coordinator and edited the Nassau County BOCES Chemistry Core Resource Guide

for 2000-2001 and gave several workshops to prepare local teachers for the new Physical Setting - Chemistry Curriculum for 2001-2002. Josephine has given presentations for elementary school children in North Bellmore and is involved in the Girl Scout Chemistry Day at SUNY-Old Westbury.

Josephine's fellow educators write: "Her innovativeness and creativity within the classroom have been an inspiration for me — the effective teaching strategies such as cooperative learning, lab demonstrations, group work and hands-on activities. She showed me that any student could become enthusiastic about learning if the material is presented in a way which taps into the student's curious nature."

"Like Superman, Ms. Parlagraeco has a positive effect on the lives of her students, but unlike Superman, 'Superteacher' Josephine Parlagraeco is one of our unsung heroes."

"She always acts ethically and encourages young people to move from tolerance of others who are different to acceptance."

In June 2003, Josephine received the Mephram High School "Herman A. Tennant Citation for Great Teachers." This award is given annually by a committee composed of her fellow teachers. It states: "In recognition of notable accomplishments in leading students of Mephram High School to knowledge and understanding and of dedication to the highest ideals of the teaching profession."

The ACS New York Section congratulates Josephine Parlagraeco and wishes her all the very best.

Prepared by Joan Laredo-Liddell
Co-chair of this Nichols HS Chemistry Teacher Jury



**Joan Laredo-Liddell,
Josephine Parlagraeco,
Recipient of the Nichols Foundation Chemistry Teacher Award,
Jean Delfiner,
and Vijaya Korlipara, 2004 Chair of the NY Section.**

NOMINATIONS — NEW YORK SECTION, 2005

At the January 24th General Meeting and Section-wide Conference, the Nominating Committee presented the following candidates for the New York Section 2004 elections. ACS, New York Section members will receive a ballot in April. The ballot must be returned **by May 31, 2004**. If a ballot is not received by May 12th, please contact the New York Section Office at 516-883-7510 or **njesper1@optonline.net**. The New York Section extends a sincere thank you to the following candidates.

Chair-Elect for 2005

Stephen Z. Goldberg
Jill K. Rehmann

Secretary for 2005 - 2006

Christian M. Rojas

Councilors for 2005 - 2007

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

Director-at-Large for 2005

Steven M. Graham
Joan A. Laredo-Liddell
Margaret Mandzuik
Maria Mavroudi
Marc A. Walters



2003 U.S. NATIONAL OLYMPIAD STUDY CAMP

Jessica W. Dobbins, a student at the Ardsley USFD High School in Ardsley, New York, was one of 20 students invited to participate in the 2003 U.S. National Olympiad Study Camp held June 1-15 at the U.S. Air Force Academy in Colorado Springs. Jessica earned this honor by competing in the local competition sponsored by the New York Section of the American Chemical Society. Based on her outstanding performance she was chosen as one of 19 students from the New York Section who qualified to take the National Chemistry Olympiad Exam, an all day exam which includes multiple choice questions, problem type questions, and two laboratory exercises. Jessica, who was a junior in 2002-2003

is continuing her studies in chemistry this year and plans to compete in the Olympiad again this year. At the New York Section's Section-wide Conference in January, Dr. Stephen Z. Goldberg presented Jessica with an engraved ACS plaque recognizing her achievements in the Olympiad Program. We congratulate both Jessica and her chemistry teacher, Ms. Anna L. Buonanno.



Jessica W. Dobbins



LONG ISLAND SUBSECTION

Eighth Annual Frances S. Sterrett Environmental Chemistry Symposium: "Alternative Energies - The Answer to Long Island's Insatiable Demand?"

Speakers will include:

Richard M. Kessel, Chairman
Long Island Power Authority

Stephen L. Hester, Vice President
Technology Transition Corporation

Plan now to attend. Watch for further information and online registration at our website. Go to **<http://newyorkacs.org>** and click on Meeting Calendar.

Date: Thursday, May 20, 2004

Time: 8:30 AM to 2:00 PM

Place: Hofstra University
Business Development Center
Room 246
Hempstead, NY

For further questions, contact Dr. Barbara Hillery at **hilleryb@oldwestbury.edu** or (516) 876-2738.

North Jersey Meetings

<http://www.njacs.org>

EXECUTIVE COMMITTEE AND SECTION MEETING

Invitation to All ACS Members

The North Jersey Section's Executive Committee meets at 5:00 PM. All ACS members are welcome to attend.

Date: Monday, April 26, 2004

Times: Dinner 5:00 PM

Meeting 6:00 PM

Place: College of St. Elizabeth

Convent Station, NJ

Cost: \$20.00 for Dinner

Reservations: for dinner call (908) 522-1122 or e-mail billssuits@earthlink.net and state your wish to make reservations for the ACS dinner before **Thursday, April 21, 2004**.

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

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 8, 2004**, 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.

CHEMGLASS Can Satisfy Any of Your Small Scale Process Reactor Needs From 100mL to 5L

Benchtop Reactor Stand Converts From Single to Double

- Support Stand - made of stainless steel pipe and Teflon coated aluminum for maximum strength and chemical durability
- Digital overhead stirrer with separate controller; digital temperature monitor
- Angled front port for powder additions
- Graduated outer jacket provides a quick reference for approximate volume
- Agitators - large selection with various sizes, styles, and configurations
- Leveling feet are adjustable up to 4"



CHEMGLASS

3861 N. Mill Rd.
Vineland, NJ 08360
Phone: 1-800-843-1794
Fax: 1-800-922-4361

www.chemglass.com

customer-service@chemglass.com

DRUG METABOLISM DISCUSSION GROUP

2004 Spring Symposium and Vendor
Exhibition

"Reactive Metabolites and Drug
Toxicity: Challenges for Drug
Development"

PROGRAM

8:00 AM

Registration/Continental Breakfast

9:00 AM

Introductory Remarks

Dr. Swapan Chowdhury

Schering-Plough Research Institute

Kenilworth, NJ

9:10 AM

Reactive Metabolites in Drug Discovery
and Development: Should We Care?

Dr. Thomas Baillie

Merck Research Laboratories

West Point, PA

10:00 AM

Coffee Break and Vendor Exhibit

11:00 AM

The Use of Animal Models to Study the
Role of Reactive Metabolites in

Idiosyncratic Drug Reactions

Dr. Jack Uetrecht

University of Toronto

Toronto, Canada

11:50 AM

Lunch

1:00 PM

Role of Metabolism in Cutaneous Drug
Reactions: Sulfonamide-Induced
Delayed-type Hypersensitivity Reactions

Dr. Craig Svensson

University of Iowa

Iowa City, IA

1:50 PM

Possible Role of Free Radical
Metabolites in Drug Toxicity

Dr. Volker Fischer

Novartis Pharmaceuticals

Hanover, NJ

2:40 PM

Vendor Exhibit

3:20 PM

Protective Role of Hepatic Kupffer Cells
in Adverse Reactions Against Drug-
Protein Adducts

Dr. Cynthia Ju

University of Colorado Health Science

Center

Denver, CO

4:10 PM

Covalent Binding of Drugs and
Metabolites: What Does It Mean? Have
We Made Progress?

Dr. M.W. Anders

University of Rochester

Rochester, NY

5:00 PM

Close

Date: Thursday, April 8, 2004

Place: Somerset Marriott Hotel
100 Davidson Avenue
Somerset, NJ



TEACHER AFFILIATES EXECUTIVE BOARD MEETING

Date: Monday, April 12, 2004

Time: 4:30 PM

Place: Chatham High School
255 Lafayette Avenue
Chatham, NJ

Contact: Diane Krone at kroned@alumni.stevens-tech.edu or (201) 385-4810.



DESERT ANALYTICS

LABORATORY

- CHNOSP Halogens
- Metals by AA / ICP
- Ion Chromatography
- Trace Analysis
- Coal/Petroleum

≡ Fast, Reliable Service ≡

No Charge for Phone/Fax Results

P.O. Box 41838 245 S. Plumer, #24
Tucson, AZ 85717 Tucson, AZ 85719
Fax 520-623-9218 Phone 520-623-3381

Web: desertanalytics.com
E-mail: thelab@desertanalytics.com

We Accept:   

ANALYSIS FOR THE CHEMICAL ELEMENTS



NORTH JERSEY CHROMATOGRAPHY GROUP

Bioanalytical LC-MS/MS Methods Using Silica Columns and Aqueous-Organic Mobile Phases

Speaker: Naidong Weng
Covance Laboratories, Inc.

Part 1 of this presentation summarizes the recent progress on bioanalytical LC-MS/MS methods using underivitized silica columns and aqueous/organic mobile phases. The advantages of using a bare silica column are discussed, including sensitivity, low backpressure, speed, and column stability.

Part 2 presents method development and validation strategies for the rapid analysis of extremely polar endogenous analytes such as nicotinic acid and its metabolites. A very fast, baseline separation of NA and its 6 metabolites was achieved and applied to human plasma and urine samples. The advantages in method speed and ruggedness to metabolism studies is highlighted.

Dr. Weng has been the Associate Director of the Bioanalytical Department at Covance Laboratories, Inc. for the last 4 years. Before Covance he was at American Home Products and MDS Harris. His research interests are LC-MS/MS method development, automation, and method/technology transfer. He has over 50 journal publications and 70 conference presentations to his credit. He has also reviewed journal manuscripts for Analytical Chemistry, The Journal of Chromatography, Biomedical Chromatography, and The Journal of Pharmaceutical and Biomedical Analysis. He holds a B.Sc. in Pharmacy (1984) and a Ph.D. (1991) from the Katholieke Universiteit Leuven (Belgium).

Date: Tuesday, April 20, 2004
Times: Social and registration 5:30 PM
Dinner 6:30 PM
Seminar 7:30 PM
Place: Somerset Marriott
100 Davidson Avenue
Somerset, NJ
Cost: \$30.00 for Dinner

(\$15.00 for Students)
Open seating for those not
attending the dinner.

Reservations: Please reserve **by Friday, April 16**. Registration is required. To register online, go to www.njacs.org, click on chromatography. Or phone: David Kohler, ES Industries, 856-753-8400. If you cannot attend, please be responsible and cancel your registration.

Thanks to our sponsors: Agilent, Analytical Sales, VWR, Applied Biosystems, Phenomenex, Perkin Elmer, Novatia, Restek, Waters, SGE, Dionex, and Thermo Electron. We would also like to thank Supelco for assistance with our mailings this year.



Education

Summer Intensive Course

in Westchester

Liquid Chromatography

**From plate theory and partitioning
to method development**

June 2 – July 14
Mon & Wed excl. 7/5
6–8 PM

For course syllabus, send an e-mail to teraoka@poly.edu.

For registration information, call
LaVerne Clark at 914-323-2000.

For travel directions, visit
<http://www.poly.edu/west/info/dir.cfm>.

We offer a comprehensive MS chemistry course.

Polytechnic
UNIVERSITY

TEACHER AFFILIATES

Attention AP Chemistry Teachers and Supervisors...

The Teacher Affiliates of the North Jersey Section, Inc. of the American Chemical Society will be presenting a full day workshop specifically geared to give teachers the tools they need to teach AP Chemistry.

The workshop will focus upon the following aspects of teaching AP Chemistry:

- + AP Textbooks, resources and websites for teaching AP Chemistry (presenter: Patricia Duncan – High Point Regional HS)
- + Scheduling of Content (presenter: John Penna – Retired Teacher)
- + Chemical Reactions (presenter: Dave Lee – Retired Teacher)
- + Equilibrium Problems and Hands-on Equilibrium Activities* (presenter: Diane Krone, Northern Highlands Regional HS)
- + Hands-on Lab Experiments and the Required Lab Exam Question* (presenter: Brenda Rosenau – Somerville HS)

Participants will earn 5 hours of NJ Professional Development hours for successfully completing the workshop.

Included in the cost of the workshop is a continental breakfast (from 8:00 - 8:30 AM) and a lunch, served at noon.

*Additional materials, lab kits, etc. will be available in the Equilibrium and Lab sessions for a nominal fee.

Date: Saturday, May 22, 2004

Times: Continental breakfast 8:00 AM
Workshop 8:30 AM – 2:30 PM
Lunch - Noon

Place: Chatham High School
255 Lafayette Avenue
Chatham, New Jersey

Cost: \$30 for members of ACS-TA
\$45 for non-members
(which includes the annual membership fee)

Registration is limited to the first 24 individuals, so apply now.

To register for this event or for more information, contact:

Brenda Rosenau
Somerville High School
222 Davenport Street

Somerville, NJ 08876
(908) 218-4108
email: bkrosenau@aol.com



ORGANIC CHEMISTRY TOPICAL GROUP

Spring Symposium: "New Directions in Asymmetric Synthesis"

"New Methods for the Synthesis of Chiral Amines"

Prof. André Charette
University of Montreal

"Catalytic Asymmetric C-H Activation: A New Strategy for Organic Synthesis"

Prof. Huw Davies
SUNY at Buffalo

"New Metal-Catalyzed Carbocyclization Reactions for the Synthesis of Complex Terpene Natural Products"

Prof. P. Andrew Evans
Indiana University, Bloomington

"Complex Natural Products as a Driving Force for Discovery in Organic Chemistry"

Prof. Brian Stoltz
California Institute of Technology

Date: Thursday, May 27, 2004

Times: Registration 12:00 PM
Symposium 1:00 PM
Reception 5:15 PM

Place: Fiber Optics Auditorium
Rutgers University, Busch Campus
New Brunswick, NJ

Cost: Registration fee \$50.00.
Students or Post-docs \$20.00

For directions/information please see our website: www.njacs.org/organic.html

Due to limited seating, registration and payment are required **by May 13, 2004**.

Check if you are a student or post-doc.

Name _____

Affiliation _____

Address _____

E-mail _____

To register, send above registration information with a check made payable to "North Jersey Section ACS" to: Dr. Jake Song, Merck and Co., P.O. Box 2000; RY 800-C364, Rahway, NJ 07065

PUZZLE — CARBOHYDRATES

1	2	3	4		5	6	7	8		9	10	11	12	13
14					15					16				
17					18					19				
20				21						22				
				23				24						
25	26	27	28					29				30	31	32
33					34	35	36			37				
38					39					40				
41					42					43				
44				45				46	47					
			48				49	50						
51	52	53				54					55	56	57	58
59						60					61			
62						63					64			
65						66					67			

ACROSS

1. Staircase feature
5. Alphabetic beginning
9. It may come with mirrors
14. Substituent position
15. Only
16. DNA structure
17. Algerian seaport
18. Designer Saint Laurent
19. Martini condiment
20. Like most polysaccharides and many bad jokes
22. ___ fly trap
23. Crawl out of your skin
24. ___ Perce: Idaho native
25. Dent
29. Test to detect carbohydrates
33. Spry: Spanish
34. Sup at home
37. Weight unit of India
38. Like a fancy wedding gown
39. Transparent
40. *The Wizard* ___
41. Height or width, for example
42. Torment
43. In one's "right" mind
44. Descriptive of respiratory dissimulation of carbohydrates
46. Truck fuel

48. Transgression
49. In ___ (bored)
51. Shepherd
54. Sweet tetrasaccharide found in Chinese tubers
59. Teddy bear
60. South American monkey
61. Literary Ireland
62. Out of bed
63. Dictator Idi
64. Plane or space lead-in
65. Like Cajun food
66. School subj.
67. Flag maker Betsy

DOWN

1. Mar
2. *Gone With the Wind* plantation
3. Jurassic and Mesozoic
4. Breathe like a dog
5. Major component of cornstarch
6. Use a miter
7. Summit
8. Pile in layers
9. Word with snow or steam
10. Trisaccharide obtained from Douglas fir trees
11. Ken or Lena
12. Lake in Central Africa

13. Former spouses
21. Flightless bird
24. Sugars that do not react with Fehling's solution
25. Hobby wood
26. Wide open
27. More pleasant
28. Bonds that join monosaccharide units
29. Farrow and Hamm
30. Couches
31. Identical twin
32. Eye color
35. Fish relish
36. ___ for two
45. Base two
47. Legendary Celt
49. One at ___! (wait your turn)
50. Proportional relation
51. Health resorts
52. Stinging insect
53. Against
54. Male deer
55. Decade division
56. Cookie jar staple
57. Lancelot and Galahad
58. Son of Seth

Solution on page 23.

Call For Nominations

THE WILLIAM H. NICHOLS MEDAL AWARD FOR 2005

The New York Section is accepting nominations for the William H. Nichols Medal Award for the year 2005. 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 metallist'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.

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, NY11439. The request may be faxed to (516) 883-4003 or e-mailed to njesper1@optonline.net (The New York Section Office). 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, 2004.** The Nichols Medal Award Jury will meet in June to select the Nichols Medalist for 2005

For more information about the William H. Nichols Medal and a list of past recipients please visit the New York Section website at www.NewYorkACS.org.



ACS NEW YORK SECTION'S OUTSTANDING SERVICE AWARD FOR 2004

Each year the New York Section presents an Outstanding Service Award to a very

deserving member. Many members of the New York Section provide their time, leadership talent, educational skills and other valuable assets 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. The award will be presented at the New York Section's General Meeting and Section-wide Conference in January 2005.

Nominations with supporting data should be mailed to Professor Yorke E. Rhodes, 1629 Glenwood Road, Route 565, Sussex, NJ 07461 or e-mailed to yr2@nyu.edu

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.

Nominations should be forwarded to Professor Rhodes **by June 30, 2004.**



GATEWAY CHEMICAL TECHNOLOGY

chemistry to meet your needs

CUSTOM SYNTHESIS

- ¥ Pharmaceuticals
- ¥ Agrichemicals
- ¥ Combinatorial Platforms
- ¥ Competitor's Products
- ¥ Intermediates
- ¥ Analytical Standards
- ¥ Metabolites

PROCESS DEVELOPMENT

- ¥ Process Evaluation
- ¥ New Route Development

SPECTROSCOPIC SERVICES

- ¥ LCMS (APCI and API-ES)
- ¥ NMR (300 MHz)
- ¥ GCMS (EI)

11810 Borman Dr ¥ Saint Louis, Missouri 63146
314.220.2691 (office) ¥ 314.991.2834 (fax)
www.gatewaychemical.com ¥ rjkaufman@aol.com



WESTCHESTER CHEMICAL SOCIETY DISTINGUISHED SCIENTIST AWARD 2004

The Westchester Chemical Society is seeking nominations for its Distinguished Scientist Award 2004. Applicants must live or work in Westchester. Applications are due **by April 1, 2004**. Send application to: Joan Laredo-Liddell, 391 Palmer Road, Yonkers, NY 10701-5239.

Others

NEW JERSEY INSTITUTE OF TECHNOLOGY — DEPARTMENT OF CHEMISTRY & ENVIRONMENTAL SCIENCE

Seminar Series — Spring 2004

Place: Tiernan Hall, Room 373
NJIT, Newark, NJ

Sponsored by: Purdue Pharma L.P.
Bristol-Myers Squibb Co.

Tues., Apr. 13, 2004 — 11:30 AM

Topic TBA

Terry Stouch

Bristol-Myers Squibb
Princeton, NJ

Weds., Apr. 21, 2004 — 11:30 AM

Unravelling Protein-DNA Recognition Mechanisms: A Combined Structural, Dynamic, Protein Engineering & Thermodynamic Approach

Dr. Babis Kalodimos

Chemistry Dept.

Rutgers University, Newark, NJ

Tues., Apr. 27, 2004 — 11:30 AM

Trials and Tribulations of Implementing an Environmental Management System to Meet Company Environmental Policy and Compliance as Well as Achieve Objectives

Dr. Sunil Hangal

RTP Environmental Associates

Greenbrook, NJ

Seminar Series Coordinators:

Dr. Carol Venanzi
venanzi@njit.edu
973-596-3596

Dr. Sanjay Malhotra
malhotra@njit.edu
973-596-5583

ASSOCIATION OF CONSULTING CHEMISTS & CHEMICAL ENGINEERS, INC.

Looking OUT for You®...A new system to detect asteroids, meteors and comets nearing earth (NEO's)

Speaker: William A. Hoffman

Robill Products

The world continues to be struck by falling rocks from space, as it has for its 4 billion year history. The vast majority of these objects are not even seen and do no damage, but large objects in near earth orbit (NEOs) remind us that there have been some events that did enormous damage...even to the extent of destroying much of life on earth. There have been intermediate scale events that occurred within recent history and even recent memory. Whatever there is to do about the potential, it begins with knowing whether it exists.

The presentation will review the history and scale of impacts from early earth to recent times, describe current efforts to keep track of NEOs that have the potential to strike earth, and give an overview of the new system described in US 6,452,538, as well as discussing one of the material science inventions needed (and being worked on) to make further capability available.

William Hoffman received his Ph.D. from Stevens Institute of Technology, and has worked in the chemicals and plastics industry in various capacities emphasizing technology and technology crossover from other areas of interest. His current activities as consultant and inventor arise from continued interest in new technologies and their patentable developments. Inventions include a liquid crystal display device, UV-curable reactive diluents, a high performance HDPE, a microwave heatable liquid crystal polyester composition and a satellite system for monitoring space.

Date: Tuesday, April 27, 2004.

Time: Networking 6:00 PM

Dinner 6:30 PM

Presentation 7:30 PM

Place: Sheffield's Catering House

1050 Route 22 West

Mountainside, NJ

(continued on page 22)

ACC&CE, INC.

(continued from page 21)

Registration: \$40 ACC&CE Members
\$50 Non-members

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

Advanced registration is required.

Cancellations must be made 48 hrs in advance.

Please visit our web site for more details:
www.chemconsult.org.



BROOKLYN COLLEGE OF THE CITY UNIVERSITY OF NEW YORK

Chemistry Department Colloquium —
Spring 2004

April 16

“Properties, Solvation Dynamics and
Electron Reactivity”

Dr. James Wishart

Department of Chemistry
Brookhaven National Laboratory

April 23

“Rational Design of Novel Precursors to
Nitric Oxide and Nitroxy!”

Prof. John P. Toscano

Department of Chemistry
Johns Hopkins University

April 30

“Toward Single-Molecule Electronic
Devices”

Prof. Nikita Matsunaga

Department of Chemistry and Biochemistry
Long Island University
Brooklyn, NY

May 7

Topic to be announced

Prof. Ed Castner

Department of Chemistry and Chemical
Biology
Rutgers University

Times: Colloquium 2:30 PM
Social Hour 3:30 PM

Place: Brooklyn College
Room 432 Ingersoll Extension
2900 Bedford Avenue
Brooklyn, NY

THIS MONTH IN CHEMICAL HISTORY

By Harold Goldwhite

California State University, Los Angeles

(Prepared for SCALACS, the Journal of the
Southern California, Orange County, and
San Gorgonio Sections of the American
Chemical Society)

In my last column I mentioned the importance that historians of chemistry accord textbooks of chemistry as embodying the accepted views, the paradigms, of the science of their eras. I focused some attention on a text published by Macmillan in New York in 1905, “Outlines of Inorganic Chemistry” authored by Frank Austin Gooch, Professor of Chemistry in Yale University, and Claude Frederick Walker, teacher of chemistry in the High School of Commerce of New York City. The discussion of the atom in that century-old textbook illustrated both recent discoveries, like that of the electron by J. Thomson, and a suspicion of the actual physical reality of atoms. In this month’s column I will conclude my examination of this interesting textbook, which reveals clearly the state of chemical knowledge expected of students of 1905.

The mole concept is still well in the future for these students. The discussion of stoichiometry is couched instead in terms of equivalent weights or chemical equivalents as the text names the concept. Some of my readers may not familiarly at this. In my high school days, that’s how I learned to explore stoichiometry. I presume that my textbooks were a little out of date! heat energy changes are expressed in calories and the rule of Dulong and Petit is given in terms of a constant of 6 as the product of the equivalent weight of an element, a small integr or fraction, and the specific heat. Note the omission of the atomic mass in this equation.

The chapter on molecules reflects the ambiguities of the discussion of atoms that I described in my previous column. The authors tiptoe around the question of whether molecules have a real physical existence. They stress that the molecular symbols of compounds, which we would call their molecular formulas, indicate the composition of a molecule of the compound. But while molecular symbols can generally be derived for gaseous compounds, in general no such conclusions can be drawn for pure solids or pure liquids. This leads to a discussion of valence and the introduction of

graphic molecular symbols — graphic molecular formulas we would say. Here, too, the authors adopt a non-committal tone. “The symbol H-O-H is a molecular symbol representing the constitution and molecular weight of water in the gaseous condition. We have no right to assume that the molecule of water in the liquid condition or in the solid condition is represented by the symbol H₂O. On the contrary we have evidence in certain physical relations which goes to show that the molecule weight of liquid water at 0°C may correspond to the symbol (H₂O)₄.”

Recalling that this text was written before Werner enunciated his coordination theory, it is not surprising that the discussion of coordination compounds is in terms of Jorgensen’s chain theory. For example the “double” fluoride of aluminium (yes, the European spelling is preferred in 1905) and sodium, 3NaF·AlF₃ is written as (NaF=F-)3Al and the hydrate of aluminium chloride, AlCl₃·6 H₂O, “from which no water

may be expelled without hydrolytic decomposition of the salt” is shown as Al(OH₂OH₂Cl)₃ in which the Cl is separated from the Al by an OO chain.

In no way do I want to suggest, in this look back at an excellent text of 100 years ago, that we are somehow cleverer than its authors. This is an up-to-date book for 1905 with mention of such recently discovered phenomena as radioactivity. “The observation of Becquerel that compounds of uranium emit rays of peculiar properties has led to the discovery, by mme. Curie, of the element radium, and to the announcement of other unconfirmed elements of similar character, such as polonium by mme. Curie, actinium by Debierne, and carolinium by Baskerville.”

Those of us who write textbooks should hope that readers of 100 years hence will look at our productions and say to themselves, “Yes, they were as perceptive in 2003 as Gooch and Walker were in 1905.”

Puzzle Solution

1	2	3	4		5	6	7	8		9	10	11	12	13				
S	T	E	P		A	B	C	D		S	M	O	K	E				
14	P	A	R	A		15	M	E	R	E		16	H	E	L	I	X	
17	O	R	A	N		18	Y	V	E	S		19	O	L	I	V	E	
20	T	A	S	T		21	E	L	E	S	S		22	V	E	N	U	S
					23	M	O	L	T			24	N	E	Z			
25	26	27	28		29					30	31	32						
B	A	N	G	U	P				M	O	L	I	S	C	H			
33	A	G	I	L		34	35	36		37								
A	G	I	L		E	A	T	I	N		T	O	L	A				
38	L	A	C	Y		39	C	L	E	A	R		40	O	F	O	Z	
41	S	P	E	C		42	T	E	A	S	E		43	S	A	N	E	
44	A	E	R	O		45	B	I	C		46	47						
					48	S	I	N		49	50							
51	52	53				54				55	56	57	58					
S	W	A	I	N		S	T	A	C	H	Y	O	S	E				
59	P	A	N	D	A		60	T	I	T	I		61	E	R	I	N	
62	A	S	T	I	R		63	A	M	I	N		64	A	E	R	O	
65	S	P	I	C	Y		66	G	E	O	G		67	R	O	S	S	

Professional/Product Directory

NMR SERVICE & ANALYSIS

1H, 19F, 15N-31P FDA, DEA REGISTERED



INEXPENSIVE **GLP COMPLIANCE**
RELIABLE **24-48 hr turnaround**

NUMARE SPECTRALAB INC
 10 Summit Avenue, Unit 6,
 Berkeley Heights, NJ, 07922
 Telephone (908) 665-0066
<http://www.eclipse.net/~numare/>

Atlantic Analytical Laboratory Inc.

P.O. Box 220, Whitehouse, NJ 08888 (908-534-5600)

Experience Resources Service

Analysis by: CGA/ANSI • USP/NF • NFP • ASTM •
 NIOSH • OSHA • EPA • NJDEP • Mil Spec Methods

— Gas Purity Certification — Natural Gas/LPG &
 Fuel Oils — Aviation & Industrial Lubricants —
 Pharmaceutical & Medical Gas Testing — Product
 Outgassing & Combustion Hazard Studies — RGA
 of IC's — Indoor & Industrial Air — Landfill &
 Stack Gas Testing — On-Site Sampling Services

GC • LC • GC/MS • MS • FTIR • ICP • DSC/TGA



LIBRA
 TECHNICAL CENTER

Structure Composition Stability

Pharmaceuticals Food

Cosmetics Packaging

Materials Failure Analysis
 Identification of Unknowns
 Product Liability and Forensic Science

Microbiology, GC/MS, microFTIR, HPLC, SEM/EDS, DSC

Metuchen Analytical, Inc. (800) 8484-LAB
 101 Liberty St. FAX (732) 321-5203
 Metuchen, NJ 08840

www.libralabs.com



Yasui Seiki Co., (USA)

Coating Test Laboratory

- ◆ Battery Coating, Patch Coat
 - ◆ Display Coatings 0.1 to 1 μ
 - ◆ Photo / Photo-Resist 0.1 to 9μ
 - ◆ 1 micron UV Hardcoats
 - ◆ "Mini-Labo™" Coater Rentals
 - ◆ Tabletop "Mini-Labo™" Sales
 (custom designs are available)
- Super smooth, patented "Micro Gravure™"
 Tel 812.331.0700 ◆ Fax 812.331.2800
www.yasui.com ◆ yasui@ix.netcom.com

Chemical Analysis Services

- Materials ID / Deformation
- Competitive Product Analysis
- Defects/Failure Analysis
- Polymer Analysis & Testing



CHEMIR
 Analytical Services

(800) 659-7659 chemir.com

Polymer Problems?

Complete Polymer Deformulation
 Good vs. Bad Comparison
 Expert Witness

Testing Services

DSC, TGA, IR, UV-Vis, GC, HPLC, NMR,
 Light Scattering, GPC/SEC, MW, MWD, Viscometry,
 Mass Spec.

RUSH SERVICE!

(508) 966-1301

jordiflp@aol.com

Associates, FLP



j.s.t

Japanese translations of scientific
 articles and patents by fully bilingual
 Japanese-American PhD. Over 20 years experience.
 English-Japanese translations available.

R.N. Arison
 88 Century Lane, Watchung, NJ 07069-6008
 908-757-6812 ritsuarison@earthlink.net

CHIRAL SEPARATIONS



LC and GC Columns
 Methods Development
 Processing

Advanced Separation Technologies Inc.
 37 Leslie Ct, PO Box 297, Whippany, NJ 07981
 973.428.9080 Fax 973.428.0152

Professional/Product Directory

ADVANCED SYNTHESIS, S.A. Custom Synthesis

Scale up to pilot plant-bulk production 1 gram to 1000 kgs
Expertise in hydrogenation, hydride reductions, cyanation, grignards,
butyl lithium-low temp, distillation, column chromatography

P--619-423-7821 F--619-423-7793
E---sales@advancedsynthesis.com
W--www.advancedsynthesis.com

**Advertising in The Indicator
Is Smart Business
Contact Vince Gale**

781-837-0424

email: vincegale@adelphia.net

SCHWARZKOPF Microanalytical Laboratory

Elemental & Trace Analysis
Organics, Inorganics
Organometallics
Metals by AA & Graphic Furnace
Functional Grps. - Mol. Wt.
Calorimetry

Total S. F. Halogens TOX
Coneg Testing Custom Analysis
56-19 37th Ave. Woodside, N.Y. 11377
(718) 429-6248

Schwarzkopfmicro@aol.com

PRODUCT FORMULATION • PROCESS DEVELOPMENT

*Natural & Synthetic Rubber Processing
Hydrophilic Resins & Coatings
Custom Formulation & Manufacturing*

GOLDSTEIN ASSOCIATES - CONSULTING CHEMISTS

P.O. Box 88 Adelphia NJ 07710
(732) 780-7171 FAX (732) 462-3644
email: goldstein@monmouth.com
http://www.monmouth.com/~goldstein

Elemental Analysis

CHNOS ash
ICP • AA • ICP/MS
TOC • TOX • BTU
Problem Solving

HUFFMAN LABORATORIES, INC.

Quality Analytical Services Since 1936

Phone: (303) 278-4455
FAX: (303) 278-7012
chemistry@huffmanlabs.com
www.huffmanlabs.com



Custom Synthesis of Chemicals

On-time Delivery, Quality, & Competitive Price

Tyger Scientific Inc.

324 Stokes Ave., Ewing, NJ 08638

Phone (609) 434-0144, Fax (609) 434-0143

www.tygersci.com, Email sales@tygersci.com

We help chemists develop billion dollar products



POLYMER PROCESSING INSTITUTE

- The Right Choice for Plastics R & D
- 20 years of process and product improvements
- Formulation, rheology, characterization

Call (973) 642-4582 or

Visit our site: www.polymers-ppi.org

NMR Service 500MHz

***Mass**

***Elemental Analysis**

NuMega Resonance Labs

Tel: (858) 793-6057

PATENT ATTORNEY

Jacqueline M. Arendt
Arendt & Assoc. Intellectual Property Group
Full range of technologies, Patents, Licensing,
Counsel on Controlling Patent Costs
1740 Massachusetts Avenue
Boxborough, MA 01719-2209 USA
978-897-8400 Fax (978) 371-2281
email-jacquelinearendt@aol.com

INVESTMENT MANAGEMENT For Individuals & Retirement Plans

Call 201-767-1050 • 888-795-6684

Erich Sokolower

Registered Investment Advisor Since 1980
(Member ACS; GA Tech, CHE; Columbia, MS)

Replex INVESTMENT MANAGEMENT CO., INC.

550 Durie Avenue, Closter, New Jersey 07624
email: replex@compuserve.com

Primera

Fast and Accurate Chemical Analysis
LC/MS/MS, chiral separations, GC, HPLC, CE
dissolution, post column derivitizations,
semi-prep purification, customer synthesis
1 Deer Park Dr. Monmouth Jct., NJ 08852
732-355-9111, info@primera-corp.com

Professional/Product Directory

Case Consulting Laboratories, Inc. Chemistry - Materials

- GLP Compliant Analysis • R & D
 - Testing & Evaluation • Claims Validation
- 622 Route Ten
Whippany, NJ 07981
973-428-9666
www.case-labs.com info@case-labs.com



Front Run OrganX, inc

Custom Organic Synthesis Process R&D

High Purity:
Scaffolds
Lead scale-up
Pre-clinical
From Trivial to Complex

Delivering Creative Solutions & Excellence
to Biotech & Pharma
since 1995

17 Hayward St. Ipswich, Ma. 01938 Ph: 978-356-7133 Fax: 7449 e-mail: Frontrun@sprynet.com

**Advertising in The Indicator
Is Smart Business
Contact Vince Gale
781-837-0424
email: vincegale@adelphia.net**

VACUUM PUMP PROBLEMS?

Eastern Scientific specializes in the repair and precision rebuilding of all makes of mechanical vacuum pumps.
Eastern Scientific
easternsci@aol.com 781-337-2501



Frinton Laboratories, Inc.
Rare Aromatic Compounds, Liquid Crystals,
Hydrocarbons, Custom Syntheses...

Organic Compounds for Research

www.frinton.com, Email: sales@frinton.
Catalog mailed on request.
Tel: 877-FRINTON, Fax: 866-439-1977



NMR ANALYSIS

270 - 360 - 400 MHz • 1D/2D
Liquids/Solids • GLP/GMP Compliance

SPECTRAL DATA SERVICES, INC.

818 Pioneer • Champaign, IL 61820
(217) 352-7084 • FAX (217) 352-9748
http://www.sdsnmr.com sdsnmr@sdsnmr.com

ISSI Laboratories, Inc.

Voice: (732) 246-3930; Fax: (732) 247-4977
Email: <issi@pipeline.com>
Chromatography (HPLC, TLC, GC);
GC-MS and LC-MS; Isolation, Purification
And Identification of Unknown Substances;
Stability-Indicating Tests. GLP-Compliant.

GALBRAITH LABORATORIES, INC.

Contract Analytical Services Laboratory for over 50 Years

Elemental Analyses
Organics Analyses
Trace Analyses
Physical Testing



Method Development
Method Validation
USP, JP, BP, EP Testing
GLP/cGMP

Toll Free 877-449-8797 • www.galbraith.com

MATERIAL CHARACTERIZATION LABORATORY

A Unique Combination of State-of-the-Art
Analytical Instrumentation & Expertise

GC/MS • HPLC • LC/MS • FTIR • TOC • AA
ICP-MS • XRD • XRF • AFM • SEM • TEM

York Center for Environmental Engineering & Science
www.ycees.njit.edu/labs

138 Warren Street
Newark, NJ 07102
Tel: (973) 596-5858
Fax: (973) 642-7170

NJIT
New Jersey Institute of Technology
A Public Research University

PROTECT

Your Expensive Lab Work With Research
and Development Record Books
STOCK RECORD BOOKS

B50D --- Fifty pages and fifty duplicates
1/4 inch sqs. on right pages

B100P --- 100 - 1/4 inch sqs. on right pages
100 - 10 sqs. per inch on left pages.

B200P --- 208 1/4 inch sqs. on right and left pages
B200PH - 208 horizontally lines right and left pages.

Books have instruction and TOC's. Page size 11 x 8 1/2.
Hard extension brown cloth covers. Pages open flat.

\$14.50 EACH, FOB Chicago

CUSTOM MADE BOOKS TO ORDER

Scientific Bindery Productions
1060 West Adams Chicago, IL 60607
Phone: 312-563-9322 Fax: 312-563-9325
www.scientificbindery88yrs.com

TELL OUR ADVERTISERS

Advertisers want to know if their ads are working. When you call or write them, tell them you saw their ad in *The Indicator*. This will allow us to increase the amount of articles that you have asked for.

Career Opportunities

RECRUITING ?

The Indicator readership is New York/North Jersey's largest single source for chemical and bio-chemical personnel.

The Indicator reaches more than 12,000 readers each month. These professionals are active in the following types of businesses:

MANUFACTURING	73%
ACADEME	21%
INDEPENDENT LABS	7%
INDEPENDENT CONS	6%
GOVERNMENT	3%

One recruiter said — We received **more qualified resumes** Than from our newspaper ad.

Contact Customer Service at:
781-837-0424
Email vincgale@tiac.net

Ad Index

ANALYTICAL

Advanced Synthesis	.25
Astec	.24
Atlantic Analytical Laboratory, Inc.	.24
Case Consulting Labs., Inc.	.26
Chemir Analytical Services	.24
Chemo Dynamics, L.P.	.10
Desert Analytics Laboratory	.16
DuPont Analytical Solutions	.9
Frinton Laboratories, Inc.	.26
Front Run Organx, Inc.	.26
Galbraith Laboratories	.26
Gateway Chemical Technology	.20
Goldstein Associates	.25
Huffman Laboratories, Inc.	.25
Impact Analytical, Div. of m.M.I.	.8
ISSI Laboratories, Inc.	.26
J.S.T.	.24
Jordi FLP	.24
Metuchen Analytical, Inc.	.24
Micron Inc.	.11
New Jersey Institute of Technology	.26
Numare Spectralab Inc.	.24
NuMega Resonance Labs.	.25

Polymer Processing Institute	.25
Primera Analytical Solutions Corp.	.25
Quantitative Technologies Inc.	.7
Repex & Co. Inc.	.25
Robertson Microlit Labs	.2
Schwarzkopf Microanalytical	.25
Spectral Data Services	.26
Spex Certi Prep. Inc.	.4
Tyger Scientific Inc.	.25
Yasui Seiki Co. (USA)	.24

EDUCATION

Pace University	.28
Polytecnic University Chemistry/Science	.17
Rutgers University, Newark	.2

EQUIPMENT

Chemglass, Inc.	.15
Eastern Scientific Co.	.26
Mass Vac, Inc.	.12

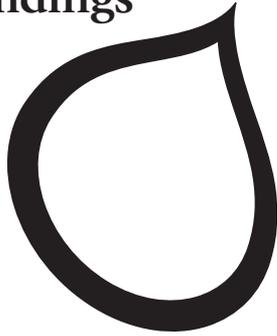
GENERAL

ACS-NY/NoJ Sections	.27
Arendt & Associates	.25
Scientific Bindery	.26

RECRUITMENT

ACS-NY/NoJ Sections	.27
---------------------	-----

Explore your
surroundings



with an MS degree in Environmental Science

Pace's **Master's Program in Environmental Science** at the **Dyson College of Arts & Sciences** offers graduate students a unique opportunity to study the surrounding Hudson River Valley. Environmental problems and issues are explored in an interdisciplinary approach that includes scientific, ethical, and legal perspectives. Students work with a dedicated and enthusiastic faculty to create an individualized curriculum, in evening classes that accommodate the working professional's schedule.

Learn more.

PACE
UNIVERSITY

A New York Success Story

For more information, www.pace.edu
or call **1-800-874-PACE**

New York City • Pleasantville/Briarcliff
White Plains • Hudson Valley