

THE Indicator

SEPTEMBER 2010

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October 17–23, 2010



Volunteers Needed

See pages 11-12 and 20-21.

Project SEED Poster Session

See page 7.

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Synthetic Organic Chemistry - Ch 642 (Mon)

Biochemistry II – Ch 681 (Mon)

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CONTENTS

Advertisers Index	23
Call for Nominations	19
Chemistry Olympiad	9-10
ChemTAG Corner	21
Education	2
National Chemistry Week	11-12
New York Meetings	14-16
North Jersey Meetings	7-8
Others	19
Press Releases	22
Professional/Product Directory	23
Project Seed	11
Volunteerism	20-21

EDITORIAL DEADLINES

October	August 15
November	September 15
December	October 15
January 2011	November 15, 2010
February	December 15
March	January 15, 2011
April	February 15
May	March 15
June	April 15
September	July 15

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

September Calendar

NEW YORK SECTION

Thursday, September 9, 2010

Chemical Marketing & Economics Group
See page 14.

Friday, September 10, 2010

NY Board of Directors
See page 14.

Thursday, September 16, 2010

Long Island Subsection
See page 15.

Friday, September 24, 2010

High School Teachers Topical Group
See page 15.

Tuesday, September 28, 2010

Biochemical Topical Group
See page 16.

Friday, October 1, 2010

Hudson-Bergen Chemical Society
See page 16.

NORTH JERSEY SECTION

Thursday, September 2, 2010

Careers in Transition
See page 7.

Thursday, September 2, 2010

NoJ Teacher Affiliates Executive Meeting
See page 7.

Friday, September 14, 2010

ChemTAG
See page 8.

Monday, September 27, 2010

NoJ Executive Committee Meeting and
Project SEED Poster Session
See page 7.

Monday, September 27, 2010

Project SEED Poster Session
See pages 7 and 8.

***The Indicator* is
posted to the web
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previous month at
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**Deadline for items
to be included
in the
October 2010 issue
of *The Indicator*
is August 15, 2010.**



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THIS MONTH IN CHEMICAL HISTORY

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

The subject of this column and the next is the British (Scottish) chemist Alfred Walter Stewart. Not a household name, I agree, but there are some remarkable features in the career of this chemist, as I hope to demonstrate. Stewart became an author of interest to me through my enthusiasm for detective stories, particularly those in which scientific methods aid the solution of the mystery. I am particularly interested in early examples (pre-1960, say) of this genre of mystery fiction, and have given a number of talks on the subject. But in my reading before early 2010 I had not noted the work of J.J. Connington, the pen name of Stewart in his other career.

Quite accidentally I recently re-read a book by Connington that had been resident on my own bookshelves for decades. I purchased this copy of "The Four Defences" doubtless from a thrift shop (it is marked at 25 cents) and it is a first American edition published by Little, Brown and Company in 1940. To my surprise and delight it had a good deal of scientific analysis of evidence, but more of that later. In a search for more information about J.J. Connington I soon came across an excellent article by George B. Kauffman of California State University, Fresno, published in the *Journal of Chemical Education* in January 1983. I have drawn heavily on this article for these columns.

First, Stewart the chemist. Born in Glasgow in 1880, youngest son of the Professor of Divinity and Dean of Faculties at Glasgow University. He attended Glasgow University himself earning his B.Sc. in 1902 and his D.Sc. in 1907. He was an excellent student winning many scholarships. He studied in Germany for a year at Marburg under Zincke, and at University College, London where Ramsay was working. His academic career progressed steadily. He joined Queen's University at Belfast as a Lecturer (roughly equivalent to Assistant Professor) from 1909 – 1914; moved back to Glasgow as Lecturer in physical chemistry and radioactivity from 1914 – 1919; and then back to Belfast as Professor of Chemistry from 1919 – 1944 when he retired because of ill health. He died of a heart attack in July 1947.

His initial research was on reactions of aliphatic ketones with hydroxylamine and hydrogen-sulfite. He became interested in spectroscopy of organic compounds while at University College, London which led to a continuing interest in stereochemistry. His first book, which was on that subject, was published in 1907. His next book was the very successful "Recent Advances in Organic Chemistry", first published in 1908 with six subsequent revised editions. In a similar vein was "Recent Advances in Physical and Inorganic Chemistry" which first appeared in 1909 and also merited the publication of six subsequent editions. Two other scientific books aimed at a wider audience followed: "Chemistry and its Borderland" in 1914 and "Some Physico-Chemical Themes" in 1922.

Stewart was a "classical" chemist of the pre-quantum mechanics era. He published some early speculations (post-J.J.Thomson) on atomic structure, but mostly stayed close to experimental chemistry including some early work on ketene, and luminescence spectroscopy where he used a Tesla coil to excite molecules – not always appreciating that some of his observed spectra were those of molecular fragments produced by the discharge. He was a much admired teacher of both undergraduate and graduate students and, a man after my own heart, he drew on the history of chemistry to illustrate his lectures.

In my next column I turn to the novelist, writer of mystery and science fiction stories, and alter ego of Stewart, namely J. J. Connington.

SEPTEMBER HISTORICAL EVENTS IN CHEMISTRY

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

September 1, 1873

B. Smith Hopkins, who was a researcher on rare earths, was born on this date.

September 3-5, 1860

One hundred and fifty years ago during these dates, the Karlsruhe Congress, 1860, the first international meeting of chemists was held in Karlsruhe, Germany.

September 6, 1870

Frederick G. Donnan, a researcher in theory of membrane equilibria (Donnan Equilibrium), was born on this date. He also did research in chemical kinetics.

September 9, 1858

One hundred and twenty-five years ago in 1885, Carl Auer von Welsbach, discovered neodymium (Nd, 60 and praseodymium (Pr, 59). He was a researcher on rare earths, discovered lutetium with Georges Urbain (Lu, 71) in 1907, and invented incandescent mantle (Welsbach Mantle or Auerlicht). He was born on this date.

September 12, 1897

Seventy-five years ago in 1835, Irène Joliot Curie and her husband, Frédéric Joliot Curie, were awarded the Nobel Prize in Chemistry in recognition of their synthesis of new radioactive elements. She was born on this date.

September 13, 1886

Robert Robinson, a researcher in plant pigments, alkaloids and phenanthrene derivatives, was born on this date. He was awarded the Nobel Prize in Chemistry in 1947 for his investigations on plant products of biological importance, especially the alkaloids.

September 16, 1853

One hundred years ago in 1910, Albrecht Kossel, a researcher in chemistry of cells and proteins was awarded the Nobel Prize in Physiology or Medicine in recognition of the contributions to our knowledge of cell chemistry made through his work on proteins, including the nucleic substances. He was born on this date.

September 17, 1677

Stephen Hales studied the role of air and water in the maintenance of both plant and animal life, developed the pneumatic trough, and discovered that 'air' is released in decomposition of plant and animal substances. He was born on this date.

September 23, 1915

John Sheehan, who synthesized penicillin V in 1957, was born on this day.

September 24, 1898

Howard Walter Florey, who was born on this date, did research on lysozyme and antibiotics. In 1945, he shared the Nobel Prize in Physiology or Medicine with Alexander Fleming and Ernst B. Chain for the discovery of penicillin and its curative effect in various infectious diseases.

September 26, 1754

Joseph-Louis Proust articulated the Law of Definite Proportions and was born on this date.

September 29, 1920

Peter D. Mitchell, researcher on chemiosmotic reactions and reaction systems, was born on this date. In 1978, he received the Nobel Prize in Chemistry for chemiosmotic theory and its contribution to the understanding of biological energy transfer.

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

North Jersey Meetings

<http://www.njacs.org>

NORTH JERSEY EXECUTIVE COMMITTEE MEETING AND PROJECT SEED POSTER SESSION

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.

See also *ChemTAG September 27 Call For Judges announcement on page 8.*

Date: Monday, September 27, 2010

Times: SEED Poster setup 3:30 PM
Judging 4:00 - 6:00 PM
Dinner 6:00 PM
Awards and Presentation 6:30 PM

Place: Seton Hall University
University Center
Main Lounge
400 South Orange Avenue
South Orange, NJ

Fee: \$25.00 — free for judges

Attendees are encouraged to register at www.njacs.org

Reservations: call (732) 463-7271 or email njacsoffice@aol.com prior to **Wednesday, September 22, 2010.**

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, September 2, 2010**, 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 billsuits@earthlink.net, if you plan on attending this meeting.



NoJ ACS TEACHER AFFILIATES

Executive Committee Meeting

Meeting dates are subject to change due to school closings or inclement weather.

Date: Thursday, September 2, 2010

Time: 4:30 PM - 6:30 PM

Place: College of St. Elizabeth
Faculty Lounge/Study
2nd Floor of Mahoney Library
Madison, NJ

Contact: Mita Chaki
mchaki@franklinboe.org



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The librarian will suggest web sources for scientific research, paper research protocol for our students, proper citing using Noodle tools, and use of Diigo.

Bring your favorite chemistry website to share!!

Date: Tuesday, September 14, 2010

Time: 4:00 – 6:00 PM

Place: Morristown High School
50 Early Street
Morristown, NJ

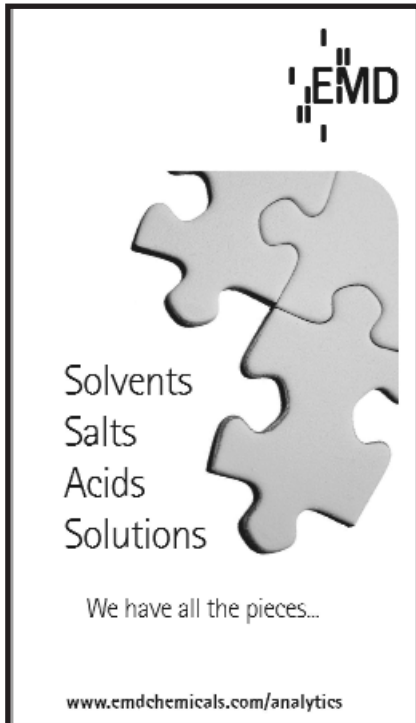
Hostess: Barbara McNally
bbmcnally@aol.com
732-292-2000

Volunteer as a Judge for the SEED POSTER PRESENTATION

Experience SEED students and enjoy a complimentary buffet following the judging.

Date: Monday, September 27, 2010

Time: Poster Setup 3:30 PM
Judging 4:00 - 6:00 PM



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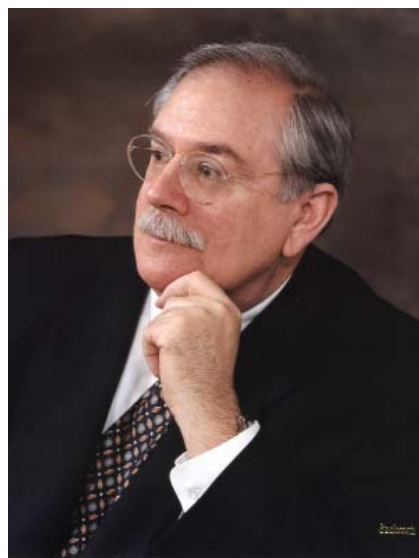


NoJ ORGANIC TOPICAL GROUP

Evans Wins Creativity Award

Professor David Evans of Harvard University has won the 2010 Award for Creativity in Molecular Design and Synthesis for his scientific excellence and outstanding international leadership as an educator, mentor, and scholar. This national Award is administered by the ACS and consists of a cash prize of \$5,000, a commemorating plaque, and will be bestowed as part of a symposium to be held **November 17, 2010**. For more information, go to: <http://njacs.org/otg.html>

The North Jersey Organic Topical Group of the ACS organized the award symposium for the Award for Creativity in Molecular Design and Synthesis (the 'Creativity' award). This is the sister award of the Baekeland Award. The Baekeland award is for junior leaders under 40 years of age. The Creativity award is for international leaders over 40 years of age and notable for their reputation as mentors.



Professor David Evans

CHEMISTRY OLYMPIAD

North Jersey ACS Chemistry Olympiad Finalists 2010 on the Rock at Fairleigh Dickinson University. They took an all day three part exam. The top 20 from all the sections in the nation will go to the Air Force Academy for a two week study. The four best will go to the International Chemistry Olympiad.

Brian Gu Bergen Academy
Teacher Dr. David Ostfeld

Ryan Lee Bergen Academy
Teacher Dr. David Ostfeld

Phillip Ai East Brunswick HS
Teacher Dr. Paul Kimmel

Matt Elkins East Brunswick HS
Teacher Dr. Paul Kimmel

Elmer Tan J. P. Stevens HS
Teacher Paul Sekuler

Zach Lustbader Livingston HS
Teacher Theresa Loboda

Alex Nie Livingston HS
Teacher Theresa Loboda

Jenny Shih Morristown HS
Teacher Ahlam Omar

Vincent Li Parsippany HS
Teacher Colleen Riley

Peter Santos Randolph HS
Teacher Theresa Wertheimer

Utsarga Sikder South Brunswick HS
Teacher Theresa Farinella

Varun Prabakar South Brunswick HS
Teacher Theresa Farinella

Seth Ranasinghe South Brunswick HS
Teacher Tim Burnett

Steven Flynn Watchung Hill HS
Teacher Michael Amendola

Michael Ma Watchung Hill HS
Teacher Michael Amendola

* * * * *

SIKDER ON US INTERNATIONAL CHEMISTRY OLYMPIAD TEAM

The North Jersey Section of the American Chemical Society sponsors each year a Chemistry Olympiad for high school chemistry students. The competition has several layers. The first is a 60 question multiple choice test. It was taken by over 100 students in the section at their local school. The top students (this year there were 15) are invited to Fairleigh Dickinson University to take a second level test (see them on the Rock). This involves a multiple choice test, an open-ended essay test and a laboratory test. This is scored by ACS National. Three students (see them at the NoJACS Awards Dinner) scored in the top twenty of the nation and were invited to Air Force

(continued on page 10)



Bottom row (left to right) Vincent Li, Michael Ma, Seth Ranasinghe, Varun Prabakar, Second row, Brian Gu, Jenny Shih, Alex Nie, Zach Lustbader, Utsarga Sikder, Phillip Ai, Peter Santos, Third Row, Matt Elkins, Top, Steven Flynn, Elmer Tan, Ryan Lee.

CHEMISTRY OLYMPIAD

(continued from page 9)

Academy for a two week study camp. The three national finalists were Ryan Lee, Bergen Academies (teacher Dr. David Ostfeld), Elmer Tan, J.P. Stevens HS (teacher Paul Sekuler) and Utsarga Sikder, South Brunswick HS (teacher Theresa Farinella). From these twenty students, four are selected to represent the United States at the International Chemistry Olympiad

(this year in Tokyo).

Utsarga Sikder from South Brunswick HS, a student of Theresa Farinella, will be among the four representing the United States at the International Chemistry Olympiad in Tokyo.

The North Jersey Chemistry Olympiad is organized by Dr. Ray Baylouny, professor emeritus, from Fairleigh Dickinson University and the Education Committee of the North Jersey Section ACS.



Left to right:
Ryan Lee,
Elmer Tan,
and Utsarga
Sikder.

NoJ ACS TEACHER AFFILIATES

Members of the North Jersey Teacher Affiliates group held a meeting at Franklin HS to plan their activities for the next several months.



From left to right, Safia Madin, Claire Miller, Eve Krupka, David Lee, Cheryl Litman, Marco Pagnotta, Barbara McNally, Mita Chaki, Bobbi Gorman, Bettyann Howson.

(Photo courtesy of John Penna)

PROJECT SEED

Elaine Gomez and Walter Echevarria, both seniors at Union City High School Academy for Enrichment and Advancement are the recipient of the Gates Millennium Scholarship. Each has a full scholarship to the college of their choice and can get up to a Ph.D. Both students did SEED I and II and have won several awards and prizes.

Elaine did her research in Environmental Analysis at the Meadowlands Environmental Institute, the first year and Montclair State University, the second year. Walter did his research in Biochemistry at Rutgers University both summers. Walter represented the state of New Jersey last year at the Junior Science and Humanities Symposium which took place in Colorado and this year, he was one of the top presenters at the New Jersey Junior Science and Humanities Symposium that took place at Rutgers University and Elaine represented the state at the National Water Convention which took place in Alaska. This year, Elaine is the recipient of the Intel Award and will represent the state at International Science and Engineering Fair which will take place in San Jose, California. Both students are going to study science in college.

Project SEED opens doors of opportunities for many students and allow them to achieve success. It help them to build self-confidence and self-esteem.

National Chemistry Week

ATTENTION STUDENT CHAPTERS

Let's get "Behind the Scenes in Chemistry" on Mole Day!!!!

Come to the Chemistry Expo at the Liberty Science Center **Saturday, October 23rd** from 10:00 AM - 2:00 PM with your best Undergraduate Hands-on-Demonstration.

The Student Chapter with the best interactive demonstration that helps to demystify a chemical reaction or concept will be awarded a \$175 cash prize and the title of National Chemistry Week Undergraduate Student Chapter 2010 (second place gets \$75).

For details check the website
<http://www.njacs.org/ncw2010.html>.

Student Chapters must register by October 8 to be considered for the title and the cash awards. Look for registration forms online or send an email to rosellerams@yahoo.com.



COME JOIN US AT THE LIBERTY SCIENCE CENTER

Last year The North Jersey Section celebrated National Chemistry Week at the Liberty Science Center. We had a great time and the attendees really appreciated all of our efforts. Why don't you join us this year? On **Saturday, October 23**, the North Jersey Section will be holding its annual ChemExpo in celebration of National Chemistry Week. As usual we will have many tables offering all kinds of hands-on activities for budding scientists. You can set up your own table or help out at another table. We need you to help us make a difference!

The theme for this year is "**Behind the Scenes with Chemistry**" using chemical knowledge to diminish the "magic" associated with "unexplainable" events. Check out the National Chemistry Week web page at <http://portal.acs.org> to get some ideas for hands-on activities that you might want to present.

Your activities should be geared for 8 to 12 year olds. As usual our first priority is safety. Preferably presenters should use household materials to demonstrate a scientific principle. We would like the students to be able to redo these experiments at home and at school so it would be very helpful if you had handout instructions to distribute.

To minimize duplication of the presentations, we will need to know by October 1 the activity you would like to conduct at your table. Individuals contacting us first with their idea(s) will be given priority, so please let us hear from you as soon as possible. Contact Bobbi Gorman at rosellerams@yahoo.com. to let her know what activities you will be doing at your table or if you want to volunteer at the Expo.

We also value and look forward to receiving financial support to help cover many of the expenses associated with the Section's NCW activities. If you would contact the appropriate individuals at your company, the

(continued on page 12)

NATIONAL CHEMISTRY WEEK

(continued from page 11)

Section would be most grateful. A donation of \$500.00 indicates Gold Sponsorship, a \$250.00 gift indicates Silver Sponsorship and a \$100.00 gift indicates a Bronze Sponsorship. Checks should be made out to the North Jersey ACS Section and sent to Valerie Kuck, 45 Warfield St., Montclair, NJ 07043.

Please fill out the following forms and return them to Bobbi Gorman at rosellerams@yahoo.com.

Form 1.

Count me in.

My name is: _____

I am volunteering to work on: **Saturday, Oct. 23**, 10:00 AM – 11:30 AM, 11:30 AM – 2:00 PM, or 10:00 AM – 2:00 PM (Underline times).

I can be reached at: (work phone number) _____

My complete address is: _____

I am an employee at: _____

The activities at my table will be: _____

In addition to a table, I also need: _____

I will be bringing handouts on activities that the students can do at home. Yes No

I will need more than one table. Yes No
How many additional tables will you need?

Form 2.

My company would like to support these efforts.

The following company/individuals are willing to help defray the costs of these events:

An acknowledgement letter for this contribution should be sent to (name and full address):

Form 3.

I will be joined at my table by the following volunteers.

Complete Name: _____ Institution: _____ Address (snail mail): _____

Activity _____ Time Volunteering _____

Complete Name: _____ Institution: _____ Address (snail mail): _____

Activity _____ Time Volunteering _____

Complete Name: _____ Institution: _____ Address (snail mail): _____

Activity _____ Time Volunteering _____

Acknowledge letters should be sent to: _____

Thanks very much for all of your help. The Section is most appreciative of your efforts. Bobbi Gorman and Valerie Kuck

EDWARD J. MERRILL AWARD

Dr. Elliot Richman, a science teacher at Ramapo High School in Franklin Lakes, received the 2010 Edward J. Merrill of the North Jersey Section of the American Chemical Society last night (May 18) at a recognition and awards dinner held on the campus of Fairleigh Dickinson University-Madison. The award, which is cosponsored by the New Jersey Science Teachers Association, is given for outstanding teach-

ing of chemistry at the high school level. Richman has been a teacher of chemistry and physics in the Ramapo Indian Hills district since 2002.

Richman, who became a teacher as a direct result of the September 11, 2001, terrorist attacks on the World Trade Center and the Pentagon, holds BS and PhD degrees in chemistry from the University of Rochester and has been a member of the American Chemical Society since 1975.



The presentation of the 2010 NoJACS Edward J. Merrill Award for Excellence in High School Chemistry Teaching to Elliot Richman from Ramapo HS by Bettyann Howson, Executive Board Secretary.

(Photo courtesy of John Penna)

2010 PRO BONO AWARDS FOR SERVICE TO THE SECTION

The Presentation of the 2010 Pro Bono Award for Service to the Section to Paul E. Thomas Researcher Chemist at Rutgers University by Allene Johnson, NoJACS Councilor.

(Photo courtesy of Allene Johnson)



The Presentation of the 2010 Pro Bono Award for Service to the Section to John Bendzak, Chemistry Teacher at Irvington HS, by Allene Johnson, NoJACS Councilor

(Photo courtesy of Allene Johnson)

New York Meetings

www.newyorkacs.org

ACS NEW YORK SECTION MEETINGS FOR 2010

The Board of Directors Meetings for 2010 are:

Friday, September 10
Friday, November 19

The regular Board Meetings will be held at St. John's University, 8000 Utopia Parkway, Jamaica, NY, in the Library's Writing Center. They are open meetings and all are welcome.

For more information, please visit the New York Section website at
<http://www.NewYorkACS.org>.



CHEMICAL MARKETING & ECONOMICS GROUP

Special Event — "Brazil/Latin America - Resource-Loaded and Ready for Prime Time" (Panel Discussion)

Panelists: Susan Segal
President of the Americas
Society/Council of the Americas
Miguel de Oliveira
Director of Global Innovation
at Bunge
Rafael Rojas
Vice President
Global Markets Equity
Deutsche Bank Securities, Inc.
(confirmed panelists
as of July 15th)

Host / Moderator: George Rodriguez
Managing Director
Argeni Company LLC

After a long period looking Eastward, the U.S. is starting to look South. Brazil and

some Latin American (LATAM) economies are rising stars, growing quickly based on sound fiscal policies combined with the extraordinary richness of natural resources and a population eager to reap the fruits of economic development. From the largest rain forest in the world to the largest mountain range on earth (and the tallest outside of Asia) to the petroleum-rich fields to the world's top fisheries, Latin America is full of superlatives in agro-based industries, mining, petroleum and a cornucopia of natural resources that has led to a dominant role in a number of materials strategic to high technology and energy.

As LATAM's population doubles to one billion in 2050, technological innovation, consumer-driven demand and concomitant public works will continue to invigorate global economic growth. CM&E has assembled a panel of experts from such organization as Deutsche Bank, Petrobras, PricewaterhouseCoopers and Bunge who will give their insights on the challenges and opportunities including:

- What is the status of Brazil and LATAM now and what is its outlook over the next decade?
- How will the nature of trade between the U.S. and Brazil/LATAM change over the next decade?
- How can U.S. investors and companies profit from Brazil/LATAM growth while managing risks and structuring deals to maximize benefits of fast growth and government incentives?

Date: Thursday, September 9, 2010

Times: 11:00 AM - 2:15 PM

Networking: 11 AM - 12 noon

Luncheon: 12 noon - 1:00 PM

Presentation: 1:00 - 2:15 PM

Place: Club Quarters

40 West 45th Street

(between Fifth and Sixth Avenues)
New York, NY

Fees: \$55 for Members; \$65 for Guests which includes Membership for remainder of year, also.

EARLY-BIRD RATES: \$45 for Members (and \$55 for Guests) who reserve and pay via credit card by Friday, September 3rd (4:00 PM)

To Reserve: Please reserve early to be eligible for the discount price. We now accept all major credit cards via PayPal ("Reserve Now" link on www.nyacs-cme.org), or call Vista Marketing at (917) 684-1659, or via E-mail to cmegroup@mac.com

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LONG ISLAND SUBSECTION

Design of Fluorometric High-Throughput Screening Assays for Cytochrome P450s

Speaker: Dr. Melissa Van Alstine
Adelphi University

The cytochrome P450s (CYPs) are a superfamily of heme-containing enzymes that mediate the metabolism of endogenous and exogenous molecules. Most studies on CYPs have been driven by drug-drug interactions and involve human isoforms. Recently, fluorometric high-throughput screens (HTS) have been developed for major human drug-metabolizing CYPs (CYP1-4) and used to screen drugs for CYP inhibition, but applications of these methods for rat P450s have been limited. We have developed a fluorometric HTS specifically for the cDNA-expressed rat CYP2B1, CYP2C6 and CYP2C11 using the substrate 7-ethoxy-4-trifluoromethylcoumarin (EFC) or dibenzylfluorescein (DBF). A series of inhibitors were then characterized on these rat P450s as well as some human P450s (CYP2C19 and CYP2B6). IC₅₀ values were determined for some imidazole-containing analgesic antagonists (CC12 and MW-06-25), antifungal drugs (miconazole, sulconazole, clotrimazole, ketoconazole and fluconazole) and epoxygenase inhibitors (MS-PPOH and PPOH). MS-PPOH and PPOH displayed time- and NADPH-dependent inactivation, suggesting that these compounds are mechanism-based inhibitors. These presently described assays will be useful for studies of rat P450s.

Date: Thursday, September 16, 2010

Times: Social 5:45 PM

Seminar 6:15 PM

Place: Hofstra University, Student Center Plaza West, Room 0127W

Please note that this is a different room than for recent seminars

Cost: Seminar is free and open to all.

Time: Dinner 7:30 PM

Place: At a nearby restaurant

HIGH SCHOOL TEACHERS TOPICAL GROUP

The New ChemSource: What is the Same and What is Different?

Speaker: Mary Virginia Orna
Professor of Chemistry and
Scientist in Residence
College of New Rochelle
Principal Investigator
NSF Grant for ChemSource
A Support Strategy for
Pre-Service and Inservice
Chemistry Teachers

This talk will highlight not only what is new, content-wise, in *SourceBook* and *SourceView*, the two chief components of *ChemSource*, but it will also demonstrate the new delivery system via CD and DVD so that now the 2200-page, four-volume *SourceBook* will fit in your pocket. There are completely updated media and reference sections for both components, plus field-tested inquiry-based laboratory activities, and modules on assessment and standards. Copies of the New *ChemSource* v. 3.0 will be available at the meeting for the BCCE conference price of \$20.00.

Date: Friday, September 24, 2010

Time: Social and Dinner — 5:45 PM

Place: M&G Pub (Murphy and Gonzales)
21 Waverly Place (at Green Street,
North-east corner)
New York, NY

No reservations required

Time: Meeting 7:15 PM

Place: New York University
Silver Center Room 207
32 Waverly Place (South-east
corner Washington Sq. East)
New York, NY

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

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

Learn more about the
New York Section at
www.NewYorkACS.org

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

**Targeted Molecular Therapy for
Preventing Heart Failure and Sudden
Cardiac Death**

Organizers: Charles A. Lunn
Merck Research Laboratories

Martin A. Schwarz
Mount Sinai School of
Medicine

Jennifer Henry
The New York Academy
of Sciences

Speakers: Fadi G. Akar
Mount Sinai School of Medicine

Roger J. Hajjar
Mount Sinai School of Medicine

Mariell Jessup
University of Pennsylvania
College of Medicine

Walter J. Koch
Thomas Jefferson University

Evangelia Kranias
University of Cincinnati
College of Medicine

Development of therapies to treat heart failure is hampered by a lack of understanding of underlying mechanisms. This symposium reviews therapeutic approaches, research to identify useful molecular targets, and potential therapeutic approaches.

Date: Tuesday, September 28, 2010

Times: 1:00 – 5:00 PM

Place: The New York Academy of Sciences
7 World Trade Center
250 Greenwich Street – 40th Floor
New York, NY 10007

Cost: NYAS Members, BPDG Affiliates,
and NY-ACS Members may attend
BPDG meetings free of charge.
Non-members may attend for a fee
of \$30 per event; Student
Non-members for \$15.

Reserve a seat on-line at:

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**HUDSON-BERGEN CHEMICAL
SOCIETY — JOINT MEETING
WITH THE DEPARTMENT OF
CHEMISTRY OF NEW JERSEY
CITY UNIVERSITY**

**Drug Metabolism/Pharmacokinetics
(DMPK) and Pharmaceutical Research**

Speaker: Wei Tang, Ph.D.

DMPK

Merck Research Laboratories

Following administration, drug disposition into and elimination from tissues affect the extent and duration of pharmacological efficacy. Drug molecules may also undergo metabolic reactions to form products (metabolites) that could cause harm to the patient. This presentation will briefly discuss DMPK as a scientific discipline in support of pharmaceutical research.

Wei Tang obtained his PhD from the University of British Columbia under the supervision of Dr. Frank Abbott. He is currently a Distinguished Sr. Investigator at the department of DMPK, Merck, NJ. His research interest is in the area of DMPK, toxicology and LC-MS/MS based bioanalysis.

Pizza and beverages will be provided.

Date: Friday, October 1, 2010

Time: 6:00 PM

Place: Grossnickle Hall 144
New Jersey City University
2039 Kennedy Blvd.
Jersey City, NJ

Directions to NJCU: map and directions
can be found at

www.njcu.edu/i2e/visit/directions.asp#



**EMPLOYMENT AND
PROFESSIONAL RELATIONS
COMMITTEE OF THE NEW
YORK SECTION**

**To Human Resources Departments in
Industry and Academia**

The Employment and Professional Relations Committee maintains a roster of candidates who are ACS members seeking a position in the New York metropolitan area. If you have job openings and would like qualified candidates to contact you, please send a brief job description and educational/experience background required to hessytaft@hotmail.com.

Candidates from our roster who meet the requirements you describe will be asked to contact you.



**NEW YORK SECTION
2010 ELECTION RESULTS**

The results of the ACS New York Section's 2010 elections, held in May, were announced at the Board of Directors meeting in June. The New York Section extends a sincere thank you to all of the candidates and expresses its appreciation for their time and efforts in preparing for the elections. Congratulations to all.

Chair-elect for 2011

Dr. JaimeLee I. Rizzo Pace University

Secretary for 2011 and 2012

Dr. Brian R. Gibney CUNY -
Brooklyn College

Directors-at-Large for 2011

Dr. Terry L. Brack Hofstra University

Dr. David P. Cormode Mount Sinai
School of Medicine

Dr. Justyna Widera Adelphi University

Councilors for 2011–2013

Prof. Richard D. Cassetta Retired –
Emeritus – College of New Rochelle

Dr. Patricia A. Redden . . St. Peter's College

Mr. Frank R. Romano Agilent
Technologies, Inc.

Alternate Councilors for 2011-2013

Mrs. Jean D. Delfiner Retired –
New York City Board of Education

Dr. Hiroko I. Karan CUNY –
Medgar Evers College

Dr. Ralph Stephani . . St. John's University

Alternate Councilors for 2011

Dr. Brian R. Gibney CUNY -
Brooklyn College

Dr. Margaret A. Hunter . . Hofstra University

Dr. Iwao Teraoka Polytechnic
University of NYU

HIGH SCHOOL TEACHERS TOPICAL GROUP

The first picture shows Ivi Tamm who received the Salutes to Excellence from the High School Teachers Topical Group at the year-end celebration brunch. Ivi has been a long and faithful member and one of our premier presenters.

In the second photo, Jean and Joan are wearing and holding some of the original Baekelite. Hugh Karraker is the great-grandson of Leo Baekeland. Learn more - as Hugh Karraker is the March 2011 speaker for the NY High School Teachers Topical Group.

(Photos courtesy of Joan Laredo-Liddell)



From left to right: Jean Delfiner, Ivi Tamm and Joan Laredo-Liddell



From left to right: Jean Delfiner, Hugh Karraker and Joan Laredo-Liddell

HUDSON-BERGEN CHEMICAL SOCIETY

12th Student Research Symposium and Award Night

On April 23rd, the Hudson Bergen Chemical Society had the 12th Student Research Symposium and Award Night, at Fairleigh Dickinson University, in Teaneck, NJ. Sixty students from colleges in our area and from Bergen Academies presented their research and received certificates and books. Dr. Richard Thompson (Novartis) gave the talk "Chemical Development of Pharmaceuticals" (attended by 90). Seniors majoring in chemistry from colleges in our area received awards.



*(Photos courtesy of
Mihaela Leonida)*



Call for Nominations

EDWARD J. MERRILL AWARD FOR OUTSTANDING HIGH SCHOOL CHEMISTRY TEACHER FOR 2011

Now is the time to begin thinking about nominations for the Edward J. Merrill Award, North Jersey Section, for Outstanding High School Chemistry Teacher for the year 2011.

Go to the web site, njacs.org under education and obtain your preliminary nomination form and guidelines. The full packet takes time to do a good job!

We all know an outstanding high school chemistry teacher. Perhaps one from your town, your son's or daughter's teacher or just one that you have heard about or worked with at some point. The award carries \$500 for the teacher, \$500 in supplies for the teacher's classroom and a plaque to display at home or in the classroom.

Any questions or help needed contact George Gross, njmxie1@verizon.net.

Others

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS (AIChE)

New Technological Community will bring chemical engineers involved in alternate and traditional energy together to better meet society's energy needs.

NEW YORK – The Board of Directors of the American Institute of Chemical Engineers (AIChE) has approved the formation of a Center for Energy Initiatives. In announcing the Center, AIChE President Henry "Hank" T. Kohlbrand said, "AIChE members are already working on energy-related issues from multiple perspectives. The new Center will help us network and 'cross-fertilize' and integrate ideas that can advance energy efforts across the board."

Kohlbrand, who has just retired as global research and development director in engineering and process sciences for Dow Chemical, reported that one of the Center's first activities will be conducting the First International Congress on Energy: Sustaining Supplies. The Congress will run

in conjunction with AIChE's Annual Meeting in Salt Lake City, Utah, this November 7-12.

The Center grew out of the work of AIChE's Energy Advisory Board, which was formed in 2005, and has already undertaken a number of research and education projects. It has coordinated a project on carbon management for a group of leading engineering societies, made awards for K-12 energy education projects and developed a "Speakers Academy" of energy experts. Work is underway on an inter-society, inter-disciplinary project to develop energy metrics that will allow for consistent comparison of diverse energy options. The Center is also developing energy education modules for the undergraduate chemical engineering curriculum.

Membership in the Center is automatic for members of AIChE who are also members of several AIChE divisions and forums in the energy arena. For more information, visit www.aiche.org/energy.



BROOKLYN COLLEGE of CUNY

Surfactants and Chemistry

A Symposium honoring the 90th Birthday of Professor Milton J. Rosen.

Date: Friday, October 29, 2010

Times: Registration and Refreshments will begin at 9:00 AM
Symposium 10:00 AM – 4:30 PM

Place: The Woody Tanger Auditorium in the Library Building at Brooklyn College of CUNY
2900 Bedford Avenue
Brooklyn, NY

Cost: Registration fee: Symposium and Luncheon, \$10.00
Students: \$5.00

Due to limited seating, registration and payment are required **by October 15, 2010**.

Directions: For directions, speaker information and registration information, please visit our website: <http://chemscript.brooklyn.cuny.edu/web/index.php>

Questions: Contact rosensymposium2010@gmail.com or call (718) 951-5458.

Volunteerism

WELCOME TO OUR NEW VOLUNTEERS AND FAREWELL TO ONE

The North Jersey Section is continually recruiting volunteers to do the work of the section. We have recently recruited three new volunteers who have already started working. I wanted to take this opportunity to thank them for volunteering and show what they are doing.

How do I find volunteers? Well as a Chemistry Ambassador, I do it by giving my elevator speech everywhere I go. Tradition has it that men do a lot of business in the locker room of the golf club or gym. Well women have gotten into this action as well and we talk in the locker room of the YMCA. I found two women there who turned out to be chemists. One of them is semi retired from EXXON Mobil her name is Margaret. Margaret worked with me at Rutgers/Ag Day in April.



The other woman has just been recruited by me in the Y her name is Lori she is a tutor now but did work as a chemist before her son was born. Some volunteers seek me out, one of them is Penelope (Tawanna) who



was a chemical technician and is now studying for a degree in chemistry. She contacted me two years ago about an Earth Day event in Irvington. She is now the Earth Day and National Chemistry Week Poster Contest organizer.

Another woman who contacted me by phone while I was on vacation in Martha's Vineyard is Dodda. She said she saw the information about recruiting volunteers on our website and wanted to volunteer! She has done an outstanding effort of volunteering. She introduced us to the 4H Club in Somerset County. We have participated in the Science day that they organized and the 4H fair last August. She and I were the pioneers on the street fairs; the first one was before we had our tent, which we now have. Both of us operated the booth with the help of Bill Suits who was the person to put up and take down the tent. Dodda is now only going to do volunteer work in the schools before she leaves to really retire. We want to thank her very much for all the work she did. She became my right hand in organizing street fairs and other events.



The Younger Chemist Committee is becoming another source of volunteers. Chenghua and Michelle came to us and worked the table at the Ag/Rutgers Day event last April.

The other source of volunteers is the Teacher Affiliate Group Eve came to help at Science Day in the 4H Club and the 4H Fair.



Members of the executive committee also volunteer but in this article, I want to highlight the work of the newest volunteers.

Why this article? Well it is to tell you that you can join this happy group of volunteers. Alternatively, I should say become a Chemistry Ambassador (www.acs.org/chemistryambassador) as the ACS is calling volunteers. Volunteer opportunities are listed on our website www.njacs.org and Volunteer Match. www.volunteermatch.org. the same opportunities will be listed there.

Hope you will join us at National Chemistry Week events at Liberty Science Center October 23 and at the USA Science and Engineering satellite event at the New Jersey Science and Engineering Festival in Clifton October 23 & 24.

By Jeannette Brown

Chem TAG Corner

UNEVEN LIQUIDS

Edited by: George R. Gross
Union High School, Retired

As seen at Demo Den, NJSC, and at ChemTAG meetings.

Uneven Liquids

Two liquids are introduced into a U-tube and the liquids do not reach the same level.

Applications: Density + Specific Gravity

Theory: This demo is based on the density difference between ethanol and water. The interface between the two liquids is very difficult to see.

Materials:

Half inch diameter Tygon tubing, 75 cm
Twist ties, copper wire or cable ties
(Large glass U-tube may be substituted)
Ethanol, 250 mL
Water, 250 mL
Wash bottles, 2 (or small funnel)
Backing board, may be Masonite, heavy corrugated, foam board, etc., 30 x 35 cm

Safety Precautions: Ethanol is flammable and toxic. Keep storage bottles capped and stored in a safe place. Wear goggles and always follow laboratory safety rules while demonstrating.

Preparation: Prepare the apparatus as shown by drilling holes and fastening Tygon tubing to the backing board with twist ties or copper wires. Twist wires behind for a neater appearance.

Demonstration: After asking students what they expect to happen, have a student pour some water from a wash bottle or by using a funnel into one end of the tubing.

Next, add some ethanol, without telling what it is, to the other side of the tubing after asking what will happen when you add some more liquid to the tube.

Outcomes: Water will be at equal levels in the tubing. When the alcohol is added the liquid at the alcohol end will be higher since it is less dense.

Disposal: Liquids may be poured down the sink with excess water.

Reference: After: Zidick, Z. J. *Journal of Chemical Education*, 1974. 51:A559

After: *Uneven Liquids, A Demo A Day*, Flinn Scientific, 1995, p. 22.



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Press Releases

U.S. and Canadian Engineers Explore Safe Siting of Liquid Natural Gas Terminals

As liquid natural gas grows in importance as an energy source, paper identifies priority issues and reviews findings from second joint conference.

NEW YORK & OTTAWA – In a search for “cleaner” replacements for petroleum, several new liquid natural gas (LNG) terminals have come on-line in North America in the last few years. However, applications for additional LNG facilities face serious challenges from communities concerned about safety. According to two groups of chemical engineers, while these facilities have laudable safety records, they do pose major hazards. And, the engineers say, the traditional process of balancing risks from such hazards with the benefits to society that come from a reliable energy supply, has been made even more contentious by perceived terrorist threats.

In response to this situation, members of the American Institute of Chemical Engineers (AIChE) and the Canadian Society for Chemical Engineering (CSCHE) have identified issues that merit priority consideration when siting LNG terminals.

For a copy of the full report, visit <http://apps.aiche.org/chemeondemand/preview.aspx?ID=84a30bb0-9ecf-47b2-90fe-4ea9f7cba972>



Researchers Design a Cleavable Disulfide Linker That Could Enhance Development of Therapeutic Recombinant Proteins

NEW YORK – 15th June 2010 - In vivo delivery of protein domains from recombinant fusion proteins can be a difficult task. Finding a linker that initially holds domains together but then releases once inside the body could enable the design of more recombinant proteins with enhanced therapeutic effect. In an article appearing in the July issue of *BioTechniques*, Wei-Chiang Shen and his colleagues from the University of Southern California describe the construction of a novel linker capable of being cleaved in vivo which could facilitate the

development of more therapeutic recombinant proteins.

The article, “Design of an in vivo cleavable disulfide linker in recombinant fusion proteins,” is currently available as an Advanced Online Publication at www.biotechniques.com.



EPA Opens Access to Chemical Information

Searchable database on chemical hazard, exposure and toxicity data now available

WASHINGTON— The U.S. Environmental Protection Agency (EPA) is making it easier to find chemical information online. EPA is releasing a database, called ToxRefDB, which allows scientists and the interested public to search and download thousands of toxicity testing results on hundreds of chemicals. ToxRefDB captures 30 years and \$2 billion of testing results.

ToxRefDB contains toxicity information that forms the basis for pesticide risk assessments when combined with other sources of information, such as those on exposure and metabolism.

More information on the database: <http://actor.epa.gov/toxrefdb>



Revolutionary Cell Culture Device Debuts in North America

Celartia Ltd. announces the introduction of its new PetakaG3™ Cell Culture Device, citing it as a major breakthrough for its ability to reduce cell culture contamination, improve portability, save space, and cut costs for a wide range of biotechnology and medical purposes.

PetakaG3 Cell Culture Devices are now available in the USA and Canada. Complete details, specifications and pricing information can be found on the Celartia websites at www.celartia.com or www.petaka.com, or by contacting Bill Van Huffel at 877-962-4687 or bill@themagnuscompany.com.

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- www.mboservices.net
- http://newyorkacs.org/jobs.html
- http://njacs.org/jobs.html

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EMD Chemicals 8
Huffman Laboratories, Inc. 23
Micron Inc. 4
Nacalai USA Inc. 21
New Jersey Institute of Technology . . . 23
NuMega Resonance Labs. 23
Robertson Microlit Labs 7
Vacuubrand, Inc. 24

EDUCATION

Stevens Institute of Technology. 2

EQUIPMENT

Eastern Scientific Co. 23
Mass Vac, Inc. 24

GENERAL

ACS-NY/NoJ Sections 14
ACS-NY/NoJ Sections 23
ACS-NY/NoJ Sections 23

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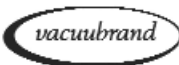
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