

THE Indicator

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October 20–26, 2013



**Call for Volunteers and
Demonstrators**

See pages 13-15.

Project SEED Poster Session

See page 6.

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THE INDICATOR**Manager / Editor** - LINDA ATKINS

1 Milbark Court, Homosassa, FL 34446

973-981-4383; Fax 352-503-7613

linatkins@tampabay.rr.com**Advertising Manager** - VINCENT GALE

MBO Services, PO Box 1150

Marshfield, MA 02050-1150 • 781-837-0424

vincegale@mbo-services.net**INDICATOR COMMITTEE****Chair, DR. LES McQUIRE**

17 Crown Drive, Warren, NJ 07059

908-334-5473, Les@LesMcQuire.org**New York Section Rep.****DR. NEIL JESPERSEN**

Chemistry Dept., St. John's University

8000 Utopia Parkway, Jamaica, NY 11439

718-990-5221

jespersen@stjohns.edu**North Jersey Section Rep.****JACQUELINE ERICKSON**

GSK, 1500 Littleton Road, Parsippany, NJ 07054

973-889-2368

e-mail: jacqueline.a.erickson@gsk.com**Web Masters**

NY Section - DR. BRIAN GIBNEY

postmaster@newyorkacs.org

NoJ Section - PAUL TUKEY

tukey@verizon.net**NEW YORK SECTION**<http://newyorkacs.org>**Chair, DR. PHILIP H. MARK**

1522 Luddington Road, East Meadow, NY 11554

516-489-7920

philip.mark@ncc.edu**Chair-Elect, DR. PAMELA K. KERRIGAN**

The College of Mount Saint Vincent, Division of

Natural Sciences, 6301 Riverdale Avenue,

Riverdale, NY 10471

718-405-3402

pamela.kerrigan@mountsaintvincent.edu**Secretary, DR. JOSEPH M. SERAFIN**

Dept. of Chemistry, St. John's University

8000 Utopia Parkway, Jamaica, NY 11439

718-990-5226

serafinj@stjohns.edu**Section Office**

St. John's University, Chemistry Dept.

8000 Utopia Parkway, Jamaica, NY 11439

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

njesper1@optonline.net**NORTH JERSEY SECTION**<http://www.njacs.org>**Chair, DR. JEFFERSON TILLEY**

19 Evergreen Drive, North Caldwell, NJ 07006

973-723-6330

tilleyjk@optonline.net • tilleyjk@FDU.edu**Chair-Elect, DR. MONICA SEKHARAN**

Assistant Research Professor

RCSB Protein Data Bank

Center for Integrative Proteomics Research

Rutgers, The State University of New Jersey

174 Frelinghuysen Rd., Piscataway, NJ 08854-8087

monicasekharan@njacs.org**Secretary, BETTYANN HOWSON**

49 Pippins Way, Morris Township, NJ 07960

973-822-2575

chemphun@gmail.com**Section Office**

49 Pippins Way, Morris Township, NJ 07960

973-822-2575 • chemphun@gmail.com**THE Indicator** 

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

September Calendar

NEW YORK SECTION

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Extraordinary Women in Science
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High School Teachers Topical Group
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Tuesday, September 24, 2013

Biochemical Topical Group
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New York Section Board Meeting
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Tuesday, October 1, 2013

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NORTH JERSEY SECTION

Thursday, September 12, 2013

Rutgers Initiative for Sensory Science
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Monday, September 16, 2013

Careers in Transition Group
See page 7.

Tuesday, September 17, 2013

ACC&CE
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Wednesday, September 18, 2013

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Project SEED Poster Session
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Wednesday, October 2, 2013

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

**Deadline for items to be included in the
October 2013 issue of *The Indicator* is
August 20, 2013**

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THIS MONTH IN CHEMICAL HISTORY

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

In my last pre-summer column I wrote about Claude Frederick Walker, the youngest Yale Ph.D. in chemistry up to his time (1897), who worked with the distinguished analytical chemist Frank Gooch at Yale, and later became a chemistry teacher at a State Normal School in Minnesota. The source of my material on Walker has been the Walker memoirs, kindly sent to me by John Fatherlee, a descendant of the Walker family.

After a year at the Normal School, where a change of School President led to Walker not being retained, he began in the Fall of 1899 “my career as a public high-school teacher amid the bizarre setting of a copper mine on a bare peninsula far out on the waste of our greatest lake: Superior.” He taught chemistry, physics, physical geography, and botany to the children of Cornish, Welsh, and Scandinavian miners at Calumet and Hecla High and Manual Training School. He was pleased with the facilities and equipment available. In chemistry his teaching was a simplified version of his Normal School courses, but in physics the course was enriched by connections to the local mining industry. The Calumet and Hecla Copper Mine was one of the largest and deepest in the world with very powerful engines, pumps, and hoists. Boys in Walker’s classes (he says little about girls at this time) were trained in many practical tasks that would serve them well when they joined their fathers and brothers in the mine after graduation.

Walker took a keen interest in the politics of high school education in this region. He writes in his memoir: “ This American question of the public high school, at the turn of the century, had moved... into a new ‘pedagogics’ whose professors ... were researching, lecturing, and writing.” “ I launched myself on a project in authorship (a college textbook in chemistry) in long-distance collaboration with my university professor [Gooch].”

Walker left the copper country in June 1900 returning to New England. High School teaching continued to be his vocation for four more years in New Britain, Connecticut, and Montclair, New Jersey. He began attending meetings of the local chapter of the American Chemical Society, and he completed his work on the college chemistry text (the book that I picked up at a local flea market). In September 1904 he joined the faculty of the High School of Commerce in Manhattan and stayed there for ten years. There, in collaboration with the Chairman of the chemistry department, Joseph S. Mills, he learned how to individualize instruction for his students “to my lasting betterment as a teacher.” With Mills and other colleagues he adapted and simplified his college text for high school work under the title “Inductive Chemistry”. He also began a new phase of his career as a public lecturer. He put together ten lectures on “Our Country’s Resources” including his knowledge of the copper country, and talks about wheat farming in Minnesota, and the oil, gas, and iron resources of Pennsylvania. The lectures had printed syllabi and were accompanied by exhibits and lantern slides.

In 1914 Walker moved to his final post at Boys High School in Brooklyn where he taught until 1940. He taught physics – but in cramped and unsuitable laboratories which he rapidly reorganized and improved. His students were encouraged to work on individual projects. He was a very successful physics teacher but in 1940, when the physics department was consolidated with chemistry, he retired from Boys High School. He had moved with his wife to Darien, Connecticut (he commuted to Brooklyn) and after retirement his interests turned to local and family history. He died in 1966 at the age of 92.

In researching these columns I came across an article Walker wrote that was published in the New York Times on April 27, 1918. It is headed “Schools for adults. Free lectures to give the people moral enthusiasm for the war”. It is a plea for moral education delivered to adults via popular lectures. It is, I think, a reflection of the ethical and moral creed of this impressive science educator.

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.

Note: This event is held in conjunction with the September North Jersey Executive Committee Meeting.

More Project SEED info can be found here: <http://www.njacs.org/education/project-seed>

Date: Monday, September 23, 2013

Times: SEED Poster Setup 3:30 PM
Judging 4:00 - 6:00 PM
Dinner 6:00 PM
Awards 6:30 PM

Place: Seton Hall University
U Club, 2nd Floor, University Ctr.
400 South Orange Avenue
South Orange, NJ

Cost: Dinner \$25.00 payable at the door
Free for judges

For reservations please call (732) 463-7271 or email chemphun@gmail.com prior to **Wednesday, September 18, 2013.**

To be a judge contact Bill Suits (suits@earthlink.net).

Dinner cost 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. The event is free if you do not have dinner or are a judge.

See schedule for meetings of the New Jersey Pharmaceutical Quality Control Association on page 29.

NoJ — RUTGERS INITIATIVE FOR SENSORY SCIENCE CONFERENCE

Rutgers' Initiative for Sensory Sciences and Innovation is hosting a conference for industry, government and academic thought-leaders, developers and manufacturers to discuss the latest discoveries and challenges in Flavors, Fragrances and Perceptions. Topics will include innovative sensory evaluation, consumer insights, neuroscience, psychophysics, natural products, sustainability and much more. The accompanying exhibit hall and poster session will provide opportunities to network and learn about the latest ideas, tools, applications and key marketing/technical news from industry and academic experts.

Introduction

Speaker: Ms. Michele Brown
CEO
New Jersey Economic
Development Authority

Keynote: Challenges and Opportunities for the Flavor Industry

Speaker: Dr. Matthias Guentert
President
Flavor & Nutrition Div. NA
Symrise

Title TBD

Speaker: Dr. Howard Moskowitz
CEO of i-Novation
President
Moskowitz Jacobs, Inc.

Title TBD

Speaker: Dr. Dimitris Metaxas
Professor of Computer Science
Director
Center for Dynamic Data
Analytics
Rutgers University

Title TBD

Speaker: Dr. Thomas Hofmann
Chair of Food Science Dept.
University of Munich

Translational Taste Research - Discovery of Molecular Targets for Flavor Innovations

Title TBD

Speaker: Dr. Terry McGuire
Professor of Genetics
Rutgers University

Postharvest Handling and Physiology

Speaker: Dr. Mary Lu Arpaia
Professor
University of California, Davis

Title TBD

Speaker: Dr. Jay A. Gottfried
Associate Professor of
Neurology
Northwestern University
Feinberg School of Medicine

Short Program: "Rutgers Sensory Sciences and Innovation"

Speakers: Drs. Beverly Tepper
Jim Simon and
Jeannette Haviland-Jones
Rutgers University

Date: Thursday September 12, 2013

Times: 8:00 AM to 5:00 PM

Place: Busch Campus Center
604 Bartholomew Road
Piscataway, NJ

Cost: Free Registration Here

**CAREERS IN TRANSITION MEETINGS****Job Hunting??**

We offer assistance at Students2Science to help members with their job search on the second Monday of each month. Topics at this free workshop are:

- Techniques to enhance resume effectiveness
- Interview practice along with responding to difficult questions
- Networking to find hidden jobs
- Planning a more effective job search

Date: Monday, September 16, 2013

Times: Meeting 5:30 - 9:00 PM
Pizza snack and soda 6:30 PM

Place: Students 2 Science, Inc.
66 Deforest Avenue
East Hanover, NJ

Cost: \$5.00 for pizza and soda

Reservations: at

www.njacs.org/careers.html

A job board and networking assistance is offered at most topical group meetings. Appointments with Bill can be arranged for personal assistance at (908) 875-9069 or billherits@earthlink.net.

See www.njacs.org under the Career tab for Jobs hidden from sight and relevant blogs.

**NORTH JERSEY ACC&CE – JOINT MEETING WITH AICHE NEW JERSEY SECTIONS****Commercialization Opportunities in the Chemical Industry**

Speakers: Bernard Ennis, P.E.
President
EGT Enterprises, Inc.
Cedar Grove, NJ
ennis@egtgroup.com

and

Steven Wilmes
Manager
Process Engineering Group
Thielsch Engineering, Inc.
Cranston, RI
swilmes@thielsch.com

Bernie has consulted on insurance, legal, technical and management matters in oil & gas, refining, petrochemical, chlor-alkali, and power generation. He has authored patents on oxy-combustion and electric chemical reactors. He understands the significant issues relating to new chemical technology development

Steve has leadership experience providing technical and global project management advisory services to industry, governments and investment houses. He is an expert in fertilizers and syngas processing. He has led teams advising on 500+MM\$ projects in Africa, Asia-Pacific, Indian Subcontinent, and the Middle East.

Presentation:**Familiar Commercialization Sequence**

Novel Idea → Intellectual Property Protection → Bench Test → Pilot Plant → Semi-Works/ Commercial Prototype → First Commercial Demonstration Plant → Industrial Readiness → Profit/Benefit Realization

“Sounds Straightforward – It Is Anything But”

Bernie and Steve will describe the requirements and issues at play in changing the state-of-the-art in chemical manufacturing

(continued on page 8)

ACC&CE*(continued from page 7)*

while providing valuable advice to those who might choose to accept the challenge.

There will be a handout paper for attendees at the end of the presentation.

Date: Tuesday, September 17, 2013

Times: Networking 6:00 PM
Dinner and Presentation 6:30 - 8:30 PM

Place: Snuffy's
Scotch Plains, NJ

The registration fee for members and non-members is \$25. Prior reservations are requested **by September 16, 2013**. Thank you.

Please contact Dr. John Bonacci at ACC&CE: email:

accce@chemconsult.org, phone or fax: (908) 464-3182 or regular mail: P.O. Box 902, Murray Hill, NJ 07974-0902.

**TEACHER AFFILIATES****Board Meeting:**

Date: Wednesday, September 18, 2013

Time: 4:30 PM

Place: College of Saint Elizabeth
Mahoney Library
2 Convent Road
Morristown, NJ

**NMR TOPICAL GROUP****Symposium on NMR in Biomedical Research 2013**

Sponsors: ACD / Labs
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Agenda

1:00 Opening Remarks

- 1:05 Prof. Josh Wand
University of Pennsylvania
"Conformational Entropy and Its Role in Protein Function as Revealed by NMR Relaxation"
- 1:55 Prof. Mike Summers
University of Maryland
Baltimore Campus
"New Insights into the Structure of the HIV-1 RNA Packaging Signal"
- 2:45 Prof. Gerhard Wagner
Harvard University
"Still Improving Data Acquisition and Processing to Aid Studies of Large Proteins"
- 3:35 Coffee Break
- 4:05 Dr. Feng Luo
Bristol-Myers Squibb
"Functional Magnetic Resonance Imaging in Schizophrenia"
- 4:55 Prof. David Wishart
University of Alberta
"NMR and Metabolomics, Pushing the Boundaries of Speed, Sensitivity & Coverage"
- 5:45 Closing Remarks
- 5:50 Cocktail reception cosponsored by Bruker-Biospin and MestreLab Res.

Date: Wednesday, October 2, 2013

Times: 1:00 - 6:45 PM

Place: Waksman Institute
Rutgers University
Piscataway, NJ

Cost: Registration fee \$10.00. No charge for students, postdocs, retirees, unemployed.

On-line registration (**till September 30**) via:
<http://www.njacs.org/topicalgroups/nmr-spectroscopy> or email to gvts@rutgers.edu

**YCC — NATIONAL YCC WEBINAR BROADCAST****A Date with Science: Dinner and Dessert Chemistry Webinar**

On February 28, 2013, the YCC participated in a webinar broadcast by the National YCC about dinner and dessert chemistry. There were cookies and milk for the attendees.

YCC members learned about chemistry of sweet and savory foods from Guy Crosby of America's Test Kitchen and Sally Mitchell. The webinar was very informative and everyone enjoyed the thoughtful questions during the Q&A session. A fitting accompaniment to dessert chemistry was milk and cookies for all!

YCC – RUTGER'S DAY EVENT

On April 27, 2013, the YCC participated in the annual Rutger's Day event. Volunteers helped children make their own UV detecting bracelet using UV-sensitive beads. When exposed to sunlight these beads take on a dazzling array of colors. With some simple experiments the kids learned how to test the power of UV rays, and how sunscreen protects you from UV over-exposure. The kids and their families were able to enjoy science, while building awareness of the dangers of excessive sun exposure and learning how to protect your skin.



(Photo courtesy of Ashley Tennyck)

North Jersey Awards

NORTH JERSEY 50 AND 60 YEAR MEMBERS

Seventeen members of the North Jersey Section celebrated their 50 and 60 Year Anniversaries at the 2013 Awards and Recognition Dinner at The Mansion, Fairleigh Dickinson University, Madison on May 14th. Certificates were presented by Monica Shakhara, Chair-elect, and Amber Charlebois, Immediate Past-chair. More photos, courtesy of Tom Krone, may be viewed at our website www.njacs.org



Robert Augustine-60 Years



Elizabeth Bellamy-60 Years



Harry Katz-60 Years



George Kramer-60 Years



Arthur Patchett-60 Years

SIXTY-FIFTH ANNUAL UNDERGRADUATE RESEARCH CONFERENCE

The Sixty-fifth Annual Undergraduate Research Conference organized by Montclair State University was held on Friday, April 26, 2013 in Montclair, NJ. Five undergraduate students from colleges and universities in the area presented their research to an audience of students, faculty and scientists from the North Jersey area. The three judges were: Dr. Darren Hansen, Assistant Professor of Chemistry at Rutgers Newark, Dr. Ronald Tcherne, formerly of Roche currently an Independent Consultant at Tcherne Consulting, and Dr. Ueli Gubler, also formerly of Roche currently an Adjunct Professor and Research Associate at Montclair State University.

First Place and the Jean Asell Duranna Award was given to Megan McAleavy a senior at Drew University who presented her research on "Drug Discovery Efforts in the Reactivation of Mutant p53 in Human Tumor Cells." Her research was conducted under the direction of Dr. Ronald J. Doll a RISE Fellow at Drew University.

The second place award was given to Megan Vallejo a senior chemistry major at Fairleigh Dickinson University under the direction of Dr. Amber Charlebois. Megan

presented her findings in "The Interaction between Cresyl Violet and Nucleic Acid Using Computer Modeling and Fluorescence Spectroscopy." Megan just got back from the ACS national meeting in New Orleans where she presented her research in the form of a poster. She is an Honors student at FDU and plans to attend the FDU School of Pharmacy this fall.

A Montclair State University senior chemistry major, Michael Little was awarded the third place award for his presentation titled, "Small Changes in Dihydrofolate Reductase Can Result Inaltered Drug Specificity." Michael's research was conducted under the direction of Dr. Nina Goodey, Biochemistry Professor at MSU. Michael recently served as an author on an article titled "Hepatic and renal Bcrp transporter expression in mice treated with perfluorooctanoic acid" published in the journal Toxicology on work he conducted with Professor Lauren Alexunes during summer 2012 at Rutgers University. He will start graduate school at the University of North Carolina Department Chemistry in fall 2013.

The award certificates will be formally presented to the top three student presenters at the North Jersey Section's Annual Awards Dinner to be held on Tuesday, May 14, 2013 in Lenfell Hall on the Fairleigh Dickinson University campus in Madison, NJ.



Student Winners are seated in front, from left Megan Vallejo, Megan McAleavy, and Michael Little. And in the back row from left, Ronald Tcherne, Darren Hansen, Ronald J. Doll, Amber Charlebois, Ueli Gubler and Nina Goodey.

(Photo Courtesy of Katelyn Lewis)

NORTH JERSEY CHEMAGINATION CONTEST

On April 24th the North Jersey Section sponsored a Chemagination Contest at Passaic Valley High School in Little Falls. Twelve teams competed. Chemagination is an event in which high school students, working in teams of two or three, are asked to imagine that they are living 25 years in the future and have been invited to write an article for ChemMatters, an ACS magazine for high school students. The subject of the article is: "Describe a recent breakthrough or innovation in chemistry and/or its applications that has improved the quality of people's lives today." The article is written to be in one of four categories: Alternative Energy, Environment, Medicine/Health or New Materials. In addition to the article, students must also design the cover of the magazine. Teams were evaluated and winners selected based on the quality of their article, their poster display and their ability to defend the science behind their innovation during interviews with judges. The winners from each of the four categories were then eligible to compete in the MARM contest, which was held on May 18th at Princeton University. Here, 16 teams competed. MARM Chemagination 2013 was sponsored by the Mid-Atlantic Regional Meeting Executive Board of the American Chemical Society. More photos, courtesy of Tom Krone, may be viewed at our website www.njacs.org

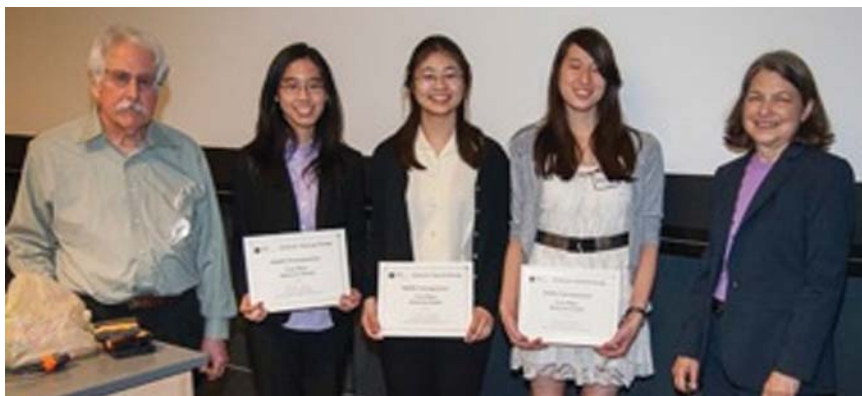
NORTH JERSEY LIFETIME ACHIEVEMENT AWARD

The 2013 NJACS Lifetime Achievement Award, for conspicuous achievements in chemistry, was presented to John J. Piwinski, PhD. at the North Jersey Section's Award and Recognition Dinner on May 14th. Dr. Piwinski has a well-deserved world-wide reputation as a leader and innovator in the field of medicinal Chemistry. His style is characterized by openness, honesty, and a willingness to take the time to listen to others seeking advice. His drive and enthusiasm for science and success are contagious. He serves as a role model for medicinal chemists and has expanded his influence greatly through his mentorship of younger and established chemists in the field of medicinal chemistry.



John J. Piwinski (L) receives his award from Alan Cooper, NJ Councillor.

(Photo courtesy of Tom Krone)



Kelly Heom, Rachael Yank, and Isabella Grabski, NJACS local winners, also received a first place award at the MARM Competition for their project "The Blood Brain Barrier Gun: Controlled Drug Delivery Through Ultrasonic-Mediated Microfluidics." Presenting them with their certificates are Jim DeNoble and Louise Lawter. They are students at Bergen Academies, Hackensack and their mentor was Dr. Deok-Yang Kim.

(Photo courtesy of Tom Krone)

NORTH JERSEY MARM REGIONAL AWARD FOR EXCELLENCE IN HIGH SCHOOL TEACHING

Jayasree Sankar, a teacher at Bergen County Technical High School in Teterboro, NJ, received the MARM Regional Award for Excellence in High School Teaching on May 16th at the joint Philadelphia Section-MARM Regional Awards Dinner at Drexel University.



Several members of the North Jersey Section traveled to Philadelphia to celebrate with Jayasree. Pictured (left to right) are Bettyann Howson, NJACS Secretary; Diane Krone, NJACS Councilor; Jayasree Sankar, Awardee; Martha Hollomon, MARM Chair; and Bill Suits, NJACS Councilor.

(Photos courtesy of Tom Krone)

NORTH JERSEY SECTION PRO BONO AWARDS

At its Awards and Recognition Dinner on May 14th, the North Jersey Section honored five recipients with Pro Bono Awards. The awards were made for many years of service and dedication to various groups. The awardees were Thomas Berube for service to Project SEED, Beth Mohr for service to Project SEED, Jay Charlebois for his behind the scenes support and service to the Section, Karen Dingley for service to the NJACS Drug Metabolism Discussion Group, and David Kohler for service to the North Jersey Chromatography Group.

Photos, courtesy of Tom Krone, may be viewed at our website www.njacs.org



NORTH JERSEY SALUTE TO EXCELLENCE AWARDS

The ACS Salutes to Excellence recognize a practitioner of chemistry, a product of chemistry, or a place of importance in chemistry within their communities. At its 2013 Awards and Recognition Dinner on May 14th, the North Jersey Section presented five Salutes to Excellence.

Ron Kong was recognized for his leadership in both the North Jersey Local Section and the Mass Spectrometry Discussion Group and his commitment to improving the public's perceptions of chemistry by taking the lead to develop the highest quality technical programming for high school students and analytical chemists at the 2012 Eastern Analytical Symposium.

Philip Krieter was recognized for his leadership in the North Jersey ACS Drug Metabolism Discussion Group and his commitment to improving the public's perceptions of chemistry. As a result of his judicious budgeting and financing the DMDG attracts world renown scientists to its symposium and vendor shows that foster continued discussion on scientific advances among the industrial and academic communities.

Paul Tukey was recognized for his support, maintenance and design of the North Jersey Section's Web Site, as Web Master of the North Jersey Section's Web Site, and his commitment to communicating with members and improving the public's perceptions of chemistry through dissemination of information to its members and the general public.

Students 2 Science was recognized for facilitating the relationship between private business and public education and to its commitment to improving the public's perceptions of chemistry by changing students' attitudes towards pursuing careers in science, technology, engineering, and math through their exposure to real scientists and improving students' aptitude in STEM subjects. Bill Suits, NJACS Councilor, presented the award to Ellen Barrabee and Donald Truss.

Rick Yglesias was recognized for his leadership in the Mass Spectroscopy Discussion Group and to his commitment to improving the public's perceptions of chemistry through his dedicated work with the North Jersey Section's Careers in Transition Program, where at monthly meetings he provides members and affiliates with tools to explore career options available within the world of chemistry.

Photos, courtesy of Tom Krone, may be viewed at our website www.njacs.org

NORTH JERSEY STUDENT AFFILIATES RESEARCH CONFERENCE

The North Jersey Section held its 2013 Awards and Recognition Dinner on Tuesday, May 14th at The Mansion, Fairleigh Dickinson University, Madison, NJ. Among those recognized were the awardees of the 2013 ACS Student Affiliates Research Conference.

The Jean Asell Durana Award was presented to Megan McAleavy of Drew University. Dr. Ronald J. Doll is Megan's research advisor.

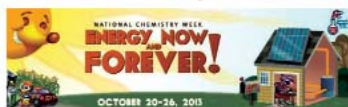
The Second Place Award was presented to Megan Vallejo of Fairleigh Dickinson University. Dr. Amber Flynn Charlebois is Megan's research advisor.

The Third Place Award was presented to Michael Little of Montclair State University. Dr. Nina Goodey is Michael's research advisor.

Photos, courtesy of Tom Krone, may be viewed at our website www.njacs.org

Call for Demonstrators

National Chemistry Week 2013



Sister Marian Jose Smith Undergraduate Outreach Competition

ATTENTION STUDENT CHAPTERS

"Energy: Now and Forever!"

Come to the Chemistry Expo at the Liberty Science Center Saturday, October 26th from 10:00 AM - 2:00 PM with your best Undergraduate Hands-on-Demonstration.

The Student Chapter with the **best** interactive demonstration that applies to the theme of energy will receive a \$175 cash prize and the title of

"NCW Undergraduate Student Chapter 2013"
(second place gets \$75).

For details check the website

<http://www.acs.org/content/acs/en/education/outreach/ncw.html>
Student Chapters must register by October 12th to be considered for the title and the cash awards. If interested send an email to rosellerams@yahoo.com



ChemExpo 2013

at Liberty Science Center



Saturday, October 26th, 2013
10 a.m. - 2 p.m.

"ENERGY: Now and Forever!"

Hands-on Science Activities

A family affair presented by area chemists, college and high school chemistry teachers and students.

Visit **Liberty Science Center** and enjoy this additional event included with general admission to the Center

Coordinated by
North Jersey Section of the American Chemical Society



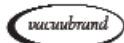
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Call for Volunteers

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 our efforts Why don't you join us this year? On **Saturday, October 26, 2013** 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 "ENERGY: Now and Forever!" Engage visitors in exploring the positive impacts of chemistry as it relates to all types of energy especially renewable energy. 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 repeat 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 or Mita Chaki at mitachaki@gmail.com and let us 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 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 with a memo of "NCW" and sent to Jacqueline Erickson, 33 Ronald Road, Lake Hiawatha, N, 07034-1121.

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, October 26** (Check appropriate box)

- 10:00 AM-11:30 AM,
 11:30 AM – 2:00 PM,
 10:00 AM-2:00 PM

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.
 (Circle) 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): _____

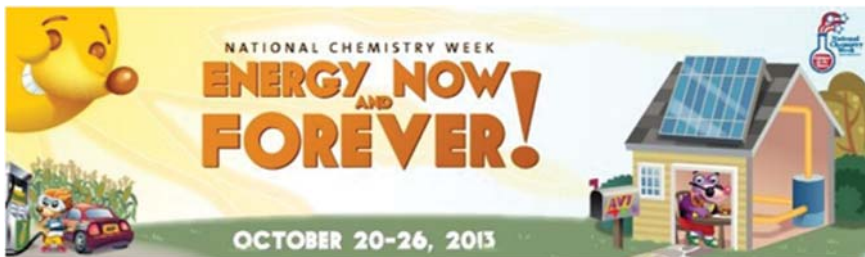
Activity _____ Time Volunteering _____

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.
Mita Chaki and Valerie Kuck



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New York Meetings

www.newyorkacs.org

NEW YORK SECTION BOARD MEETING DATES FOR 2013

The dates for the Board Meetings of the ACS New York Section for 2013 were chosen and approved at the November 30, 2012 Board Meeting. The meetings are open meetings – all are welcome. If non board members would like to attend the meeting, please let the New York Section office know by emailing Mrs. Marilyn Jespersen at njesper1@optonline.net or calling the office at (516) 883-7510.

The 2013 Board Meetings will be held on the following Fridays at 6:30 PM at St. John's University, D'Angelo Center, Jamaica, NY. Dr. Philip H. Mark will chair the meetings.

Friday, September 27

Friday, November 15

More information will be posted in future issues of *The Indicator* and on the New York website at <http://www.NewYorkACS.org>.



HIGH SCHOOL TEACHERS TOPICAL GROUP

Engineering Failures and Design Principles

Speaker: Sheldon Levine
Vice President for Marketing and Business Development
AeroNav Laboratories
College Point, NY

This talk will present well-known engineering failures such as the Millennium Bridge, New Orleans levees, World War II liberty

ships, the John Hancock Building, the Leaning Tower of Pisa, DeHavilland Comet jet aircraft, and the Tacoma Narrows Bridge to demonstrate the importance of design principles in preventing failures. It will also present a brief overview of some of the environmental simulation testing equipment in the AeroNav Laboratories facility.

Date: Friday, September 20, 2013

Time: Social and Dinner — 5:45 PM

Place: George's

89 Greenwich Street (at Rector Street, South-east corner)
Manhattan, NY

Time: Meeting — 7:15 PM

Place: United Federation of Teachers

50 or 52 Broadway
New York, NY

Check with security for room. This is just South of Exchange Place and the Wall Street Station on the #4 & #5 subway lines. It is a short walk from the several other subway stations.

Security at UFT requires that you show a picture ID to enter the building.

In case of unexpected severe weather, call John Roeder, (212) 497-6500, between 9:00 AM and 2:00 PM to verify that meeting is still on; (516) 385-4698 for other info.

Note: Street parking is free after 7:00 PM. Off street, garage parking is available in the area. There is a "park and lock" garage on Greenwich Street at Edgar Street. Public transportation is strongly recommended.

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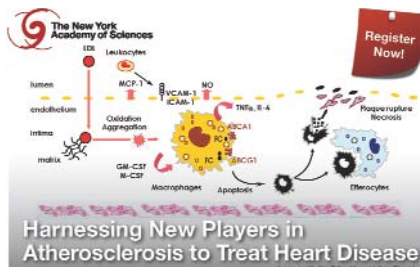
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BIOCHEMICAL TOPICAL GROUP — JOINT MEETING WITH THE NYAS BIOCHEMICAL PHARMA- COLOGY DISCUSSION GROUP

Harnessing New Players in Atherosclerosis to Treat Heart Disease



Organizers: Mercedes Beyna, MS
Pfizer Global Research and
Development

Nadeem Sarwar, PhD
Pfizer Global Research and
Development

Laurent Yvan-Charvet, PhD
INSERM U1065/UNS, C3M

Jennifer Henry, PhD
The New York Academy of
Sciences

Speakers: Emmanuel L. Gautier, PhD
Washington University School
of Medicine, St. Louis

Matthias Nahrendorf, MD, PhD
Harvard Medical School

Kathryn J. Moore, PhD
NY University Medical Center

Karin Bornfeldt, PhD
University of Washington
School of Medicine

Klaus Ley, MD
La Jolla Institute for Allergy
and Immunology

Alan R. Tall, MD, PhD
Columbia Univ. Medical Center

Andrew H. Lichtman, MD, PhD
Brigham and Women's Hospital
Harvard University

Elena V. Galkina, PhD
Eastern Virginia Medical School

Currently available therapies fail to resolve the full burden of many cardiovascular diseases. Understanding the role of key hematopoietic and inflammatory players in this disease process may help identify new targets for fighting atherosclerosis.

Date: Tuesday, September 24, 2013

Time: 8:30 AM – 4:30 PM (reception to follow)

Place: The New York Academy of
Sciences

7 World Trade Center
250 Greenwich Street – 40th Floor
New York, NY 10007

Cost: This event has reduced-rate registration for ACS and NYAS members, at \$30 or \$15 (for students and post-docs). Please select the appropriate non-member Registration Category and use the Priority Code ACS. Non-members may attend for a fee of \$85 (corporate), \$65 (non-profit or academic) or \$45 (students and post-docs).

For more information and to register for the event, go to:

www.nyas.org/atherosclerosis2013

To become a Member of the Academy, visit
www.nyas.org/benefits



WESTCHESTER CHEMICAL SOCIETY

Special Seminar – “Catalyzed Direct Reactions of Silicon: Examples, Si Surface Enrichment and Silylene Intermediates”

Speaker: Kenrick M. Lewis, Ph.D.
Corporate Research Fellow
Momentive Performance
Materials, Tarrytown, NY

(CH₃)₂SiCl is the principal precursor to silicones. More than 1 million metric tons of it is manufactured annually in fluidized beds by the reaction of CH₃Cl with copper-activated silicon^(1, 2). HSi(OCH₃)₃ is manufactured in slurry phase reactors via the analogous reaction with CH₃OH^(3, 4). It is produced in considerably lower volume, but it is an important raw material for the manufacture of organofunctional silanes and coupling agents. The reaction of copper-activated silicon with (CH₃)₂NH produces HSi[N(CH₃)₂]⁽⁵⁾. All three reactions are examples of the Rochow – Müller Direct Synthesis of silanes. This presentation will discuss salient features of these copper-catalyzed, gas-solid reactions with particular emphasis on the role of silicon surface enrichment⁽⁶⁾ and silylene intermediates^(7–10).

1. K. M. Lewis and D. G. Rethwisch (Editors),
Catalyzed Direct Reactions of Silicon,

(continued on page 18)

WESTCHESTER CHEMICAL SOCIETY

(continued from page 17)

- Elsevier Science Publishers, Amsterdam, 1993, chp. 1
2. D. Seyferth, *Organometallics*, 20 (2001) 4978
 3. H. Oye, et al. (Editors), *Silicon for the Chemical Industry IV*, June 3–5, 1998, Norwegian Institute of Science & Technology, 7034 Trondheim, Norway. See pp 265 – 327
 4. A Better Route to Alkoxysilanes, Kirkpatrick Award. *Chemical Engineering*, Nov. 1999, pp 92 – 95
 5. Ref. 1, chp. 20
 6. K. M. Lewis, D. McLeod and B. Kanner in J. W. Ward (Editor), *Catalysis 1987*, Elsevier Science Publishers, Amsterdam, 1988. pp 415 - 434
 7. M. P. Clarke and I. M. T. Davidson, J. *Organomet. Chem.*, 408 (1991) 149
 8. Ref 1, chp 16
 9. M. Okamoto, *Res. Chem. Intermed.*, 32 (2006) 317 - 330
 10. L. Lorey and G. Roewer, *Silicon Chem.*, 1 (2002) 299 - 308

Dr. Kenrick Martin Lewis is a Corporate Research Fellow with Momentive Performance Materials in Tarrytown, NY. He joined the Linde Research Dept. of Union Carbide in January, 1977 and has been at the Tarrytown Technical Center since then. Dr. Lewis's research interests encompass both process and materials chemistry. In process chemistry, he has contributed to the fundamental understanding and technological exploitation of the catalytic transformations of silicon and silicon compounds. These include direct syntheses of silanes from silicon, hydrosilylation and redistribution/disproportionation of organosilicon compounds. Use of nanosized materials in the catalyses is a particular emphasis. The materials chemistry interests are focused on structure-property relationships among siloxane-polyether copolymers, surface modification of polysiloxanes in medical, dental and urethane foam applications. He is co-editor of *Catalyzed Direct Reactions of Silicon* (Elsevier, 1993), author of forty-six technical publications, and inventor of twenty-six issued US patents.

Dr. Lewis was born in Grenada, West Indies, and completed his secondary education there. His degrees are from the University of Alberta (Edmonton), BS (first class honors in chemistry), and from the University of Massachusetts (Amherst), Ph.D. (Inorganic Chemistry). Dr. Lewis has been the recipient of many scholarships, prizes and awards from his studentship to the present

time. These include the Latimer and Langmuir Awards at General Electric Co., Caribbean Icon of Science and Technology from the Caribbean Council for Science and Technology, and a Key Contributor to the 1999 Kirkpatrick Award for Innovation in the Direct Synthesis of Trimethoxysilane.

Date: Tuesday, October 1, 2013

Times: Refreshments 5:30 PM

Lecture 6:00 PM

Place: Westchester Community College
Gateway Building, Room 110
75 Grasslands Road
Valhalla, NY

Cost: Free and Open to the Public

Further Information: Paul Dillon,
PaulWDillon2@hotmail.com
(914) 393-6940

Next Meetings:

Special Seminar – “Electrochemical Detection of Thermal DNA State Transitions and Antibiotic Drug Binding to DNA at Surfaces”

Speaker: Irina Belozerova, Ph.D.

Date: Wednesday, November 13, 2013

Times, Place, Cost same as October.

Special Seminar – “DNA: Not Merely the Secret of Life”

Speaker: Nadrian C. (Ned) Seeman, Ph.D

Date: Wednesday, December 4, 2013

Times, Place, Cost same as October.



NY NANOSCIENCE DISCUSSION GROUP

2013-2014 Sessions.

*Hosted by the New York University
Department of Chemistry*

Speakers to be announced.

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

Mark Your Calendars:**Dates: Tuesdays, October 1, December 3, February 11 and April 8**Times: Refreshments at 7:00 PM
Science at 7:30 PMPlace: NYU Silver Center
31 Washington Place (between
Washington Square East and
Greene Street
Room 1003 (10th floor)
New York, NYFor more information, contact: James
Canary (james.canary@nyu.edu)Topical Group History:
<http://www.nyu.edu/projects/nanoscience>**EXTRAORDINARY WOMEN IN
SCIENCE & MEDICINE: FOUR
CENTURIES OF ACHIEVEMENT**

The Grolier Club is pleased to present a landmark exhibition exploring the legacy of thirty-two remarkable women whose extraordinary scientific accomplishments in physics, chemistry, astronomy, mathematics, computing, and medicine changed science. *Extraordinary Women in Science & Medicine: Four Centuries of Achievement* will illuminate the often little-known careers and accomplishments of these female scientists, examining their work and lives over four centuries.

More than 150 original artifacts, including books, manuscripts, serials, authors' separates, Ph.D. theses, and laboratory apparatus (such as that used by Marie Curie during her earliest work on radioactivity) will be on view, providing a remarkable overview of the scientific contributions of this eminent group.

Included will be numerous items with special attributes and provenance. Of particular interest will be Emilie Du Châtelet's 1759 translation of Newton's *Principia* with the bookplate of Talleyrand; copies of all of her other scientific publications; a mathematics workbook and a letter, both in her hand; and materials about her fourteen-year relationship with Voltaire, including a book she co-authored—although without her name on the title page. A scientific breakthrough written on a brown paper bag is displayed. The exhibition also serves to announce a falsely attributed first edition due to a typesetter's error in the seventeenth century and other bibliographical discoveries.

Extraordinary Women in Science &

Medicine: Four Centuries of Achievement highlights such modern luminaries of the physical sciences as Marie and Irène Curie, Marietta Blau, Lise Meitner, Maria Goeppert Mayer, C.-S. Wu, Dorothy Crowfoot Hodgkin, and Rosalind Franklin in physics and chemistry. Astronomers include Maria Cunitz, the most advanced scholar in mathematical astronomy of the seventeenth century, and Cecilia Payne-Gaposchkin, whose Ph.D. thesis in 1925 was the beginning of modern astrophysics. Among the mathematicians highlighted are Sophie Germain, Sophie Kowalevski, Emmy Noether, Emilie Du Châtelet, Maria Agnesi, and Florence Nightingale—for her work in statistics. Grace Hopper, the creator of many fundamental concepts in digital computing, is featured. Represented also are Laura Bassi, Hertha Ayrton, Marie Meurdrac, Marie Thiroux d'Arconville, Elizabeth Fulhame, and Ada, Countess of Lovelace.

Among medical scientists, the exhibition features Gerti Cori, instrumental in unveiling the fundamental mechanism of metabolism; Gertrude Elion, the first to design medicines effective in the cure of cancer and viral diseases; Rosalyn Yalow, developer of the powerful analytic tool, radioimmunoassay; and Florence Sabin, whose discoveries form the basis for our current understanding of cellular immunity. Two game-changers in medical science are Rita Levi-Montalcini, discoverer of nerve growth factor, and Barbara McClintock who discovered that genes are not fixed but move—the key paradigm shift in modern genetics. Great and influential clinical physicians include Louise Boursier, midwife to King Henry IV and Marie de Medici of France; the pioneering pediatric neurologist Mary Putnam Jacobi; and Helen Taussig, designer of the life-saving “blue baby” operation.

The exhibition is designed to pose questions about women's recognition — or lack thereof — in the sciences. Topics treated include educational opportunities, role models, the use of social capital, individual styles of doing science, and gender issues associated with society norms of the periods. The viewer may consider such questions, for example, as who deserved and who received Nobel Prize awards among the modern women. The intention is to raise awareness about how women's roles have been limited in the development of the sciences.

(continued on page 20)

EXTRAORDINARY WOMEN

(continued from page 19)

Date: Sept. 18 - Nov. 23, 2013

Times: Mon.-Sat. 10:00 AM - 5:00 PM

Place: Grolier Club

47 East 60th Street

New York, NY

The exhibit will be open to the public free of charge. Additional information and directions are available at www.grolierclub.org.

EXHIBITION-RELATED EVENTS: Thursday, October 3, 2013, 6:00 PM-7:30 PM: Collectors' Forum; **Saturday, October 26, 2013, 12:00 PM-5:00,** Symposium on Extraordinary Women in Science & Medicine; **October 16, 23 and 30, 2013:** Lunch-hour tours of the exhibition.

For special visits with a curator, contact Ronald K. Smeltzer, rksmeltzer@verizon.net

Submitted by Dr. John B. Sharkey, Chair of the Committee on the History of the ACS New York Section.

EARTH DAY EVENT SPONSORED BY THE NEW YORK SECTION, USMMA MATH & SCIENCE DEPARTMENT, AND THE GREAT NECK LIBRARY

USMMA Takes "Hands-on" Approach to Earth Day 2013

A series of fun-filled and "green" focused science experiments and demonstrations along with six large colorful information poster displays at the Great Neck Library on Saturday, April 20, commemorated Earth Day 2013 and Environmental Awareness in Great Neck, N.Y. From 11:00 a.m. to 3:30 p.m., math and science faculty and midshipmen from the U.S. Merchant Marine Academy (USMMA) enthusiastically engaged more than eighty local youth and their parents who tried out approximately twenty earth-friendly hands-on activities. Children, parents, and the presenters alike obviously enjoyed their time spent together exploring topics related to the oceans, one of our blue planet's most valuable natural resources, and issues to their sustainability.

The program was in its second year, and was sponsored by the USMMA Math & Science Department, the Great Neck Library (GNL), and the New York Section of the American

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.

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

Chemical Society (ACS). Local high school seniors and community members also contributed to the program.

At the event, students were delighted to learn about the simple but "cool" ways for separating paper, plastics, paper clips, and aluminum for recycling. In particular, students were excited when they watched how the recycled plastics can be reused to build an amphibian rover that can run on land and in water.

By showing how a toy car can run by sea water, a light bulb can light up by ocean wind energy and a toy boat can move by solar power, students learned about searching for and using alternative energies to help use the Earth's resources more efficiently. Unlike the conventional hot incandescent light bulbs that easily burn out, students found that the multi-color light emitting diodes (LEDs) are cool to the touch, allowing LEDs to save energy by minimizing energy losses via heat. All of this helped students see the importance of considering these things for ship design and construction to help reduce energy consumption.

The colorful and action-filled water treatment and testing activities demonstrated how chemistry and science are used to convert the ocean water to drinkable and usable water. Through "marine divers" and "memory metal"

activities, students learned that the deep ocean remains largely unknown because of its unfriendly environment and that new technologies are constantly being developed for deep ocean exploration for new material and new energy source discovery.

100% of the program evaluations indicated that they learned new and interesting things at the event and the event helped them to view or strengthened their view that chemistry and science are interesting and awesome. The program organizers expressed their desire to continue their collaboration.



On Saturday, April 20, USMMA faculty, students, and the community members come together to celebrate the 2013 Earth Day at the GNL, Great Neck, NY. The event encourages the sustainability of our blue planet and promotes the concepts of recycle, reuse, reduce and restore.

(Photo courtesy of Lisa Stowe)

SOLARIMPULSE CELEBRATION



On July 12, 2013, a group of New York Section members visited JFK Airport to celebrate Solarimpulse, the first airplane to fly on solar power across the United States, demonstrating the potential of clean technologies. Pictured are Neil Jespersen, Ralph Stephani, Lew Malchik, Frank Romano, Philip Mark, Don Clarke, and John Sharkey.

(Photo courtesy of John Sharkey, Comm. on History of NY Section)

New York Awards

NEW YORK SECTION 50 AND 60 YEAR MEMBERS

The New York Section Board would like to congratulate our members who have reached 50 and 60 years of service! This milestone was celebrated by a luncheon at Koenig's Restaurant, Floral Park, NY on Saturday June 15th. Award members and their families attended the luncheon and award ceremony. The event was well received by all who attended. Co-chairs Frank Romano and Ralph Stephani put the event together.

60 Year Members

Dr. George Axelrad
Ms. Marilyn Dulitzky
Dr. John Paul Dusza
Dr. John Farber
Dr. Zuhayr A. Moghrabi
Dr. Jerome S. Nisselbaum
Dr. Richard Needham Porter
Dr. Morton Rosoff
Ms. Joan Schechtman
Dr. D. V. Siva Sankar
Ms. Dorothy G. Waldron

50 Year Members

Mr. Stephen D. Ackerman
Dr. Michael H. Auerbach

Dr. Charles John Cante
Dr. Margaret Comaskey
Mr. Gaetano V. D'Angelo
Mr. Ralph Di Palma
Dr. Robert Ralph Engel
Dr. Michael J. Frey
Mr. Francis Louis Fuggini
50 Year Members (continued)
Mr. Sheldon Norman Goldman
Dr. Jacob Greenberg
Dr. Thomas H. Haines
Mrs. Jane P. Kirby
Mr. Chong Tan Liu
Dr. Celia J. Menendez Botet
Mr. Milton Meshirer
Dr. Marian B. Meyers
Mr. Leo Michaels
Prof. Alan H. Molof
Dr. Vadiraja V. Murthy
Dr. Marshall Dickinson Newton
Mr. Daniel J. Price
Mr. Jack A. Prizzi
Mr. Henry G. Robbins
Dr. Eli Rosenthal
Mr. Gerald R. Schiller
Dr. Alan Schoffman
Dr. Suresh C. Srivastava
Mr. Walter A. Stock
Dr. Barry Vogel
Mr. Richard M. Weisman
Mr. Sherman W. White
Ms. Erica F. Zelicof



The 60 & 50 year Awards were given by Dr. Philip Mark, NY section chair, (third from left).

(Photo courtesy of Ralph Stephani)

QUEENSBOROUGH COMMUNITY COLLEGE HOSTS THE 13TH ANNUAL CHEMISTRY CHALLENGE

The 13th Annual LI-ACS Chemistry Challenge was held on Friday, April 26th 2013 at Queensborough Community College. The event was attended by students from both 2- and 4-year institutions including: Hofstra University, Nassau Community College, St. John's University, Stony Brook University, Queens College, Adelphi University, Long Island University Post, and Queensborough Community College. The event began with a "social hour" that included dinner and dessert. After dinner, 18 student teams representing the various universities participated in the Chemistry Challenge. The Challenge itself consisted of forty-five multiple choice questions testing concepts from General and Organic Chemistry.

Awards were given to the top three teams in each student category (2- and 4-year teams were created based on students' standing).

The prizes included medals, USB flash drives, a Merck Index, and Barnes and Noble gift certificates. The top teams in the 4-year category were: Queens College (First Place), Hofstra University, and St. John's University (Tied for Second Place) and Adelphi University (Third Place). The top teams in the 2-year category were: St. John's University (First Place), Nassau Community College (Second Place), and Queens College (Third Place). The moderators for the event were Julie Pigza and Paul Sideris. The event was sponsored by the LI-ACS and through donations by: Pearson, McGraw-Hill, Maria's Mediterranean Seafood and Grill, and Uno Chicago Grill. The Chemistry Challenge could not have been possible without the assistance of the QCC Chemistry Department, QCC Student Clubs, and specifically the following people: Luis Vargas, Pete Irigoyen, Andrew Xu, Frank Romano, and Paris Svoronos.

For more pictures, please visit:

<http://www.qcc.cuny.edu/chemistry/chemchallenge2013.html>



Winners of the LI-ACS Chemistry Challenge

NEW YORK SECTION — CHEMAGINATION WINNERS

National Science Honors

Publicized in: OPA Press Release

South Side High School won first place in two of the four categories in the New York Section of the American Chemical Society's Chemagination 2013, a science essay and poster contest. This spring, teens answered the question "What innovation or breakthrough in the field of chemistry will be

important in the lives of teenagers 25 years from now?" Winners and their categories were: Thomas Keady and Kyle Johnson of South Side in medicine/health care; Brandon Prashad, Michael Spelfogel and Forrest Butensky of South Side in new materials; Jessica Vasseghi, Sophia DeFranco and Brendan Skillman of Division Avenue High School in Levittown in alternative energy; and Matthew Avallone, Jordan Brodsky and Brandon Nomberg of Half Hollow Hills High School West in Dix Hills in environment.

WESTCHESTER CHEMICAL SOCIETY DISTINGUISHED SCIENTIST & OTHER AWARDS

On Wednesday, May 1, 2013, at Pace University in Pleasantville, NY, the Westchester Chemical Society presented its Distinguished Scientist Award to Sunghee Lee, Ph.D. "for studies in the surface chemistry of droplets to understand self-assembly at interfaces, and for passionately cultivating the talents of a large array of undergraduate researchers." Dr. Lee is the Chair of the Chemistry Department of Iona College, New Rochelle, NY. Her research, centered on how surfactant monolayers at water-oil interfaces can template the formation of inorganic crystals, extensively involves undergraduates. She has written more than twenty peer-reviewed publications and a book chapter, holds two U.S. patents, and has presented at least seventy conference papers. She has won three Iona College awards and the ACS Women Chemists Committee Rising Star Award. Her research has been funded by NSF, ACS-PRF and the Dreyfus and Patrick J. Martin Foundations.

Dr. Lee gave a very interesting and informative awards lecture "One Droplet at a Time: Crystallization at the Liquid-Liquid Interface" that focused on the interfacial chemistry of aqueous microdroplets mediated by self-assembled structures at the liquid-liquid interface, especially the nucleation of crystals in single aqueous nanoliter microdroplets surrounded by an oil phase. The confinement of the crystal offers many advantages to crystal science and allows for the possibility of engineering the soft water/oil interface. She described the nucleation behavior of model inorganic crystals wherein an aqueous microdroplet of a crystallizable polytypic inorganic solute surrounded by a dewatering oil can be driven to supersaturation by water transport from the droplet. Polymorph control can be achieved depending on amphiphile structure. She also discussed the propensity of specific anions to disrupt the crystal templating ability of the monolayer, which has a trend that follows a Hofmeister series. Finally, she discussed ultra-rapid droplet crystal nucleation in a system that employs a droplet interface bilayer for membrane crystallization.

In addition to the Distinguished Scientist Award, the Westchester Chemical Society also presented the following eleven undergraduate Student Awards:

Sania Azhar, Pace University, Pleasantville (Faculty: Ellen Weiser)

Mariah Bigaud, Manhattanville College (Faculty: Darlene D'Alliessi)

Nadine Brown, Westchester Community College (Faculty: Jody Reifenberg)

Frances Clow, Purchase College, SUNY (Faculty: Stephen Cooke)

Bojana Demirovic, College of New Rochelle (Faculty: Lee Warren)

Machirouf Koli, Bronx Community College (Faculty: Anthony Durante)

Gabriella Leah, Mercy College (Faculty: Carl Embola)

Mary Ellen Mangione, Iona College (Faculty: Sunghee Lee)

Paulo Markaj, Manhattan College (Faculty: Douglas Horsey)

Giuliano Pichini, Fordham University (Faculty: Diana Bray)

We thank Dr. Peter Corfield of our board and Fordham University for his considerable efforts in the selection of the student awardees.

Finally, Dr. Rolande Hodel, chairman of the Westchester Chemical Society Board of Directors, presented our Service Award, A Salute to Excellence to Dr. Paul Dillon "in recognition of Outstanding Service and Extraordinary Commitment to the New York Section of the American Chemical Society." Dr. Dillon has been a board member and program director for the WCS since 2009.

The awards dinner is cosponsored by WCS and the Department of Chemistry & Physical Sciences of Dyson College of Arts and Sciences, Pace University (with thanks to their Dr. Ellen Weiser). We gratefully acknowledge financial support for this event from the Departments of Chemistry at Bronx Community College, Fordham University, Iona College and Manhattan College, as well as generous individual contributions from Dr. Carl Embola of Mercy College and Dr. Gary Kolks of Manhattan College.

In other business, the board invited Dr. Anthony Durante from the Chemistry Department of the Bronx Community College to become a board member, an invitation that Dr. Durante graciously accepted.

More photos courtesy of Paul Dillon, Joan Laredo-Liddell and Sunghee Lee may be viewed at our website www.newyorkacs.org



Westchester Chemical Society Student Awardees Group Photo — (Front Row): Giuliano Pichini, Sania Azhar, Frances Clow, Bojana Demirovic, Gabriel Leah. (Rear Row): Peter Corfield, Paulo Markaj, Mariah Bigaud, Machirouf Koli, Nadine Brown, Mary Ellen Mangione, Rolande Hodel.

(Photo courtesy of Paul Dillon)

LIACS SUBSECTION HIGH SCHOOL AWARDS

The LIACS Subsection's High School Awards program that was held on June 6,

2013, at Nassau Community College. Some 39 Long Island high school students who received the highest grades in chemistry were given ACS Award Plaques.

(Photo courtesy of Ralph Stephani)



The HS Awards were given by LIACS Chair, Dr. Alfredo Mellache and NY Section Chair, Dr. Philip Mark.

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NATIONAL HISTORIC CHEMICAL LANDMARKS IN YOUR COMMUNITY

*By Keith Lindblom, ACS National Historic
Chemical Landmarks Program Manager*

ACS established the National Historic Chemical Landmarks program in 1992 to enhance public appreciation for the contributions of the chemical sciences to modern life in the United States and to encourage a sense of pride in their practitioners. To date, the program has recognized 70 subjects in

the United States and around the world, including nine within the New York and North Jersey sections. They include:

- **Bakelite:** Developed in 1907 by Leo Hendrik Baekeland in Younkers, N.Y., and produced commercially in Perth Amboy and later Bound Brook, N.J., Bakelite was the world's first completely synthetic plastic. Baekeland reacted phenol and formaldehyde under pressure at high temperature in a sealed autoclave known as a Bakelizer to form the thermosetting resin Bakelite. Versatile and readily molded, Bakelite opened the door to an era of synthetic materials. The Bakelizer is now housed at the National Museum of American History in Washington, D.C.
- **John W. Draper and the Founding of ACS:** The American Chemical Society was founded in 1876 at New York University to stimulate original research, awaken and develop talent in the U.S., provide fellowship, and ensure a better appreciation for chemistry by the general public. Members elected the Society's first president, John W. Draper, based on his pioneering work in photography and photochemistry, his writings in history and education, and his national renown.
- **Havemeyer Hall at Columbia University:** Built between 1896 and 1898 under the leadership of Charles Frederick Chandler, Havemeyer Hall has provided research and teaching facilities for faculty and students in various chemical specialties. Pioneering research performed here led to multiple Nobel Prize awards, including Irving Langmuir's 1932 award (the first industrial chemist to be so honored) and Harold Clayton Urey's 1934 award for the discovery of deuterium.
- **Herman Mark and the Polymer Research Institute:** Herman Mark arrived at the Polytechnic Institute (now the Polytechnic Institute of New York University) in Brooklyn, New York, in 1940. A prominent scientist and a pioneer in the study of polymers, Mark introduced the teaching of polymer chemistry into the school curriculum and by 1946 had established the Polymer Research Institute, the first academic research facility in the United States for study in the field.
- **NMR and MRI: Applications in Chemistry and Medicine:** At SUNY Stony Brook (now Stony Brook University) in the early 1970s, Paul C. Lauterbur

demonstrated that nuclear magnetic resonance could be used to generate images of macroscopic objects. In the years following, magnetic resonance imaging has become a powerful diagnostic tool for the non-invasive examination of body tissues. Agilent Technologies in Calif. was jointly recognized for its role in producing the Varian A-60 NMR Spectrometer.

- Nucleic Acid and Protein Research at Rockefeller University:** Rockefeller University (originally the Rockefeller Institute for Medical Research) was the first institution in the U.S. devoted solely to biomedical research. Scientists at Rockefeller discovered that genes are made of DNA, found the Rh factor in blood, demonstrated the connection between cholesterol and heart disease, developed vaccines against meningitis, and introduced methadone to manage heroin addiction.
- Discovery and Development of Penicillin:** The introduction of penicillin in the 1940s, which began the era of antibiotics, has been recognized as one of the greatest advances in medicine. The discovery of penicillin and the initial recognition of its therapeutic potential occurred in the United Kingdom, but, due to World War II, the United States played the major role in developing large-scale production of the drug. Those recognized for their contributions to the development of penicillin include Abbot Laboratories, Lederle Laboratories (now Pfizer, Inc.), Chaz. Pfizer & Co., Inc. (now Pfizer, Inc.), Merck & Co., Inc., E.R. Squibb & Sons (now Bristol-Myers Squibb Co.), the USDA Northern Regional Research Laboratory (now National Center for Agricultural Utilization Research) and St. Mary's Hospital in London.
- Penicillin Production Through Deep-tank Fermentation:** During World War II, the governments of the United States and the United Kingdom approached the largest U.S. chemical and pharmaceutical companies to enlist them in the race to mass produce penicillin. One of these companies, Pfizer, succeeded in producing large quantities of penicillin using deep-tank fermentation. Developed at Pfizer's Marcy Avenue, Brooklyn, facility, the success helped make penicillin available to Allied soldiers by the end of the war.
- Selman Waksman and Antibiotics:**

Waksman and his students, in their laboratory at Rutgers University, established the first screening protocols to detect antimicrobial agents produced by microorganisms. This deliberate search for chemotherapeutic agents contrasts with the discovery of penicillin, which came through a chance observation by Alexander Fleming. During the 1940s, Waksman and his students isolated more than fifteen antibiotics, the most famous of which was streptomycin, the first effective treatment for tuberculosis.

To qualify, subjects must clearly represent seminal achievements in the history of chemistry; they must evidence significant impact and benefit to the public and the chemistry profession; and they must be at least 25 years old. ACS local sections, divisions or committees can nominate subjects for the program.

For a complete list of National Historic Chemical Landmarks or more information about the nomination and selection process, visit www.acs.org/landmarks or contact the author at landmarks@acs.org.

Others

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AMERICAN INSTITUTE OF CHEMICAL ENGINEERS' SALARY SURVEY FINDS IMPROVED EQUALITY BETWEEN GENDERS

Biennial survey finds family leave impacts both men and women; median pay rises by nine percent.

NEW YORK – As the nation marks the 50th anniversary of the Equal Pay Act, a new salary survey from the American Institute of Chemical Engineers (AIChE) has found that apparent gender disparities are accounted for by time taken off for family reasons—and that time off impacts all engineers – regardless of the gender of the engineer taking such leave.

This is the first year that AIChE accounted for time taken off for family reasons. In previous years, the biennial surveys had shown a gender gap in salary that varied with age and years of experience. In some recent surveys, early-career women actually earned slightly more than their male counterparts. However, among respondents with more than ten years of experience, women's median salaries had almost always lagged behind men's.

But, when accounting for the time-off factor, the results of the 2013 survey surprised AIChE staff. Each increment of time taken off for family reasons was associated with a reduction in salary, on average, of about \$4,500, regardless of gender. When that time gets factored in, it explains most of the difference between the sexes seen in reported salaries.

"The family leave factor is an issue we will continue to explore in future salary surveys," said June Wispelwey, AIChE's executive director. "We read this as good news, though, for women pursuing a career in chemical engineering."

Differentials did persist in that most male respondents who took time off were out for three months or less, while female respondents were more likely to take four to six months. This longer family leave time taken by women is seen as a factor in salary gender differences. However, the survey also seems to indicate that once an engineer falls behind due to the family leave factor, he or she does not tend to catch up.

"It's been five decades since the passage of the Equal Pay Act, and some industries still

demonstrate pay inequity between men and women. This salary survey shows that chemical engineering is a fantastic career that compensates both women and men fairly," said Wispelwey. "Chemical engineering is a profession with a wide range of career opportunities, which makes a chemical engineering degree increasingly attractive to women. I have seen the opportunities for women grow throughout the course of my career, and would encourage any woman to consider a chemical engineering career."

The survey, published in the June issue of CEP (Chemical Engineering Progress), the Institute's flagship magazine, was based on results from 3,145 AIChE members. The survey also shows compensation for the profession is rebounding. It reports a median salary of \$120,000 – 9 percent higher than the \$110,000 median of two years ago, when salaries stagnated and raises were at their lowest point in 20 years. Unemployment among chemical engineers has also decreased in the two years since the last survey, to 2.1 percent, down from 3.8 percent in 2011.

Press Releases

OCI SOLAR POWER COMPLETES 3-MEGAWATT SOLAR POWER FACILITY IN HOLMDEL TOWNSHIP

OCI Solar Power has commenced commercial operations at its new solar farm in Holmdel Township, New Jersey—its second solar power plant in New Jersey.

The solar facility was developed on 34 acres on Holmdel Road in Monmouth County and is now operational, generating power from the sun using more than 13,000 solar modules on-site.

The project, constructed with leading solar PV technology, is 3 megawatts (AC) in size and can power more than 2,000 homes during daylight hours.

"The completion of the Holmdel solar facility is another big step toward creating a more sustainable and green future for New Jersey and the Holmdel community," said Tony Dorazio, the President of OCI Solar Power.

"It's the second of two projects for OCI Solar in New Jersey, and we are grateful for the community's partnership and support," Dorazio added.

OCI Solar Power plans to sell the electricity it produces to regional power distributor PJM for providing power to area homes and businesses. According to the company, the additional sustainable energy source will mean increased efficiencies and renewable energy costs for the area.

OCI Solar Power is also currently developing a 400 MW solar power project—one of the nation's largest—in San Antonio, Texas and another 100 MW nationwide.

OCI Solar Power's other New Jersey solar facility in operation is located on South Delsea Drive in Vineland.



R. GRAHAM COOK WINS DREYFUS PRIZE IN THE CHEMICAL SCIENCES

Purdue Chemist Honored for Advances in Chemical Instrumentation



The Camille and Henry Dreyfus Foundation has announced that R. Graham Cooks, the Henry Bohn Hass Distinguished Professor of Chemistry at Purdue University, is the recipient of the 2013 Dreyfus Prize in the

Chemical Sciences, conferred this year in chemical instrumentation. The international prize, awarded biennially, consists of \$250,000, a citation, and a medal. The award ceremony will be held at Purdue University in the fall and will feature a lecture by Professor Cooks.


Graham Cooks is recognized internationally as an innovative giant in the field of mass spectrometry who has enriched analytical chemistry in unparalleled ways. Virtually every pharmaceutical and biotechnology company relies on mass spectrometry at a level that has become possible, in part, through Cooks's innovations.

CM&E GROUP RECOGNIZES LEADERS FOR THEIR DISTINCTION IN PRIVATE EQUITY

Leadership Award Given to Lion Chemical Capital Founding Partners and Brothers Peter and David De Leeuw

In 2001, the two De Leeuw brothers founded Lion Chemical Capital, LLC, with the dream that by acquiring and revitalizing chemicals and materials businesses they could succeed in private equity. Since then, the company has invested or advised on transactions valued at over \$4 billion and have earned net returns in excess of tenfold invested capital.

Today the Chemical Marketing and Economics (CM&E) group announced that it will present its Leadership Awards for Distinction in Private Equity to Peter W. De Leeuw and David E. De Leeuw, Managing Directors of Lion Chemical Capital at the Yale Club Ballroom in New York City on December 5, 2013.



The New Jersey Pharmaceutical Quality Control Association (NJPPQCA) invites you to attend our Monthly meetings for 2013-2014; the following dates have been set for the upcoming year.

Mark your calendars!

| | | |
|--------------------------------------|---|---|
| September 17, 2013: | Understanding USP Chapters 61, 62 and 71 - Theory and Chemical Composition Of The Culture Media For Sterile and Non-Sterile Drugs | Speaker: Dr. Herbert Prince Luncheon meeting, from 11:30 a.m. to 2:00 p.m. |
| January through May 2014: | Our QA Certification Training Course (evening weekly sessions) | Registration will begin in the Fall of 2013 |
| February 18, 2014: | ICH Q3D Elemental Impurities | Speaker: Jareen Skutvik-Wilkinson Luncheon meeting, from 11:30 a.m. to 2:00 p.m. |
| March 18, 2014: | USP | Speaker: More Details soon Luncheon meeting, from 11:30 a.m. to 2:00 p.m. |
| April 8, 2014: | Rapid Micro Testing vs. Traditional Micro Testing - Evening Discussion Panel | Speakers: Dr. Daniel Prince, Dr. Scott Sutton, Dr. Michael Miller |
| May 21, 2014 all-day FDA Conference: | More Details to follow | Speakers: Details to follow |

Future updates on meeting information can be found on the web site (topics and speakers): www.NJPPQCA.org

EARTHECCO IS CLEANING HOUSE

New Environmental Technology Makes Clean-up Easier and Safer

From killing germs to attacking stains and odors, there is a plethora of cleaning products available on the market. Most products, however, work by eliminating bacteria through the application of strong chemicals. Now, one product is taking a green approach to cleaning at the industrial level.

EARTHECCO Green is an environmentally-friendly cleaning product that is formulated from all natural plant extracts and reduces the need for harmful and toxic chemicals in various industries and for the home user. The result of extensive research and field testing, EARTHECCO's revolutionary formula assists with sanitation, breaks up fats and solids, neutralizes odors and toxic gases on contact reducing greenhouse emissions and benefitting the environment through carbon footprint reduction.

Jake Tyson, Founder of EARTHECCO, explains that the water-based product will chemically balance dangerous gases, such as Hydrogen Sulphide and Ammonia, through its unique formula. "The compounds in EARTHECCO neutralize gases on the molecular level, converting them into harmless inorganic salts and complex organic molecules that pose no risk to humans or animals," adds Tyson. "Greenhouse emissions are a growing issue when it comes to manufacturing; companies should take additional care with the cleaning products to reduce this problem rather than exacerbate it."

The sustainable solution is gaining speed in a variety of industries by offering a natural alternative for eliminating the bi-products of corporate processes and industrial waste. "The product has already made strides in Australia due to its safety measures; it is completely derived from plant extracts and is non-toxic," says Tyson. "From water reclamation and treatment to use as a multi-purpose cleaner in food processing facilities, this product effectively improves sanitation and does not taint products which are slated for human consumption in the process."

For more information on Earthecco or to schedule an interview with founder Jake Tyson, please contact me directly. Samples are available upon request.

S&T RESEARCHER DEVELOPS TECHNIQUE TO DETECT BREAST CANCER IN URINE

ROLLA, Mo. — A Missouri University of Science and Technology researcher has developed a new screening method that uses urinalysis to diagnose breast cancer — and determine its severity — before it could be detected with a mammogram. A study to confirm this technique's effectiveness is under way at Mercy Breast Center in Springfield, Mo.

Dr. Yinfa Ma, Curators' Teaching Professor of chemistry at Missouri S&T, uses a device called a P-scan, to detect the concentration of certain metabolites called pteridines in urine samples. These biomarkers are present in the urine of all human beings, but abnormally high concentrations can signal the presence of cancer. Ma believes the levels continue to rise as the cancer advances.

Ma has had good results in limited testing and is now expanding testing in a larger study to prove that the technique works. This blind study is part of the validation process required by the FDA to eventually make the P-Scan available in clinics across the country as an inexpensive, non-invasive test that could be used during routine physical examinations.

In April, Ma began a clinical trial with Mercy Breast Center and commercialization partner Emergence BioScreening of St. Louis. The study focuses on 300 breast cancer patients and a control group of 100 individuals who have been clinically tested and found to be free of cancer. He hopes to conclude the study within a year.

This is a blind study, which means that Ma doesn't know which samples he tests are those of cancer patients and which are from healthy individuals. All patients are assigned a number and their diagnosis and personal information are kept confidential.

"We are hoping more and more cancer patients will assist us with this project," Ma says. "It might not help current patients, but it will help millions of people in the future. Using this technology for early cancer screenings in the future could save many lives."

Using the P-scan, Ma will be able to detect the presence of cancer and its level of advancement — often before it could be detected on a mammogram.

"Mammogram technology is not sensitive," Ma says. "Some early cancer cannot be detected by a mammogram. If this P-Scan technology works, it will be much easier to incorporate into regular physical screening.

"A patient donates urine and 10 minutes later I have a result. If this works, it will be an amazing diagnostic tool."

Nearly one in eight women will develop invasive breast cancer during her lifetime. Around 85 percent of women diagnosed with breast cancer have no family history of the disease.

For more information about participation in the study, contact Adrianna Moore or Pearlana Hamlet at the Mercy Breast Center at (417) 820-8099.



NEW LABORATORY TEMPERATURE CONTROLLERS GREAT FOR PCR RESEARCH BY OVEN INDUSTRIES INC.

Oven Industries Inc. announces new laboratory temperature controllers with ramp/soak capabilities. The 5R6-900 benchtop controller has many outstanding user-friendly benefits. Contained all in one enclosure, the device can be plugged into the wall as a self-contained temperature control system, which has its own power supply. This distinctive detail makes the device unique, as well as highly convenient for users.

The temperature controller can also be used universally, which allows the user to use the device wherever they are located. As a solid state MOSFET bidirectional compact unit featuring an internal power supply, it is also capable of loading currents up to 10A. The compact size, as well as the isolated communication port, makes using the 5R6-900 benchtop temperature controller a breeze.

User-friendly and PC programmable, the electronic controller easily connects to a computer through the electrically isolated RS232 communications port. The computer can be utilized as a connector and the unit can stand alone, once the desired parameter settings are in place. These settings are kept in the non-volatile memory.

Great for usage in universities, science laboratories, PCR research and any businesses that specialize in temperature control. The controller features an easy-to-read digital display for controlling functions, including

adjusting output voltage and setting the desired temperature. Complete with an auto output shutdown if the sensor is opened or shorted, the unit also includes high, low and no alarm settings.

For more information, visit www.ovenind.com.



DOW CHEMICAL COMPANY RESEARCH FELLOW JERZY KLOSIN TO RECEIVE 10TH ANNUAL SCI GORDON E. MOORE MEDAL

Discovery of New Generation of Catalysts Represents a Significant Achievement and a Major Milestone in Industrial Chemistry

The Society of Chemical Industry (SCI), America Section, will award the 10th annual SCI Gordon E. Moore Medal to Jerzy Klosin, research fellow, The Dow Chemical Company, at a luncheon in his honor during Innovation Day 2013. The luncheon, which will be held September 17 at the Chemical Heritage Foundation (CHF) headquarters in Philadelphia, is a joint event hosted by SCI and CHF, which gathers more than 150 leading researchers from industrial laboratories to discuss current trends and issues in chemical research.

The SCI established the Gordon E. Moore Medal to recognize early-career success in innovation, as reflected both in market impact and improvement to quality of life.

Klosin is being recognized for his outstanding contributions to the advancement of industrial chemistry in the discovery, scale-up, and commercialization of a new generation of catalysts used in the production of a wide range of important polyolefins, including ELITE, AFFINITY, ENGAGE, INFUSE, and NORDEL.

Klosin's catalysts deliver great control of comonomer incorporation and termination reactions, thus enabling the creation of wholly new polymer architectures. The resulting "designer polyolefins" can be tailored to help streamline processes and enhance sustainability by significantly improving the energy efficiency of production. Klosin is the third scientist from Dow to receive the Gordon E. Moore Medal since the program's inception 10 years ago.

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