Dr. Justyna Widera-Kalinowska
2019 New York Section Chair

See Chair’s Message on page 5.
THIS MONTH IN CHEMICAL HISTORY

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

Here’s a piece of publishing history you may be unaware of. A long time ago (over 30 years) I began contributing a column on history of chemistry to SCALACS, the Journal of the Southern California and San Gorgonio Sections of the ACS. (Many of those early columns are collected in a volume pretentiously titled “A Chemical Chrestomathy” that is available online from Amazon). Some of my columns were also published on-line by the ACS in a scrapbook feature.

A few years ago your Editor requested my permission to also publish my column in “The Indicator”, the Journal of the New York and North Jersey Sections of the ACS. I have been a bi-coastal essayist. The reason why I have seen fit to make this disclosure now is that a few weeks ago a colleague of mine was cleaning out his garage and came across the March 1955 issue of “The Indicator” (Vol. XXXVI No.3). I will share some of the contents of this piece of chemical history with you this month.

The cover story of this issue is the award of the 1955 William H. Nichols medal to Wendell Mitchell Latimer. Latimer was to be honored at a dinner at the Hotel New Yorker (tickets at $8.00). Latimer was being recognized for his pioneering studies on the thermodynamics of electrolytes, especially the entropies of ions in aqueous solutions. He had a distinguished career at U.C. Berkeley, earning his Ph.D. in 1919. He became full professor in 1931; served as Dean of the College of Chemistry from 1941 – 1949; and Chair of the Department of Chemistry from 1945 – 1949. He was elected to the National Academy of Sciences and received a Presidential Certificate of Merit for contributions during World War II.

Latimer made many important contributions to chemistry. Perhaps the most important, in retrospect, is his recognition of the hydrogen bond in a paper he wrote with a colleague, W. H. Rodebush, in 1920. His over 100 publications were mostly on thermodynamics, but his diverse interests included dielectric constants; geochemistry; thermoelectricity; and radioactivity. He was the first U.S. scientist to liquefy hydrogen, and explored physical chemistry at low temperatures. He authored the influential monograph on “The Oxidation States of the Elements and their Potentials in Aqueous Solutions” published in 1938 and in a revised edition in 1952. He also co-authored a general chemistry text with Bray, and a reference book of inorganic chemistry with Hildebrand.

In the 1930s Latimer started a seminar at Berkeley on nuclear chemistry that attracted attendees including Libby, Seaborg and Wahl. During World War II from 1943 – 1947 he was a director of a Manhattan Project group working at Berkeley on the chemistry of the recently discovered plutonium in which oxidation potentials played an important role.

The Nichols medal was an appropriate additional recognition of Latimer’s contributions to chemistry. Prior to 1955 the medal had been awarded to, among others, Nieuwland, Midgley, Baekeland, Seaborg, and Pauling. (Each of these scientists deserves a column – who knows?)

Sadly Latimer died only a few months after receiving this award in July 1955.

I will conclude my reportage on this interesting copy of “The Indicator” in a future column, but let me close this month with a glance at some of the advertisements. Baker and Company are offering a new booklet on platinum metal catalysts for use in manufacture of industrial chemicals and pharmaceuticals. Whatman is offering filter papers (what else?). BIOS labs. has over 5100 chemicals to offer. U.S. Stoneware has introduced Tygon tubing. Fisher scientific has a new method of packaging small quantities of reagents: the Gram-Pac. Owens-Illinois offers accurate Kimble thermometers and hydrometers. My favorite advertisement in this issue is the offer by Harshaw Scientific of a new device, the Rinco Rotating Vacuum-type Evaporator (patent applied for) at the affordable price of $96.50 (you supply the glassware and the vacuum pump).
Week Calendar

NEW YORK SECTION

Tuesday, December 4, 2018
Chemical Marketing & Economics Group
See pages 8-16.

Tuesday, December 4, 2018
Biochemical Topical Group
See page 17.

Wednesday, December 5, 2018
NY Section Society for Applied Spectroscopy
See pages 17-18.

Thursday, December 6, 2018
Westchester Chemical Society
See pages 18-19.

Thursday, December 6, 2018
Long Island Subsection - Holiday Seminar
See page 19.

also

Saturday, January 19, 2019
NY Section-Wide Conference
See page 7.

Friday, February 15, 2019
Board of Directors Meeting
See page 8.

Tuesday, February 19, 2019
Biochemical Topical Group
See page 20.

Wednesday, February 20, 2019
Organic Topical Group
See page 21.

Friday, April 12, 2019
Nichols Symposium and Dinner
See page 8.

Friday, March 15, 2019
Friday, June 7, 2019
Friday, September 13, 2019
Friday, November 15, 2019
Board of Directors Meetings
See page 8.

NORTH JERSEY SECTION

Monday, December 10, 2018
North Jersey Executive Meeting
See page 25.

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Deadline for items to be included in the January 2019 issue of The Indicator is

November 28, 2018

The Indicator is posted to the web around the 15th of the previous month at

www.TheIndicator.org
New York Section’s 2019 Chair’s Message

Dear Members:

I would like to express my sincere gratitude to the New York Section of the American Chemical Society for electing me as the 2019 Chair. I am deeply honored to be given a chance to serve all of the members of the New York Section of the American Chemical Society. I view this as an opportunity to share, with others, my love, passion and experience with chemistry.

On behalf of the New York Section of the American Chemical Society, I would like to thank all of the volunteers for their service! As a volunteer organization, we are only as strong as our volunteers make us, and only as successful as we allow our volunteers to be. Thanks to our dedicated and enthusiastic members, the NY Section provides public outreach services to promote the professional development of our members, to increase scientific literacy among regular citizens and to develop a next generation of professionals who are knowledgeable and passionate about chemistry.

The United Nations proclaims 2019 as the International Year of the Periodic Table of Chemical Elements (2019 IYPT). The International Year of the Periodic Table of Chemical Elements in 2019 will coincide with the 150th anniversary of the discovery of the Periodic system by Dmitry Mendeleev in 1869. It is a unique tool enabling scientists to predict the appearance and properties of matter on Earth and in the Universe. The development of the Periodic Table of the Elements is one of the most significant achievements in science with broad scientific implications in Chemistry and other areas of science such as: Astronomy, Physics, Biology, etc. The events presented by the NY ACS will enhance the understanding and appreciation of the Periodic Table and chemistry among the public.

Some of the premier events by the New York Section for 2019 include:

- January 19th – Sectionwide Conference at Queensborough Community College (QCC). There will be a keynote presentation by Monona Rossol M.S., M.F.A., Industrial Hygienist, and the NY Section’s committees will hold planning sessions for the year. All are welcome and those interested in volunteering are encouraged to attend.

- April 12th – William H. Nichols Distinguished Symposium and Medal Award Dinner (White Plains, NY). The 2019 medalist is Dr. Vickie Grassian from the University of California San Diego, and the theme is “Interfacial and Multiphase Chemistry Relevant to the Environment.”

In addition, to promote and celebrate the significance of the Periodic table of elements and its applications to society, during 2019, a wide variety of truly amazing events will be held, sponsored by the various Topical Groups, Subsections and Committees such as Chemists Celebrate Earth Day’s walk, Chemagination, High School Teachers’ "Demo Derby", National Chemistry Week celebrations, Chemical Marketing and Economics’ Leadership Awards, and the Sustainability Symposium to name just a few of the events.

It is critical that the brightest young minds continue to be attracted to chemistry in order to ensure the next generation of scientists, engineers and innovators in this field that will carry on the development of the Periodic Table journey.

I encourage our members to stay in touch with the NY ACS in various ways:

- regularly visit the New York Section website for information about upcoming events. The website address is NewYorkACS.org.
- add the New York Section to your Facebook account to receive regular updates as well as multimedia presentations of past events
- continue to read The Indicator for more information about the Section
- please consider attending a meeting of a Topical Group, Subsection, or Committee or at least review their activities in the annual reports to see if you may be interested in what they do or if you can offer a new perspective
- think about some new ways the New York Section can better serve you and let us know your ideas.

The key to the future success of the Section is the creation of the sense of inclusive atmosphere. We will welcome everybody who would like to participate in the ACS events: chemists, chemical educators, chemistry students and non-chemists as well. We will solicit new ideas and opinions from all of these groups on how to improve our service to our current members and the next generation of potential members. We will try to train the new ACS leaders by allowing students to be a part of the boards of the local subsections, in order for them to learn from the current more mature and experienced leading members.

I would like to thank, again, the New York Section of ACS for this opportunity and I look forward to continuing to work with the entire NY Section membership to make our section even more vibrant and exemplary nationwide for the next generations.

Please feel free to contact me at widera@adelphi.edu with any thoughts, ideas, or suggestions for the Section or if you are looking for service opportunities.

Sincerely,
Justyna Widera-Kalinowska, 2019 Chair of the New York Section
www.newyorkacs.org • Email: Chair2019@newyorkacs.org
To All
Potential Advertisers

*The Indicator* is actively seeking new advertisers from academia, industry, suppliers and service groups.

Effective with the January 2019 issue our new rates, which we believe you will find both attractive and competitive, will apply.

For a copy of our new rate sheet and reply form, please e-mail the editor at indicator.linda@gmail.com.

To advertise in the January 2019 issue, the deadline for e-mailing both your reply form and your high res (300 dpi) ad, in either jpeg, tiff, or pdf format, is November 28, 2018.
AMERICAN CHEMICAL SOCIETY’S NEW YORK SECTION
2019 SECTION-WIDE CONFERENCE

PLEASE REGISTER AT

Date: SATURDAY, JANUARY 19, 2019  FREE TO ALL
Times: 9:30AM – 1:00PM
Place: CUNY - QUEENSBOROUGH COMMUNITY COLLEGE, NY – OAKLAND ROOM
222-05  56th Avenue, Bayside, NY 11364
Directions to QCC:  http://www.qcc.cuny.edu/about/getting-here.html
Campus Map:  http://www.qcc.cuny.edu/about/campus-map.html

PROGRAM

9:30 AM  ARRIVAL AND REFRESHMENTS.

10:00 AM  GREETINGS FROM THE ACS NEW YORK SECTION 2019 CHAIR
Dr. Justyna Widera-Kalinowska
Adelphi University

10:10 AM  AWARD PRESENTATIONS.
Service Plaque and Pin to the
2018 New York Section Chair
Dr. Joseph M. Serafin
St. John’s University
New York Section Outstanding Service Award for 2018
Dr. Paul Sideris
CUNY - Queensborough Community College
Nichols Foundation H.S. Chemistry Teacher Award for 2018
Dr. Stephanie O’Brien
Commack High School

10:30 AM  PRESENTATION OF CANDIDATES FOR THE 2019 ELECTIONS.
2019 Chair Elect, ACS New York Section
Dr. Ruben M. Savizky
The Cooper Union

10:45 AM  KEYNOTE SPEAKER: MONONA ROSSOL M.S., M.F.A., INDUSTRIAL HYGENIST, PRESIDENT: ARTS, CRAFTS & THEATER SAFETY, INC.
People in theater, film and television work with chemicals every day. As a child, Monona worked in variety entertainment (Vaudeville), and saw chemicals used in magic acts that caused things to flash into flame, disappear or change color. Today she deals with chemicals ranging from those used to paint faces (makeup) or to paint scenery, to explosive chemicals used to blow up cars. The program will start with a short video showing how pyrotechnic chemicals are used to simulate bullets hitting walls or people and then she’ll discuss a host of other chemical issues in the entertainment industry.

11:45 AM  COFFEE BREAK. There will be poster presentations by the New York Section Project SEED Students.

12:00 PM  ACS, NEW YORK SECTION COMMITTEE PLANNING SESSIONS FOR 2019.
Educational Activities: (Chemagination, Chemists Celebrate Earth Day, Continuing Education, High School Chemistry Olympiad, National Chemistry Week, Nichols Foundation Teacher Award, Project SEED, Student Membership)
Chair: Dr. Alison G. Hyslop

Member Affairs: (ACS Fellows, Awards, Employment and Professional Relations, History of the New York Section, Indicator, Membership, Outstanding Service Award)
Chairs: Dr. Ralph Stephani and Dr. Joseph Serafin

Program Review: (Subsection and Topical Discussion Group Chairs)
Chair: Dr. Anne T. O’Brien

Public Affairs: (Academe and Industrial Relations, Environmental Chemistry, Fund Raising, Government Affairs, Information Technology, Public Relations, Speakers Bureau)
Chair: Dr. Robert P. Nolan

12:45 PM  REPORTS FROM THE CHAIRS OF THE COMMITTEE PLANNING SESSIONS.

1:00 PM  CONCLUSION OF THE MEETING. Join with colleagues for lunch at a local restaurant.

To inquire about the Section-wide Conference, please call the New York Section Office at (516) 883-7510 or e-mail Marilyn Jespersen, Office Administrator, at: njesper1@optonline.net.
New York Meetings

www.newyorkacs.org

ACS, NEW YORK SECTION
BOARD OF DIRECTORS

MEETING DATES FOR 2019

The dates for the Board of Directors Meetings of the ACS New York Section for 2019 have been selected and approved. The meetings are open to all – everybody is welcome. All non-board members who would like to attend any of the meetings should inform the New York Section office by emailing Mrs. Marilyn Jespersen at njesper1@optonline.net or by calling the Section office at (516) 883-7510.

Dates and locations of the meetings are posted below and on the New York Section website at www.NewYorkACS.org. Prof. Justyna Widera-Kalinowska will chair all meetings. Refreshments will be available starting at 6:00 PM and the board meetings will start at exactly 6:30 PM.

The Board Meeting dates and locations for 2019 are:

Friday, January 19, 2019 (Section Wide Conference), Queensborough Community College, NY

Friday, February 15, 2019 (Electronic Board of Directors Meeting), Adelphi University, NY

Friday, March 8, 2019 (Board of Directors Meeting), Adelphi University, NY

Friday, April 12, 2019 (Nichols Symposium and Dinner), Crowne Plaza, White Plains, NY

Friday, June 7, 2019 (Board of Directors Meeting), St. Johns University, NY

Friday, September 13, 2019 (Board of Directors Meeting), Adelphi University, NY

Friday, November 15, 2019 (Board of Directors Meeting), Adelphi University, NY

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

St. John's University
8000 Utopia Parkway, Queens, NY

Directions
https://www.stjohns.edu/campuses/queens-campus/directions

Adelphi University
1 South Avenue, Garden City, NY 11530

Directions
https://visit.adelphi.edu/travel-info/directions/

CHEMICAL MARKETING & ECONOMICS GROUP

2018 Leadership Awards

Date: Tuesday, December 4, 2018

(See flyers on pages 9-16 for all details.)
2018 Leadership Awards

**Corporate Reinvention**
Edward Breen
DowDuPont CEO and advisory board member of New Mountain Capital.

**Lifetime Achievement**
Henry Kravis
KKR Co-Founder, Co-Chairman, Co-CEO. The Business Council Chairman.

**STEM Philanthropy**
James Simons
Simons Foundation Chairman, Founder of Renaissance Technologies.

**STEM Philanthropy**
Marilyn Simons
Simons Foundation President. Cold Spring Harbor Laboratory Board VP.

**Event Co-Chair**
Seifi Ghasemi
Air Products Chairman, President and CEO.

**Event Co-Chair**
Jim Fitterling
The Dow Chemical Company CEO-Elect and COO.

December 4, 2018 • 11:30 am – 2:30 pm • Metropolitan Club • www.cmeacs.org
LEADERSHIP AWARDSTM

PROGRAM

REGISTRATION
LUNCHEON
INTRODUCTION
ACS CEO – Thomas Connolly
Event Co-Chair – Jim Filterling
MUSICAL INTERLUDE
Performer – Ava Della Pietra
AWARDS PRESENTATION
CME Host – George Rodriguez
Corporate Reinvention – Edward Breen
STEM Philanthropy – Marilyn & James Simons
Event Co-Chair – Sefri Ghassemi
Lifetime Achievement – Henry Kravis
CLOSING REMARKS
CME Co-Chair – Adam Closeen

ANNUAL STEM AWARDS

Inspiring leadership has been the hallmark of the Chemical Marketing
and Economic Group (CME) of ACS NY, a topical group founded in 1964.
Established in 2012, the Leadership AwardsTM are the highest honors
given by CME to leaders of industry, investments, and other sectors, for
cur contributions to science, technology, engineering, and mathematics initiatives.

CME organizes monthly luncheons and webcasts in Manhattan where industry
leaders present cutting-edge outlooks on energy, materials & life science.

Founded in 1676 and Chartered by the U.S. Congress, ACS is the world’s
largest scientific society with 156,000 members. This ACS ChemLuminary
award-winning event is a fundraiser to help advance STEM programs.

WWW.CMEACS.ORG

CELEBRATE TODAY’S LEADERS - ENABLE THOSE OF TOMORROW
LEADERSHIP
Awards™

STEM BUSINESS & INNOVATION

CORPORATE REINVENTION

Edward Breen – CEO of DowDuPont. Key architect of the largest merger in the chemical industry. He became the chair of the board and CEO of DuPont on Nov. 9, 2015. He joined the DuPont Board of directors in Feb. 2015. He served as chairman and CEO of Tyco International from 2002 until 2012. He transformed Tyco into a strong market leader, reviving the company from near bankruptcy and overseeing successful spin-offs including Covidien and ADT. He worked at Motorola from 2000 to 2002, including as president and COO leading the company back to profitability. From 1994 to 2000, he held senior positions at General Instrument. He serves as a director of Comcast and in the advisory board of New Mountain Capital. Ethisphere named him one of the “100 Most Influential People in Business Ethics.”

LIFETIME ACHIEVEMENT

Henry Kravis – Co-founded KKR in 1976 and is KKR Co-Chairman and Co-Chief Executive Officer. He serves on the boards of First Data Corporation and ICONIQ Capital, LLC. He also serves as a director, chairman emeritus or trustee of several cultural, professional, and educational institutions, including The Business Council, Columbia Business School, Mount Sinai Hospital, Partnership Fund for New York City, Rockefeller University, Sponsors for Educational Opportunity and Tsinghua University School of Economics. He earned a B.A. from Claremont McKenna College in 1967 and an M.B.A. from the Columbia Business School in 1969. He has vast experience financing, analyzing, and investing in public and private companies, as well as serving on the boards of a number of KKR portfolio companies.
STEM PHILANTHROPY

Marilyn Hawryl Simons - President of the Simons Foundation, one of the country’s leading private funders of basic scientific research. She has more than 25 years of experience actively supporting nonprofit organizations in New York City and Long Island. She has been involved in K-12 education for underserved communities. Simons is vice president of the board of Cold Spring Harbor Laboratory, an outstanding U.S. research facility specializing in molecular biology and genetics, and a board member of the Turkana Basin Institute that supports projects in Kenya, the LearningSpring School which helps autistic children and the East Harlem Scholars Academy in New York City. Simons received a B.A. and Ph.D. in economics from The State University of New York at Stony Brook.

James Simons - Simons Foundation Chairman and board chair and founder of Renaissance Technologies. Prior to his financial career, Simons was chairman of the mathematics department at Stony Brook University, taught mathematics at MIT and Harvard, and was a cryptanalyst at the Institute for Defense Analyses in Princeton, New Jersey. He holds a B.S. from MIT and a Ph.D. from the University of California, Berkeley. In 1976, he won the Veblen Prize of the American Mathematics Society for his work in geometry. He is a trustee of the Stony Brook Foundation, Rockefeller University, MIT, Brookhaven National Laboratory, the Mathematical Sciences Research Institute, New York Genomics Center and the Institute for Advanced Study, and is a member of the National Academy of Sciences, the American Academy of Arts and Sciences and the American Philosophical Society.
EVENT SPEAKERS

Air Products Chairman, President & CEO
Seif Ghasemi – he sets the strategy and policies developing leadership. He is chairman of V earnum Materials. He served as chairman and CEO of Rockwood Holdings. He held leadership roles at GKN, and BOC (now part of Linde AG). M.S. degree in mechanical engineering from Stanford University.

Dow Chemical CEO-Elect and COO
Jim Fitterling – also, COO for the Materials Science Division of DowDuPont. Recently appointed CEO of the intended Materials Science Company, to be called Dow, upon its separation from DowDuPont. Committed to diversifying the Company’s global talent. Board member of NAM, Chemical Financial, and Sadara Chemical. B.S. Mechanical Engineering.

ACS Executive Director and CEO
Thomas M. Connelly, Jr. – Executive Director and CEO of the American Chemical Society since February 2015. Former DuPont Executive VP, Chief Innovation Officer. Joined DuPont in 1977 and played key roles in Delrin®, Kevlar®, Sorona® and Teflon®. B.S. and Ph.D. in Chemical Engineering.

CME Past Chair and Host

CME Co-Chair
Adam Closson is Research Fellow at IFF focused on the chemical processes and the invention of new fragrance ingredients. Before joining IFF in 2006, he held research fellowships with the US Navy and at Stockholm University after receiving his doctorate at the University of California in San Diego.
STEM SUPPORT

ACS Scholars program awards scholarships to minority students. Over 1,500 STEM students have graduated with a bachelor’s degree since 1996. 42% went on to graduate school.

CME student leadership development to sharpen communication skills and give views of the broad range of the industries of chemistry.

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Student travel overseas to help the progress of CME ACS activities.

Development of tools for teachers and professors.

Expansion of ACS International Chapters for STEM student programs.

awards@cmefacs.org

www.cmefacs.org

LEADERSHIP Awards

2018 AWARDS MUSICAL PERFORMANCE

Ava Della Pietra has performed on Broadway in the original cast of School of Rock, as well as national tours of Les Misérables and White Christmas. She has appeared on the 70th Annual Tony Awards, Good Morning America, Sesame Street, and Last Week Tonight with John Oliver, and has sung the National Anthem at Madison Square Garden in front of 20,000 Knicks fans. A multi-instrumentalist who plays piano, bass, guitar, violin, fiddle, and ukulele, Ava is also an independent recording artist and songwriter who began penning her own songs at age five. She has about 30 written and is gearing up to release her debut EP of original music, including her first single “Rising Star,” produced by Brian Malouf.

Did we mention that Ava is 13 years old?

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ACS scholars, mentors and sponsors celebrate CME 60 years of service on December 4, 2014.

Celebrate Today’s Leaders
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FESTIVE. WARM. INSPIRATIONAL.

Juan Pablo del Valle, 2012 honoree, and family.
Jan Huntsman, 2013 honoree, granddaughter Kate and son Paul.
2015 honoree Roy Bogle and wife Diana

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- Addressed the needs of
  the broad range of
  industries of chemistry.
- Organized over 500
  events on the business
  of chemistry.
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  NASA Journey to Mars
  Symposium
- Founded leadership
  awards for chemistry
  stakeholders.
- Helped ACS NY receive
  7 distinguished ACS
  ChemLuminary Awards
  (Collaboration, Global
  Engagement and
  Performance).
- Supported over 1000
  free student luncheons.
- Championed one of the
  first two International
  Chapters of ACS in
  South America.
- Helped organize ten
  International Chemistry
  Festivals.
- Offered webcasts of
  monthly presentations
  since 2009.

www.cmeacs.org

Enable Those of Tomorrow

Sonelbars and Peroxidex executives celebrating the
2012 Chemistry Olympiad US Gold Medalist Chris Hillbrandt (center left)
CME Cutting-Edge STEM Programs

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... on August 21 we go to Space!

Advances in Human Space Exploration


800 attendees at First ACS Space Symposium in Washington, DC, organized by CME, POLY and NASA.

In association with NASA
BIOCHEMICAL TOPICAL GROUP – JOINT MEETING WITH THE NYAS BIOCHEMICAL PHARMACOLOGY DISCUSSION GROUP

Phagocytes in Health and Disease

Organizers: Dianne Cox, PhD
Albert Einstein College of Medicine
John Hambor, PhD
Boehringer Ingelheim
Jim King, PhD
Boehringer Ingelheim
Sara Donnelly, PhD
The New York Academy of Sciences
Sonya Dougal, PhD
The New York Academy of Sciences

Speakers: Keynote Speaker
Miriam Merad, MD, PhD
Icahn School of Medicine at Mount Sinai
Yasmine Belkaid, PhD
National Institute of Allergy and Infectious Diseases
Nina Bhardwaj, MD, PhD
Icahn School of Medicine at Mount Sinai
Marco Colonna, MD
Washington University School of Medicine
Karim el Kasmi, MD, PhD
Boehringer Ingelheim
Daniel Mucida, PhD
The Rockefeller University
Carla Rothlin, PhD
Yale School of Medicine
Richard Zigmond, PhD
Case Western Reserve University

This symposium will bring together leaders in diverse fields of immunology, cancer biology and tissue regeneration to highlight emerging roles for phagocytes in health and disease and develop new conceptual frameworks to integrate macrophage and dendritic cell functions with mammalian development, physiology and tissue biology.

Date: Tuesday, December 4, 2018
Time: 9:00 AM – 5:00 PM
(reception to follow)
Place: New York Academy of Sciences
7 World Trade Center
250 Greenwich Street – 40th Floor
New York, NY 10007
Cost: This event is has reduced-rate registration for ACS and NYAS members, at $60 or $25 (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 $160 (corporate), $105 (non-profit or academic) or $70 (students and post-docs).

For more information and to register for the event, go to: www.nyas.org/phagocytes2018
To become a Member of the Academy, visit www.nyas.org/benefits

NEW YORK SECTION — SOCIETY FOR APPLIED SPECTROSCOPY

New York SAS Section Announces the Forthcoming Meetings

The New York/New Jersey section of the Society for Applied Spectroscopy is pleased to announce the new meeting schedule coinciding with the next academic year, which began in September 2018. The following speakers will be presenting their work, as well as others for future meetings:

Wednesday, December 5, 2018 – Curtis Marcott, Ph.D - Special Tour Speaker Meeting. Title: “Perspectives on the Future of IR Spectroscopy: IR beyond the diffraction limit at submicron and nanoscale spatial resolutions via photothermal techniques”

Due to the required lead times for publication, we have to make this announcement before we have all the details of the meetings arranged. Everyone interested in attending a meeting will find the meeting details posted on the NYSAS website: www.nysas.org as soon as they become available. Please consult the website regularly for updates about the meeting details, as well as possible changes and information.

(continued on page 18)
about future meetings. If you plan to attend a meeting, please email the NY/NJ SAS secretary at debperu@outlook.com beforehand so we can make arrangements for the expected number of people. Your name will also then be added to our e-mail list for future meeting announcements unless you request to not be added.

WESTCHESTER CHEMICAL SOCIETY

Special Seminar – “Mitochondrial Reactive Oxygen Species Non-Toxic Integrative Anticancer Therapy Option for Solid Tumors Unresponsive to Traditional Therapy: Palladium/Lipoic Acid Complex”

Speaker: Edward J. Neren
Biomedical/Pharmaceutical Consultant/Contractor
Neren & Co. / NerenPossible Services
3 Belvedere Path
Suffern, NY 10901

Background: Metal compounds (Platinum, etc.) have been investigated as potential cancer therapies; however, patient toxicity resulted. ROS (superoxide, hydrogen peroxide, hydroxyl ions) have also been investigated. Dr. M. Garnett (1960-1990) encapsulated palladium in alpha lipoic acid and it was found to be non-toxic in treating mouse, cat, and dog tumors. Dr. R. Falk (1992) determined human safety and found patient improvement/remissions in gravely advanced cancer cases. Since then, more than 200 U.S. physicians have used the Palladium/Lipoic Acid Complex (PdLAC = PolyMVA) and Coenzyme Q10 (COQ10), as an integrative late stage cancer therapy.

Objective: To provide a non-toxic integrative therapy option and mechanism for physician monitored late stage cancer patients to determine if the PdLAC/COQ10 is appropriate for the given patient.

Methodology: Cell line studies (NCI protocol apoptosis/48 hours: Brain [Glioblastoma/35.8%, Astrocytoma/38.3%], Lung [Non-Small Cell Carcinoma/37.5%], Breast [Adenocarcinoma/41.4%], Prostate [DU-145/22.7%]) were conducted by Calvert Laboratories. The PdLAC/COQ10 is administered orally. PdLAC (water/Fat soluble) impacts both cancer and normal cells. COQ10 (Ubiquinol) dose is four 100mg softgels/day. PdLAC dose is 8-12 teaspoons (in juice) 4-times/day based on patient body weight (1-teaspoon/30 pounds). Positive clinical response (tumor growth [slowed/stopped/reduced] and improved patient energy/quality of life) is expected within three months. Patient progress is monitored with traditional clinical chemistries, tumor markers, and imaging. This therapy seeks a balance between therapy, nutrition, detoxification and energy enhancement.

Mechanism: The PdLAC enters cancer/normal cells and the mitochondrial outer membrane at the voltage dependent anion channel, and then through the inner membrane at the Complex 1. In cancer cells, the oxidative phosphorylation channel (OXPHOSC) produces low levels of adenosine triphosphate (ATP) due to deficient CoQ10. The deficient CoQ10 results in the PdLAC donating electrons generating excessive ROS. In cancer cells (damaged OXPHOSC); excessive ROS builds up between the outer and inner mitochondrial membranes. When the outer membrane ruptures, ROS, Cytochrome C, and the Procaspases 2, 3, and 9 enter the cancer cell and anaerobic cytoplasm and apoptosis occurs. In normal cells, PdLAC (acting as an electrical shunt) donates electrons to the OXPHOSC producing more ATP/patient energy.

Results: James Forsythe, MD/HMD (2004-2012) conducted clinical outcome studies (500 Stage IV patients/5-year survival 33%). He reported improvement in quality of life issues directly proportional to overall response rate and that stable disease can be tolerated/transformed into a chronic livable condition.

Conclusion: Scientific and clinical documentation provides evidence that a non-toxic adjuvant integrative nutritional therapy option for advanced (Brain/Lung/Breast/Prostate) cancer patients, when tra-
ditional therapies are exhausted. Physician referrals to physicians with PdLAC/CoQ10 clinical experience are justified to determine if this therapy/monitoring is appropriate for a given patient. This therapy is not intended to circumvent traditional therapies, is administered orally as a nutritional (not a “drug or cure”), prescription is not required, 3-month cost $3000, positive results within three months, is within good medical practice/medical ethics/FDA guidelines, and should meet physician/hospital/hospice legal obligations. The PdLAC/CoQ10 proposed mechanism focuses on the creation of excessive ROS acting as a natural chemotherapy/anticancer agent when entering the cancer cell anaerobic cytoplasm. PdLAC/CoQ10 represents an application of mitochondrial medicine, with the potential of a patient tolerated stable/chronic livable disease condition. A PdLAC cell line study correlation with adult cell line studies warrants a protocol development adapting the adult therapy dosage to children’s solid tumors (relapsed neuroblastomas/carcinomas/sarcomas/glioblastomas). This presentation provides a documented understanding and real option for end stage solid tumor patients who have been told by their oncologist:

1. That they have 3-6 months to get their affairs in order
2. That traditional therapy has now been exhausted;
3. That they will no longer return to this office and are given the name of a palliative care physician that will provide future needed care.

The speaker can provide contact information to palliative care physicians who will provide future needed care.

This presentation is based on Mr. Neren’s presentation at the UMDF Mitochondrial Medicine 2018 Symposium, Nashville, TN, June 27-30, 2018 (“Mitochondrial Reactive Oxygen Species (ROS) as a Non-Toxic Adjuvant Integrative Anticancer Therapy Option for Adult Stage IV Solid Tumor Patients (Brain, Lung, Breast, and Prostate) When Traditional Therapy Options Have Been Exhausted: Palladium/Lipoic Acid Complex and Coenzyme Q10 Impacting the ROS Production and Apoptosis”). It was presented in memory of Bernard Statland, M.D., Ph.D., J.D. (1942-2004).

Biography: Mr. Edward J. Neren received his B.S. from Temple University, Philadelphia, PA. He was a Research Associate in the Department of Biochemistry at the Temple University School of Medicine and in the Department of Hematology at the Temple University Hospital. He subsequently worked at the Technicon Instruments Corp. (now Siemens Healthineers), the BMC Corporation, the Garnett McKeen Laboratories and the American Association for Clinical Chemistry (AACC). In 2008, he became president of Balneology Products, Inc. He also founded Neren & Co./NerenPossible Services, to which he currently devotes his time. His contact information is:

- Phone: 1-845-357-6039
- E-Mail: eneren@optonline.net

Date: Thursday, December 6, 2018
Times: Refreshments - 5:30 PM
Lecture - 6:00 PM
Place: Westchester Community College
Gateway Building Room 110
75 Grasslands Road
Valhalla, NY 10595
Cost: Free and Opened to the Public
For further information: contact Paul Dillon
E-Mail PaulWDillon2@hotmail.com
Phone 1-914-393-6940.

LONG ISLAND SUBSECTION

2018 Holiday Seminar — “The History and Chemistry Associated with the Use of Lethal Gas Weapons During World War I”

Speaker: Professor Paris Svoronos
Chemistry Department
Queensborough Community College
Queens, NY

Abstract: The use of lethal gas during World War I (1914-1918) was the first case in history where a massive scale of this weapon was employed. The historical sequence as well as the description of the biological effect of the most commonly used gases during this war will be described.

Date: Thursday, December 6, 2018
Time: 6:00 PM – 8:00 PM
Place: Nassau Community College
CCB Room 251/252
Uniondale, NY
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.

BIOCHEMICAL TOPICAL GROUP – JOINT MEETING WITH THE NYAS BIOCHEMICAL PHARMACOLOGY DISCUSSION GROUP

Extracellular Vesicles in Diagnostics and Therapeutics

Organizers: Richard A. Cerione, PhD
Cornell University
Jemy A. Gutierrez, PhD
Pfizer
Jorge Schettini, PhD
Pfizer
Claire Steppan, PhD
Pfizer
Gregory Tesz, PhD
Pfizer
Theresa Wilson, PhD
Pfizer
Alissa Weaver, PhD
Vanderbilt University School of Medicine
Alison Carley, PhD
The New York Academy of Sciences
Sonya Dougal, PhD
The New York Academy of Sciences

Keynote Speaker: Xandra Breakefield, PhD
Harvard University

Speakers: Elena V. Batrakova, PhD
University of North Carolina, Chapel Hill
Richard A. Cerione, PhD,
Cornell University
David C. Lyden, MD, PhD,
Weill Cornell Medical College
Harmeet Malhi, MBBS
Mayo Clinic
Susmita Sahoo, PhD
Icahn School of Medicine at Mount Sinai
Johan Skog, PhD
Exosome Diagnostics, Inc
Alissa Weaver, PhD
Vanderbilt University School of Medicine

In this symposium, we will review the most recent advances in extracellular vesicles (EV) research and their increasing impact on diagnostics and drug development for cancer, neurodegenerative disease, metabolic disease, and cardiovascular disease.

Date: Tuesday, February 19, 2019
Time: 8:30 AM – 5:00 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: ACS and NYAS members save $50 or more on this event. Please select the appropriate non-member Registration Category and use the Priority Code “ACS”. The Early Bird Discounted Registration deadline is January 8, 2019.

For more information and to register for the event, go to: www.nyas.org/EV2019

To become a Member of the Academy, visit www.nyas.org/benefits
ORGANIC TOPICAL GROUP — JOINT MEETING WITH THE NEW YORK ACADEMY OF SCIENCES CHEMICAL BIOLOGY DISCUSSION GROUP

Phase Separation in Biology and Disease

Organizers: Clifford Brangwynne, PhD Princeton University
Jason Imbriglio, PhD Merck
Neal Zondlo, PhD University of Delaware
Sara Donnelly, PhD The New York Academy of Sciences
Sonya Dougal, PhD The New York Academy of Sciences

Speakers: Clifford Brangwynne, PhD Princeton University
Zhijian “James” Chen, PhD University of Texas, Southwestern
David Cowburn, PhD Albert Einstein College of Medicine
Abby Dernburg, PhD University of California, Berkeley
Nicolas Fawzi, PhD Brown University
Martin Jonikas, PhD Princeton University
Tanja Mittag, PhD St. Jude Children's Research Hospital
Rohit Pappu, PhD Washington University in Saint Louis
Geraldine Seydoux, PhD Johns Hopkins University School of Medicine

This one-day symposium will bring together scientists from academia and industry to dissect the latest advances in the field of biological phase separation and discuss the implications for human disease.

Date: Wednesday, February 20, 2019
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: ACS and NYAS members save $50 or more on this event. Please select the appropriate non-member Registration Category and use the Priority Code “ACS”. The Early Bird Discounted Registration deadline is January 11, 2019.

For more information and to register for the event, go to www.nyas.org/PhaseSeparation
To become a Member of the Academy, visit www.nyas.org/benefits
WESTCHESTER CHEMICAL SOCIETY

On October 2, 2018 Dr. Joseph W. Krumpfer spoke on “Living in the Polymer World: Polymers and Macromolecules in Our Daily Lives.” Dr. Krumpfer is an Assistant Professor of Polymer and Inorganic Chemistry in the Department of Chemistry and Physical Sciences at the Dyson College of Arts and Sciences of Pace University in Pleasantville, NY. He briefly defined what polymers are, how they are made both synthetically and industrially, their unique physical properties and their real-world applications. He then discussed their impacts, which, despite all of the coverage of the negative aspects of polymeric waste, have many important positive contributions. Finally, he discussed ways that these materials can help solve many of the pressing problems facing society and the role of chemists in developing new polymers, and processes, that will enable the benefits of polymers while minimizing their negative environmental impacts.

Dr. Krumpfer received his B.S. in Chemistry at Seton Hall University in South Orange, NJ and his M.S. and Ph.D. in Polymer Science and Engineering at the University of Massachusetts - Amherst. His post-doctoral research in the field of carbon fiber precursor polymers was performed at the Max Planck Institute for Polymer Research in Mainz, Germany where he was awarded an Alexander von Humboldt Post-Doctoral Researcher Fellowship. Currently, he is an assistant professor of Inorganic and Polymer Chemistry at Pace University in Pleasantville, NY. His current research interests include conductive and light-emitting polyquinolines, silicone-inorganic oxide equilibration reactions, and pre-ceramic polymers and materials for high temperature applications. There was lively discussion during and following the talk, which was given at the Westchester Community College in Valhalla, N.Y.

After the talk Dr. Krumpfer and several of the attendees enjoyed a dinner together at a nearby restaurant. The photo below is of Dr. Krumpfer and the other WCS board members who attended the meeting.

Peter Corfield, Joan Laredo-Liddell, Paul Dillon, Joseph Krumpfer, Jean Delfiner and Rolande Hodel

(Photo courtesy of Paul Dillon)
On October 17, 2018 the Westchester Chemical Society (WCS) held a joint seminar with the Manhattan College Chapter of the NY Water Environment Association (MC-NYWEA). A joint meeting had been suggested by Hossain Azam, Ph.D., an Assistant Professor in the Dept. of Civil and Environmental Engineering at Manhattan College and a member of the WCS Board. The seminar was organized by Ms. Megan DiGeronimo, vice-president of the student group of MC-NYWEA, with the help of the WCS co-chair and Program Director, Paul Dillon, Ph.D., Ms. Jamila Thompson, president of the student group of MC-NYWEA, and Dr. Azam. The seminar was entitled “Pharmaceuticals in the Environment: Status and Treatment Alternatives,” and was presented by Joseph Cleary, P.E., B.C.E.E and Daniel W. Elliott, Ph.D., Senior Consultants at Geosyntec, an environmental consulting firm based in Princeton, NJ.

The speakers introduced the problems associated with micro-constituents in the environment, especially wastewater, with emphasis on pharmaceuticals. Micro-constituents are usually present in low concentration but may have strong effects on humans, domestic animals and wildlife. Particularly important are endocrine disrupting compounds (EDCs) and antibiotics or other antimicrobials. As an example of the impact of EDCs, they mentioned that a study conducted over ten years ago showed that approximately 80% of the flounders in Jamaica Bay (Queens, NY) are now female. Environmental antibiotics can encourage the development of antibiotic resistant strains of bacteria.

These materials are difficult, at best, to treat in municipal water treatment facilities because their chemical structures cause them to be recalcitrant in traditional biological treatment plants and their concentrations tend to be much lower than sewage related carbonaceous wastes. Other contributing factors include improper disposal of unused pharmaceuticals either in sewage or runoff (from disposal in landfills). Mitigation is best done at facilities having higher micro-constituent concentrations, namely pharmaceutical plants and hospitals. Various approaches to mitigation (e.g., trapping in membranes or absorbent beds), and study tools (such as computer modeling) were discussed. They have done comparative studies, particularly in Puerto Rico and Ireland, of mitigation processes in pharmaceutical plants. These have led to process improvements resulting in more efficient mitigation. There was lively discussion following the presentation, which was given at Manhattan College in the Bronx, NY.

(continued on page 24)
Mr. Cleary is a national leader regarding micro-constituents in wastewater and has more than 40 years’ experience in environmental engineering consulting specializing in industrial wastewater treatment and hazardous waste remediation. He has directed projects from treatability studies, process selection and design through engineering design and construction, plus operation and maintenance services. His wastewater experience includes many major pharmaceutical, refinery, food and beverage, paper and electric and gas utility clients. He is a professional engineer in several states and is a board-certified environmental engineer (B.C.E.E.) by the American Academy of Environmental Engineers. He is truly one of the gurus of industrial wastewater treatment, especially for the pharmaceutical, food & beverage, refinery, and chemicals industries. His legacy ties directly back to the titans of the field, many of whom have ties to Manhattan College.

Dr. Elliott is a highly experienced environmental engineer with more than 25 years of environmental affairs experience from the diverse perspectives of industry, consulting, and a major research university. At Merck & Co., Inc., he managed the 1.5 MGD industrial wastewater pre-treatment program for the Merck Chemical Manufacturing Division (MCMD) complex in Rahway, NJ which featured five full-scale Active Pharmaceutical Ingredient (API) manufacturing facilities for human and animal health pharmaceuticals. He also served as Corporate Environmental Engineer for American Standard Inc., managing environmental affairs for 100 manufacturing sites around the globe. As a consultant, he works for Clients in the chemical and pharmaceuticals industries.
North Jersey Meetings

http://www.njacs.org

NORTH JERSEY EXECUTIVE COMMITTEE MEETING

Section officers, councilors, committee chairs, topical group chairs, and section event organizers meet regularly at the Executive Committee Meeting to discuss topics of importance to running the section and representing the membership. All ACS members are welcome to attend this meeting and to become more involved in section activities.

Date: Monday, December 10, 2018
Time: 7:00 PM
Place: Rice Lounge
Fairleigh Dickinson University
Florham Campus
285 Madison Avenue
Madison, NJ 07940

All are welcome but please let Amjad Ali (at 908-740 3407) know if you plan on attending so he can give security your name.

(See www.njacs.org for any changes.)

For reservations please call NJACS secretary Bettyann Howson (973) 822-2575 or email chemphun@gmail.com or register online at http://www.njacs.org prior to Wednesday, December 5, 2018.

NORTH JERSEY ACS ELECTION RESULTS

Congratulations to the following officers, councilors and alternate councilors.

CHAIR-ELECT (2019)
Cecilia Marzabadi

COUNCILORS/ALTERNATE COUNCILORS (2019-2021)

COUNCILORS
Diane Krone
Monica Sekharan
Michael Miller
Miriam Gulotta

ALTERNATE COUNCILORS
John Piwinski
Susan Fahrenholtz
Ron Kong
Ray Baylouny
Bettyann Howson
Secretary, Councilor, Education Chair
North Jersey Section ACS

NMR TOPICAL GROUP

On Monday, September 24th at Princeton University in Frick Chemistry Laboratory, the NMR Topical Group hosted its annual Symposium during the afternoon and evening hours. Record attendance was set for the event this year with nearly 95 attendees to take part in six afternoon talks and an evening Keynote session shared with the Princeton local Section of the ACS. The afternoon speaker lineup included Nate Traaseth (NYU), Rafael Bruschweiler (OSU), Clark Ridge (FDA), Andrew Lee (UNC), Paola Di Lello (Genentech), and David Rovnyak (Bucknell University). The shared Keynote address was delivered by honored guest speaker Dorothee Kern of Brandeis University. We thank our sponsors, guest speakers, and attendees for making the event a huge success!

New to the event this year was a concurrent Student Career Forum, organized in collaboration with PACS. The purpose of the Forum was to educate students about the types of employment opportunities offered by industry, the requirements and expectations of industrial employers, and to provide advice on how to best prepare and market themselves for these opportunities. The course was made available to both undergraduate and graduate students in chemistry degree-granting programs local to New Jersey, New York, and Pennsylvania. The Forum was comprised of an ACS Career Pathways Course, a resume building session, and Chemistry Career Conversations (i.e. speed networking) with representatives from local companies.

The final NMR Topical Group meeting of 2018 will be held at Rutgers University on Tuesday, November 13th. A buffet dinner will be served at 6:00 pm followed by guest speaker Nathaniel Nucci at 7:00 pm in CABM 010. Dr. Nucci is an assistant professor at Rowan University and former graduate student/fellow of the Wand Lab at the University of Pennsylvania. Nathaniel will speak on “Resolving the dynamic dance between proteins and (continued on page 26)
solvent using NMR and reverse micelles”. Please see our website for additional information and to register for the event.

Honored guest speaker Professor Dorothee Kern delivers the evening Keynote Address, an event shared between NJACS and PACS.

Attendees enjoy filling their plates from the dinner buffet.  
(Photos courtesy of Allen Jones (of PACS)).

Wine, dinner, and networking closed out the evening of a successful NMR Symposium and Student Career Forum in the Frick Atrium.
The annual symposium for the North Jersey Chromatography Group (NJCG) was held on September 26th at the Double Tree Hotel in Somerset, NJ. Approximately 90 people from academia and industry attended the symposium. The attendees experienced an agenda filled with expert speakers from academia, pharma, instrumentation companies, and contract research organizations who provided presentations focusing on various aspects of the modernization of chromatography, including chromatographic method development, high-throughput screening, optimization, trace level analysis, and method modernization. Additionally, the 2018 Chair of the North Jersey ACS, Miriam Gulotta provided an overview of the North Jersey ACS and its impact on the local scientific community (see full speaker list and topics below).

2018 North Jersey Chromatography Group Presenters

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Presentation</th>
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<tbody>
<tr>
<td>Ying Hu</td>
<td>Method Development and Validation for Non-Ascendia Chromophoric Compounds</td>
</tr>
<tr>
<td>Michael Hicks</td>
<td>Screening and High-Throughput Analytical (SHA) Laboratory at Merck Research Labs (MRL)</td>
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<tr>
<td>Miriam Gulotta</td>
<td>Overview of the North Jersey ACS</td>
</tr>
<tr>
<td>Brian He</td>
<td>Developing Robust Reversed-Phase HPLC Methods with Chromatographic Modeling Tool - DryLab</td>
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<tr>
<td>David Liu</td>
<td>Analytical Challenges in Testing Trace Level Pharmaceutical Impurities</td>
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<tr>
<td>Nicholas Snow</td>
<td>Six Dimensions of Separation: A Renaissance in Gas Chromatography</td>
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<tr>
<td>Seton Hall University</td>
<td>Migration of Isocratic and Gradient USP Methods to Modern Column Technology</td>
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<tr>
<td>Kenneth Berthelette</td>
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The symposium also featured a poster session with 12 presenters and a vendor show featuring 15 companies spanning a wide array of fields in the chromatography industry. Attendees had the opportunity to vote for their favorite posters, and the top 2 posters were rewarded with a $50 Amazon gift card. Additionally, a few lucky attendees were awarded raffle prizes throughout the event. A free cocktail hour courtesy of the event’s premier sponsor, Waters Corporation, capped off a wonderfully successful symposium.

(More pictures on page 28)
Rutgers University — Newark
Spring 2019 Graduate Courses

540 Principles of Spectroscopy
Dr. Piotrowsiak
Mon 6:00-9:00 pm, Smith Hall Room 240

512 Organic Photochemistry
Dr. Galoppini
Tue 6:00-9:00 pm, Smith Hall Room 240

579 Coordination Chemistry Applied to Catalysis
Dr. Prokopchuk
Thu 6:00-9:00 pm, Smith Hall Room 240

To apply to our Masters or PhD program please see http://chemistry.rutgers.edu/grad/admissions-info.
Up to 2 graduate courses can be taken on a non-degree basis.
For more information, see http://chemistry.rutgers.edu/grad/graduate-prog
or contact Prof. Galoppini at galoppin@newark.rutgers.edu.
NJACS HOSTS SUCCESSFUL CHEM EXPO IN CELEBRATION OF NATIONAL CHEMISTRY WEEK

By Sandra Keyser

To celebrate National Chemistry Week 2018, NJACS partnered with Liberty Science Center (LSC) to successfully host the 24th ChemExpo in Jersey City, New Jersey on Saturday, October 20th from 10 am to 2 pm in the Jennifer Chalsty Center of LSC in Jersey City, New Jersey.

Approximately 250 volunteers from eight local colleges, three high schools, several nonprofit organizations, and companies presented a variety of demos that related to the theme, “Chemistry is Out of This World”.

A variety of demonstrations were presented to the pre-K and elementary school children, which included the fluorescence of rocks, the collapse of stars using balloons and aluminum foil, the effects of UV light on UV-sensitive beads, the ability of sunscreen to protect against UV light, how a vacuum impacts different materials, the density of planets, and the emission spectra of hydrogen and helium. A local Girl Scout Troop 80268 and other young volunteers also engaged the children outside the Jennifer Chalsty Center by offering temporary tattoos of moles and NCW logos as well as viruses from the PDB.

The college and university chemistry chapters competed in the Sister Marian José Smith Undergraduate Public Outreach Award. Judges Tomeka Thompson, Donovan Thompson, Debra Hazard-Sweet, Mei Ping Yang, Keisha Stephen, Mirlinda Biba, evaluated the demonstrations and selected the winners in the college and high school competitions, while Miriam Gulotta coordinated the judging during the event.

New Jersey City University won the first place in the college competition. Debra Hazard-Sweet, who served as a judge, said “The model car was an excellent model used to demonstrate how electrolysis could be used to fuel a vehicle, be it a car on earth or a rocket… [Their] Rocket Launch demo was original and related very closely to this year’s theme.”

Drew University won second place for their demonstrations that related the effects of atmosphere on the impact of meteors, associated the densities of the planets with their composition, and exhibited the effects of sunscreen on UV-radiation.

(continued on page 30)
J.P. Stevens High School won the inaugural award for the high school competition in which they vacuum-sealed the museum visitors, displayed the fluorescence of rocks and highlighters, and presented the iron content in cereals.

The event was enjoyed by the museum visitors as well as the volunteers. Darcy Riley, a parent and member of Liberty Science Center, said "I love this program, and many of the booths gear their activities towards my child."

Judge Mei Ping Yang explained, "This is my 3rd year serving as a judge. I enjoyed the time I spent with the students, enjoy how they try to explain a chemistry concept with everyday objects and simple demonstrations. If I like a demo, I will "steal" it for use in the classroom too. I learned much from these student groups; even if I know a concept, having it explained in a different way drives the meaning home."

"My favorite part today was seeing the kids’ reactions to everything. You heard screams of joys, oohs and aahs, and 'I want to do that'...I think that's the whole point, getting kids excited about chemistry," said Mosam Naik, a student volunteer with Fairleigh Dickinson University Science Club.

Marina Hahn from Drew University Chemistry Society said, "It’s really great to give the kids an experience in chemistry," and Ryan Aschoff, a volunteer from The College of New Jersey, added, "I think it's nice that the parents take [the children] here to give them the exposure to science."

Hillary Volk, volunteer said, "Children and parents alike had an enjoyable time listening to the outreach students, and I heard on several occasions that the exhibit was the best they'd been to."

Financial support from the NJACS, and the corporate sponsors, Infineum USA L.P., and BASF, made the event possible. Lauren Castelli, advisor for the Younger Chemists Committee (YCC) of NJACS, did a significant amount of work with the volunteers during and after the event, and organized the social that followed ChemExpo. The event was also successful due to the support of the volunteers, NJACS Executive Board members, retired chemists, chemistry teachers at the participating schools, representatives from various chemical companies, and the ChemExpo 2018 Steering Committee: Monica Sekharan, Mita Chaki, Miriam Gulotta, and Sandra Keyser.
Call for Nominations

COMMITTEE ON THE HISTORY OF THE NEW YORK SECTION

Over the past twenty-three years the New York Section has participated in the designation of seven National Historic Chemical Landmarks and four New York Section Historic Chemical Landmarks. A brief description of these National and local section landmarks may be found on the NY Section Home Page at newyorkacs.org under the Committee on the History of the NY Section. These landmark programs recognize achievements in the chemical sciences and related areas, in order to enhance public appreciation for the contributions of the chemical sciences to modern life.

Please consider making a nomination for an historic chemical landmark. The Committee on the History of the NY Section will consider all nominations. In addition to a particular achievement, an historic library, building or association may be worthy of this distinction.

Please send your nomination, with supporting documentation, to the Chair of the Committee, Dr. Neil Jespersen, at jespersn@stjohns.edu.

WESTCHESTER CHEMICAL SOCIETY DISTINGUISHED SCIENTIST AWARD 2019

The Westchester Chemical Society is accepting nominations for the “WCS Distinguished Scientist Award 2019”. Scientists who live or work in Westchester or the Bronx qualify. The awardee is expected to attend the Awards Dinner (April/May timeframe) and to present aspects of his or her work. Self-nominations are acceptable. Nominations are not carried over from previous years. New and possibly updated nominations should be submitted. Please send a cover letter stating why your nominee should receive the award along with the nominee’s resume by January 31, 2019 to:

Dr. Paul Dillon at PaulWDillon2@hotmail.com or
67 Matthes Road, Briarcliff Manor, NY 10510
or to: Dr. Peter Corfield at pwrc@earthlink.com

2019 GOLD MEDAL AWARD: SOCIETY FOR APPLIED SPECTROSCOPY, NEW YORK SECTION

Nominations are being sought for the 2019 Gold Medal Award of the New York Section of the Society for Applied Spectroscopy. This coveted award was established in 1952 to recognize outstanding contributions to the field of Applied Spectroscopy. The Gold Medal will be presented at a special award symposium, arranged in honor of the awardee, at the 2019 Eastern Analytical Symposium. A nominating letter describing the nominee’s specific accomplishments should be submitted along with a biographical sketch by January 15, 2019.

Please e-mail all materials as well as questions and inquiries to Dana Garcia at dana.garcia@arkema.com.

KAVILI EMRGING LEADER ORLANDO

The Kavli Foundation has agreed to sponsor The Kavli Foundation Emerging Leader in Chemistry Lecture through 2025 featuring two lectures at each ACS national meeting. The Kavli Foundation Emerging Leader in Chemistry Lecture is awarded to an outstanding chemical scientist who is less than 10 years past receipt of his or her Ph.D. and will be under 40 years of age as of Monday, April 1, 2019, the date of the lecture. The candidate is a distinguished younger scientist who is highly regarded by his or her peers for significant contributions to an area of chemistry or related multidisciplinary area of chemistry.

The Multidisciplinary Program Planning Group (MPPG) is pleased to host the lecture at the Spring ACS National Meeting in Orlando, FL. We invite ACS Divisions and Committees to submit candidate nominations.

Please reach out to your members to consider sending recommendations for this award. All nominations must be submitted by the Division or Committee, after approval from the respective Chair, and using one of the forms below.
Call for Volunteers

OPPORTUNITY FOR ACS MEMBERS TO AID STUDENTS 2 SCIENCE IN A HYBRID VIRTUAL LAB PROGRAM

Can you spare a few hours of your time? Do you like working with students and would you like the opportunity to share your science knowledge in a classroom? Students 2Science (S2S) is seeking volunteers to support its V-Lab program. S2S has a series of elementary, middle, and high school experiments that run in various schools across New Jersey. Members are especially needed to mentor students in participating schools to help with experiments. It's great fun, a wonderful way to give back, and only requires 1-2 hours of your time. Experiments include CO2 to the Rescue, Curious Crystals, Mystery of M&Ms, Thermochemistry: Exothermic and Endothermic Chemical Reactions, and Glow It Up: The Chemistry of Luminol. All are age-appropriate and volunteers are provided with instructions on how to support in the classroom prior to your scheduled volunteer day.

For more information, contact Cyndi Roberson, Director of Corporate Relations, at (973) 947-4880 ext. 516 or visit the website to register for the upcoming school year: www.students2science.org.

SEMINARY SPEAKERS WANTED

The New York Section of the ACS is in search of speakers that we can add to our Speakers Bureau database of interested local area speakers who are available for Section-wide seminars and symposia. If you have an area of research or interest that would provide an interesting talk appropriate for our Section members, and would like to be included in our Speakers Bureau, please contact the New York Section Office at (516) 883-7510 or send an email to njesper1@optonline.net with the following information that will be posted on the Section's website: your name, affiliation, a title, and 5-6 words briefly summarizing your area of specialty. We look forward to hearing from you about topics that you wish to share with our other members!

Call for Applications

FREDDIE AND ADA BROWN AWARD

This Award recognizes and encourages high achieving middle- and high-school students, of African American and Native American heritage, to further develop their academic skills, with views on careers in the chemical sciences.

Award Amounts

Middle School $100.00 Check and $50.00 gift certificate : High School $200.00 Check and $100.00 gift certificate.

Who is Eligible

Middle School students enrolled in a science class : High School students who have completed a chemistry course.

Grades

Middle School B Average or better in Science, B Average overall : High School B Average in Chemistry, B Average overall.

Letter of Recommendation

Math or Science/Chemistry Teachers or Guidance Counselor.

Statement

Middle School “Why I Like Science” : High School “Why I Like Chemistry”

Selection Criteria

Applicants must be African American (Black) or Native American (including Pacific Islander) or of mixed race.

Transcript

Official transcript required.

Financial Need

Not Required.

Applications available on the web: www.njacs.org/freddieadabrown or from your school guidance office.

Return Application To

Freddie and Ada Brown Award, NJACS Section Office, 49 Pippens Way, Morristown, NJ 07960

Due Date

Completed Applications must be post-marked no later than March 31 Annually.

Questions: Contact Jeannette Brown Jebrown@infionline.net or (908) 239-1515.
UNIVERSITY OF TEXAS AT SAN ANTONIO

UTSA discovers how to make plastics cheaper and less energy intensive

(San Antonio, October 25th, 2018) — Researchers at The University of Texas at San Antonio have discovered a filtering material that may reduce the environmental cost of manufacturing plastic. The discovery was created by Libo Li, Ruibiao Lin, both post-doctoral students, and Professor Banglin Chen, Dean’s Distinguished Chair Professor of Chemistry and Microsoft President’s Endowed Professor at UTSA, along with other scientists at the National Institute of Standards and Technology (NIST) and China’s Taiyuan University of Technology. The scientific advance can extract the key ingredient in the most common form of plastic from a mixture of other chemicals – while consuming far less energy than usual.

The material is a metal-organic framework (MOF), a class of substances that have been used to separate individual hydrocarbons from the organic molecules produced during the oil refining process. MOFs hold crucial value for the plastic and petroleum industries because of this capability, which could allow manufacturers to perform these separations far more cheaply than standard oil-refinement techniques demand.

Making plastic takes lots of energy. Polyethylene, the most common type of plastic, is built from ethylene, one of the many hydrocarbon molecules found in crude oil refining. The ethylene must be highly purified for the manufacturing process to work, but the current industrial technology for separating ethylene from all the other hydrocarbons is a high-energy process that cools down the crude to more than 100 degrees below zero Celsius.

Ethylene and ethane constitute the bulk of the hydrocarbons in the mixture, and separating these two is by far the most energy-intensive step. Finding an alternative method of separation would reduce the energy needed to make the 170 million tons of ethylene manufactured worldwide each year.

Scientists have been searching for such an alternative method for years, and MOFs appear promising. On a microscopic level, they look a bit like a skeleton of a skyscraper of girders and no walls. The girders have surfaces that certain hydrocarbon molecules will stick to firmly, so pouring a mixture of two hydrocarbons through the right MOF can pull one kind of molecule out of the mix, letting the other hydrocarbon emerge in pure form.

The trick is to create a MOF that allows the ethylene to pass through. For the plastics industry, this has been the sticking point. A turning point came in 2012, when the creation of the MOF-74 seemed like a good filter for separating a variety of hydrocarbons, including ethylene. UTSA researchers and the rest of the team analyzed previous approaches but an idea from biochemistry finally sent them in the right direction.

“A huge topic in chemistry is finding ways to break the strong bond that forms between carbon and hydrogen,” said UTSA professor Banglin Chen, who led the team. “Doing that allows you to create a lot of valuable new materials. We found previous research that showed that compounds containing iron peroxide could break that bond.”

The team reasoned that to break the bond in a hydrocarbon molecule, the compound would have to attract the molecule in the first place. When they modified MOF-74’s walls to contain a structure similar to the compound, it turned out the molecule it attracted from their mixture was ethane.

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Without the fundamental understanding of the mechanism, no one would believe our results,” Chen said. “We also think that we can try to add other small groups to the surface, maybe do other things. It’s a whole new research direction and we’re very excited.”

Written by Chad Boutin @ NIST