

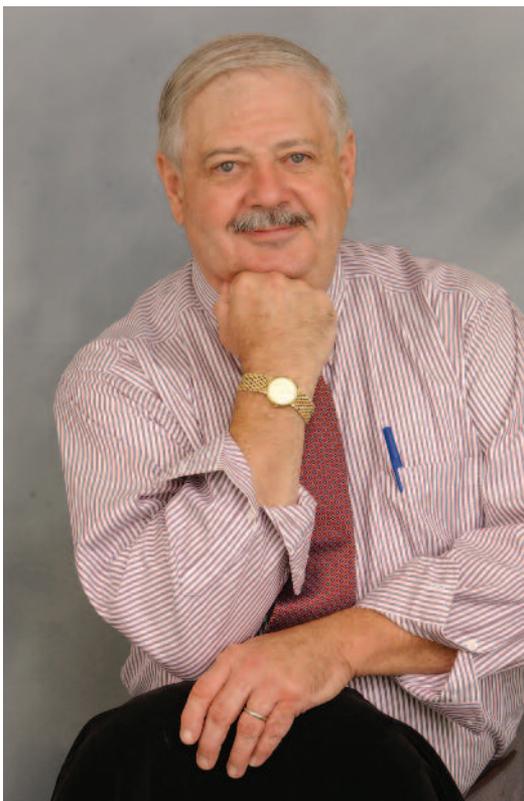
THE Indicator

JUNE 2018

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Westchester Chemical Society's Salute To Excellence Awardee Harry D. Gafney, PhD



See Awards article on pages 14-24.

www.theindicator.org
www.njacs.org www.newyorkacs.org

THIS MONTH IN CHEMICAL HISTORY

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

In a recent column I discussed a 1920s experimental chemistry manual that an interested reader sent me. This month's column will examine an influential early 19th. Century chemistry textbook: *Chemical Conversations* by Jane Marcet. I will be drawing on some articles that a friend and former colleague, G. J. Leigh, has published in the *Bulletin for the History of Chemistry*, a journal of the Division of the History of Chemistry of the ACS. To quote Dr. Leigh "Conversations on Chemistry was one of the most successful books...going through sixteen editions over about fifty years and being widely copied...". It was first published in 1806 and was soon pirated in the United States. I have several copies of pirated versions. My earliest was published in 1814 and in addition to Mrs. Marcet's text it contains "Some late Discoveries on the subject of the FIXED ALKALIES by H. Davy Esq. of the Royal Society" in addition to chapters on the Pneumatic Cistern of Yale College and on artificial mineral waters in the United States, plus an appendix on Dyeing, Tanning, and Currying.

Mrs. Marcet was the wife of the physician Alexander Marcet. She was not a chemist and was apparently self-taught through studying earlier texts and articles. Her book is in the form of a dialog amongst three women: the teacher, Mrs. B, and her two young pupils Caroline and Emily. The dialog form has a long history dating back at least as far as Plato. One of Galileo's most significant works is his "Dialog on the Two Great Systems of the world". Mrs. Marcet's book was designed for self-study and one great scientist of the 19th. Century, Michael Faraday, acknowledged that it was her book that led him to the study of chemistry. That was when Faraday was a bookbinder's assistant, and he eagerly read every scientific work that came into his hands.

Mrs. Marcet's Preface, in addition to the very form of the book, makes it clear that it is aimed at educating women. "...the female sex whose education is seldom calculated to prepare their minds for abstract ideas, or scientific language." Mrs. Marcet attended the public lectures at the Royal Institution, many of which were delivered with forceful showmanship by Humphry Davy, and that, together with her own conversations and experiments with a friend, led her to the idea of writing this book for the edification of other women. Her plan was to begin by treating the simplest bodies, that is the elements, and to proceed to more complex ones. There are 23 conversations in all beginning with the general principles of chemistry; continuing with light and heat (recall that these were among the elements that Lavoisier listed in his great textbook, *The Elements of Chemistry* of 1789); and moving on to oxygen, hydrogen, and other common elements. These are all in Volume 1. The compound bodies are treated in Volume 2 that goes beyond simple compounds to treat of organic materials.

Let me give you a brief sample of the dialog. It concerns oxygen.

"Emily: I wonder that metals can unite with oxygen for, as they are very dense, their attraction of aggregation must be very great, and I should have thought that oxygen could never have penetrated such bodies."

"Mrs. B. Their strong attraction for oxygen counterbalances this obstacle. Most metals, however, require to be made red hot before they are capable of attracting oxygen in any considerable quantity. By this process they lose most of their metallic properties and fall into a kind of powder, formerly called calx, but now much more properly termed an oxyd; thus we have oxyd of lead, oxyd of iron &c."

"Caroline. The word oxyd, then, simply means a metal combined with oxygen?"

"Mrs. B. Yes; but the term is not confined to metals, though chiefly applied to them...."

In reading the dialogs it becomes clear that Emily is much brighter than Caroline. She grasps new concepts quickly, and seems better informed on a range of subjects.

By the way the pneumatic cistern of Yale College, a diagram of which is the frontispiece of the copy of "Conversations" I mentioned, is nothing more than a very large pneumatic trough, set up for public demonstrations of experiments involving gases that are not very soluble in water. It was designed for such demonstrations in public lecture courses given at the college and had dimensions of 7 feet by 4 feet and was 2 feet deep.

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

3137 Hemlock Hill Road

Pocono Pines, PA 18350

973-981-4383

indicator.linda@gmail.com**Advertising Manager****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, Queens, NY 11439

718-990-5221

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

GSK, 184 Liberty Corner Rd., Warren, NJ 07059

973-713-8303

jacqueline.a.erickson@gsk.com**Web Masters****NY Section - DR. BRIAN R. GIBNEY**postmaster@newyorkacs.org**NoJ Section - PAUL TUKEY**tukey@verizon.net**NEW YORK SECTION**

Marilyn Jespersen, Office Administrator

<http://newyorkacs.org>**Chair, DR. JOSEPH M. SERAFIN**

Dept. of Chemistry, St. John's University

8000 Utopia Parkway, Queens, NY 11439

718-990-5226 • serafinj@stjohns.edu**Chair-Elect, DR. JUSTYNA WIDERA-****KALINOWSKA**

Dept. of Chemistry, Adelphi University

1 South Street, Garden City, NY 11530

516-877-4135 • widera@adelphi.edu**Secretary, DR. DANIEL AMARANTE**

Division of Natural Sciences, College of Mount

Saint Vincent, 6301 Riverdale Avenue,

Riverdale, NY 10471 • 718-405-3389

daniel.amarante@mounthainvincent.edu**Section Office**

St. John's University, Chemistry Dept.

8000 Utopia Parkway, Queens, NY 11439

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

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

1 Parkside Terrace, Apt. 2L, Woodland Park, NJ

07424-2750

973-345-7111 • mgulotta@acs.org**Chair-Elect, DR. AMJAD ALI**

Senior Principal Scientist, Merck and Co. Inc.

2000 Galloping Hill Rd., Kenilworth, NJ 07033

908-740 3407 • amjad_ali@merck.com**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** 

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

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Visit Uswww.TheIndicator.org

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

June Calendar

NEW YORK SECTION

Thursday, June 7, 2018

Chemical Marketing and Economics Group
See pages 8-9..

Friday, June 8, 2018

NY Section Board of Directors Meeting
See page 8.

Tuesday, June 19, 2018

Nanotechnology Discussion Group
See page 8.

June 2018

NY Society for Applied Spectroscopy
See page 10.

also

Friday, September 14, 2018

NY Section Board of Directors Meeting
See page 8.

Tuesday, September 25, 2018

Biochemical Topical Group
See page 10.

NORTH JERSEY SECTION

Monday, September 17, 2018

North Jersey Executive Committee Meeting
See page 5.

Saturday, October 20, 2018

Chem Expo at Liberty Science Center
See page 6.

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

Deadline for items to be included in the September 2018 issue of The Indicator is **July 28, 2018**



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North Jersey Meetings

<http://www.njacs.org>

NORTH JERSEY EXECUTIVE COMMITTEE MEETING

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

There is no Executive Committee meeting in

June. Next meeting will be:

Date: Monday, September 17, 2018

Time: 6:30 PM

Place: Rice Lounge

Fairleigh Dickinson University
Florham Campus
285 Madison Avenue
Madison, NJ 07940

(See www.njacs.org for more details.)



CAREERS IN TRANSITION MEETINGS

There will be no Careers in Transition Meetings until further notice.

Education

The City College
of New York

Master of Science Programs in Chemistry and Biochemistry



The Department of Chemistry & Biochemistry offers courses and research opportunities leading to M.S. degrees in chemistry or biochemistry.

In the chemistry discipline, both non-thesis and thesis routes to the MS degree are possible. Course offerings in the chemistry program normally include: Inorganic Chemistry, Reaction Mechanisms, Organic Synthesis, Structural Proof in Organic Chemistry, Environmental Organic Chemistry, and Polymer Chemistry. Courses are offered after 5 PM. Additional opportunities for cutting-edge research in the fields of inorganic, physical, organic and bioorganic, as well as materials chemistry are available via courses entitled Introduction to Research and Thesis Research. Students may also take Ph.D.-level courses at the CUNY Graduate Center.

In the biochemistry degree program, students follow the non-thesis route but engage in one or more semesters of mentored research for course credit. M.S.-level courses are offered in the following areas: Structural Biology and Signal Transduction, RNA Biochemistry, Biophysics, Genetics. In addition, a Ph.D.-level Biochemistry core sequence is taken at the CUNY Graduate Center in midtown Manhattan. Recent graduates have gone on to careers in industrial research and education, or used the degree to prepare for Ph.D.-level graduate studies or medical school. Application deadlines for chemistry are December 1 and May 30, and for biochemistry November 1 and May 1.

For more information, visit: <https://www.cuny.cuny.edu/chemistry/mschem>
To apply, visit: <https://www.cuny.cuny.edu/admissions/graduate-studies>
Questions? Contact: Prof. Barbara Zajc, bzajc@ccny.cuny.edu

For more information, visit: <https://www.cuny.cuny.edu/chemistry/msbiochem>
To apply, visit: <https://www.cuny.cuny.edu/admissions/graduate-studies>
Questions? Contact Prof. Kevin Ryan, kryan@ccny.cuny.edu.

CHEMEXPO

at Liberty Science Center

CHEMISTRY IS
OUT OF
THIS WORLD!



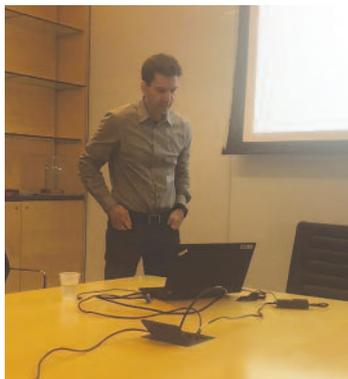
NJACS needs your help to make ChemExpo a success. If you or your organization would like to sponsor the event or volunteer as a participant, please visit <https://tinyurl.com/NJACSncw>

Save the date
Saturday, 10/20/18
10 am - 2 pm

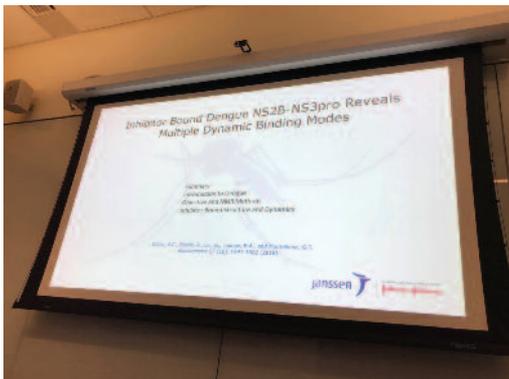
NORTH JERSEY NMR TOPICAL GROUP

On Wednesday, April 11th at Princeton University, the NMR Group hosted Alan Gibbs, PhD and Principal Scientist at Janssen Pharmaceuticals for the themed “Nexomics Night”. Nexomics Biosciences sponsored a catered dinner and door prizes for the event. Al’s seminar described a collaboration between Janssen and Nexomics in which detailed protein structure and ligand conformational dynamics studies were conducted towards understanding a challenging protein:inhibitor interaction complex. In this recently published work (see *Biochemistry*, 2018, 57, 1591-1602), NMR revealed two binding modes for a single inhibitor of Dengue NS2B-NS3pro that are dynamically sampled to nearly identical populations in solution. An excellent turnout of 20 attendees were present (including several newcomers) to enjoy great food, wine, science, and fellowship.

Prior to breaking for the summer months, we will hold our next meeting on May 9th at Princeton University themed “Bruker Night”, including sponsored dinner, door prizes, and two Bruker speakers: George Anastasi (new NMR technology advancements) and Kalina Rangelova (applications of EPR spectroscopy). Please see our website during the months of June, July and August for information regarding the emerging Fall speaker line-up and the annual NMR Symposium.



NMR Topical Group’s April speaker, Al Gibbs, PhD.



Al Gibbs presents his work in collaboration with Nexomics Biosciences on the use of solution NMR to understand multiple inhibitor binding modes to Dengue.



Attendees prepare for the evening seminar following selection of door prize winners.

(Photos courtesy of Mary Harner and Luciano Mueller.)

New York Meetings

www.newyorkacs.org

ACS, NEW YORK SECTION BOARD OF DIRECTORS

MEETING DATES FOR 2018

The dates for the Board of Directors Meetings of the ACS New York Section for 2018 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 ought to 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.

The 2018 Board Meetings will be held at St. John's University, 8000 Utopia Parkway, Queens, NY except for the January 20 Section-wide Conference and April 13 Nichols Symposium. The meeting room will be posted on the New York Section website at www.NewYorkACS.org. Dr. Joseph Serafin will chair all meetings. Refreshments will be available starting at 6:00 PM and the board meeting will start at exactly 6:30 PM.

The Board Meetings dates for 2018 are:

Friday, June 8, 2018

Friday, September 14, 2018

Friday, November 16, 2018

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



NEW YORK AND NORTH JERSEY SECTIONS

INQUIRY OF INTEREST

As a “snowbird”, I spend some of the winter in south Florida. I have reached out to the South Florida Section of the ACS (SoFIACS) to see about taking part in their events. Some of you may also be snowbirds, winter in south Florida, and be interested in SoFIACS events. If this is the case, please e-mail me (PaulWDillon2@hotmail.com) with the Subject “South Florida”. I will forward news of South Florida events to your e-mail address. Also, the SoFIACS web-site is <http://www.sofiacs.org/>. Links to their newsletter are on that web-page.

CHEMICAL MARKETING & ECONOMICS GROUP

Mark Your Calendars:

A New Game in the Epoxy World

Speaker: Pat D. Dawson
Executive Vice President
Olin Corporation

and

President
Epoxy and Olin International

Date: Thursday, June 7, 2018

Times: 11:15 AM - 2:00 PM

Place: Penn Club

See flyer on page 9 for details.



NANOTECHNOLOGY DISCUSSION GROUP

Nanoscience NY Symposium

Date: Tuesday, June 19, 2018

Times: Refreshments — 7:00 PM

Science — 7:30 PM

Place: New York University

Dept. of Chemistry, Room 1003

(10th Floor) Silver Center

31 Washington Place (between

Washington Sq. East & Green St.)

New York, 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.



A NEW GAME IN THE EPOXY WORLD

CME ACS NY Luncheon/Webcast • June 7, 2018 • Penn Club

Abstract

How is the world's leading epoxy manufacturer planning to meet the needs of its customers worldwide? What are the key factors shaping the market?

This talk will cover the successful integration of the leading global epoxy business with the world's chlor-alkali through a cohesive vision. It will also describe the strategies that the new leadership is implementing to extend its competitive position through commercialization and innovation to sharpen its delivery of solutions for the global epoxy business.

Olin added Dow's Epoxy business to its chlorine envelope in 2015, making Olin Epoxy the No. 1 global supplier of epoxy materials. Backed by more than 60 years of continuing innovation, Olin serves a diverse array of industries and applications including Wind Energy, Electronics, Transportation, Consumer Goods, Engineering and Infrastructure. As one of the most vertically integrated epoxy suppliers, Olin is prioritizing its low cost position with innovation and a global reach to drive value creation across the entire chlorine envelope.

Join us on June 7 to hear one of the most influential industry leaders discuss the opportunities and challenges ahead for the Olin global epoxy business.



Pat D. Dawson is Executive Vice President of Olin Corporation and President, Epoxy and Olin International. In October 2015, Pat D. Dawson was appointed Executive Vice President of Olin Corporation and President, Epoxy and Olin International. From July of 2013 through the transaction close with Olin, Mr. Dawson led The Dow Chemical Company's Global Epoxy Business, driving corporate projects in support of growth investments and global corporate strategies.



Mr. Dawson began his career in 1980 with Dow. He was Business Vice President for the Oxide Derivatives global business unit in 2000. From 2004 to 2009, he served as Group President for Dow's Polyurethanes Business. In 2009 through mid-2013, he served as the President of Dow Asia Pacific, overseeing operations in 12 countries, with sales of \$10.2 billion in 2012.

He holds a Bachelor's degree in agronomy and a Master's in agricultural economics/management from Purdue. He has served on the boards of Siam Cement JV in Thailand and Society of Chemical Industry.

A proud father of five, Mr. Dawson enjoys skiing and traveling. He and his wife live in Clayton, Missouri.



Event Schedule

Location:
Penn Club
30 W 44th Street, NYC
Event Times: (ET)
11:15 am - 12:00 noon
Registration and
Networking
12 noon - 1 pm Luncheon
1 pm - 2 pm Talk - Webcast
Luncheon Fees
\$120 for non-members
\$90 for members
Check for Early-bird savings
Webcast : \$30. Free webcast
recording for ACS members

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**See The City College of New York's
Master of Science Programs in Chemistry and
Biochemistry ad on page 5.**

NY SECTION OF THE SOCIETY FOR APPLIED SPECTROSCOPY

The New York Section of the Society for Applied Spectroscopy (NYSAS) is pleased to announce that their annual presentation of awards to worthy graduate and undergraduate students will be made at a special **Awards dinner meeting in June, 2018**. The awards are conferred on students performing research at the undergraduate or graduate levels, who are studying the spectroscopy itself, or using spectroscopy to perform the research. At the meeting we will also be hosting a recognition of the officers of the NYSAS. We also have several officer and committee positions available; anyone interested in one of these positions may indicate their interest by contacting Debbie Peru (debperu@outlook.com) or Howard Mark (hmark@nearinfrared.com). All details will be posted on the Section's website (www.nysas.org).

Applications for future Student Awards may be made at any time, following procedures outlined on the NYSAS website. Note that the Awardee must meet the eligibility requirements for the Award as of the time the Award is conferred, even though applications may be submitted early.



BIOCHEMICAL TOPICAL GROUP – JOINT MEETING WITH NYAS BIOCHEMICAL PHARMA- COLOGY DISCUSSION GROUP

Neuro-Immunology: The Impact of Immune Function on Alzheimer's Disease

Organizers: Christopher R. Butler, PhD
Pfizer
Philip de Jager, MD, PhD
Columbia University
Fabrizio Gasparini, PhD
Novartis Institutes for
Biomedical Research
Samuel Hasson, PhD
Amgen
Heather M. Snyder, PhD
Alzheimer's Association
Claire Stepan, PhD
Pfizer
Sara Donnelly, PhD
NY Academy of Sciences
Sonya Dougal, PhD
NY Academy of Sciences

Speakers: Elizabeth Bradshaw, PhD
Columbia University
Philip de Jager, MD, PhD
Columbia University
Frederic Geissmann, MD, PhD
Memorial Sloan Kettering
Cancer Center
Catherine Kaczorowski, PhD
The Jackson Laboratory
Bruce Lamb, PhD
Indiana University School of
Medicine
Marta Olah, PhD
Columbia University Irving
Medical Center
Anne Schaefer, MD, PhD
Icahn School of Medicine at
Mount Sinai
Jia Shen, PhD
Harvard Medical School
Malu Tansey, MD, PhD
Emory University School of
Medicine
Linda Van Eldik, PhD
University of Kentucky

This one-day symposium will present recent developments in our understanding of how innate immune processes impact the pathobiology of Alzheimer's Disease (AD). Moreover, the program will explore emerging dynamic mechanisms at the intersection of neurology and immunology with the goal of targeting the innate immune system in the CNS for next-generation AD therapeutics.

Date: Tuesday, September 25, 2018

Time: 9:00 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: 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/
neuroimmunology2018](http://www.nyas.org/neuroimmunology2018)

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

2ND ANNUAL MARCH FOR SCIENCE

It was the perfect summer-like day on Saturday, April 14th for the 2nd Annual March for Science event! Pace University NYC Chem Club students gathered with other scientists from around the region to voice their concerns of science education, policy issues and scientific input to the community and to the world! The event began with “teach-ins” followed by a line-up of guest speakers. The enthusiastic science-lovers then began their march from Washington Square Park to Zuccotti Park.



NEW YORK SECTION'S CHEMISTS CELEBRATE EARTH WEEK'S 7TH ANNUAL "WALK THE BROOKLYN BRIDGE" EVENT

It was a beautiful, clear, and sunny day on Sunday, April 22nd – perfect for students and faculty, members of the New York Section of the ACS, and friends and families to come together to celebrate the 7th Annual Chemists Celebrate Earth Week's "Walk the Brooklyn Bridge" event!

<http://www.newyorkacs.org/meetings/EarthDay/CCED.php>

The following is a list of affiliations that were represented: Adelphi, BMCC, CUNY, Brooklyn College, CUNY, Columbia Secondary School, Felix Festa Middle School, Google, Greenvale School, Guttman, CUNY, Hunter, CUNY, Kingsborough, CUNY, New City Elementary School, NY City College of Technology, NYC DOE, NYIT, NYU, Pace, PepsiCo, Pfizer, Polytechnic Institute of NYU, QCC, CUNY, Rye High School, Ridgeway Elementary School, Saint Joseph's, St. John's, St. Saviour High School, and Stevens Institute of Technology.

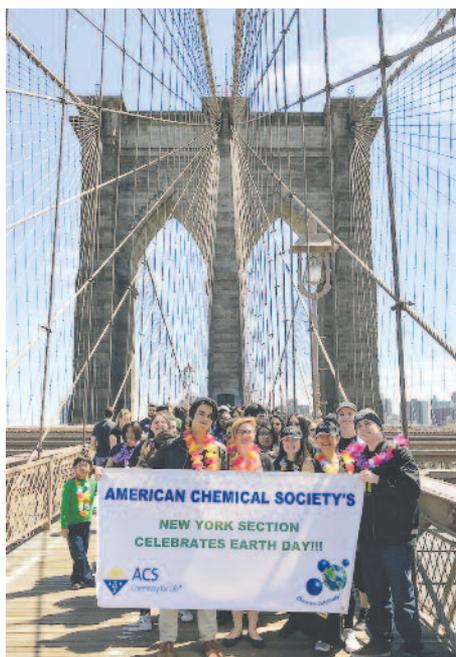
There were more than 225 earth day lovers who gathered at Pace University (the host institution) at 11 am to begin the celebration. The morning started with a welcome by Dr. JaimeLee Rizzo, Assistant Chair of Chemistry, Pace and Coordinator of Chemists Celebrate Earth Day, followed by opening remarks by Dr. Joe Serafin, Chair of the ACS-NY Section. We announced and introduced winners of our Illustrated Poem Contest. Two of the winners, Isabella Napoleon and Julia Quinn, along with their families and teacher were present to accept the award. The Keynote Speaker, Prof. Katriina Ilves, Pace, delivered an informative talk entitled, "Ocean chemistry is changing: effects on marine life (and you!)" Each participant was provided with a light breakfast, snacks, and earth day gifts (seeds including thyme, sage, cilantro, parsley, and oregano), a recyclable pot, recyclable rubber ducks, and a reusable Hawaiian lei. Our newest addition to this year's event was a Vitamix blender which we used to prepare healthy turmeric shots to welcome our guests as they arrived! We had a fun photobooth set up with props relating to the Marine Chemistry theme. We then took our traditional Earth Day group photo and began to gather for our parade across the iconic and beautiful Brooklyn Bridge! We proudly displayed our Chemists Celebrate Earth Day Banner which led our enthusiastic contingency and individual schools/institutions proudly displayed their own banners and posters. We added extra liveliness to our parade with our homemade drum and maracas as well as a cowbell! Earth Day chants including:

"Hey Earth Day! It's your birthday!"

"We motion for clean oceans!"

"Plastic pollution, so severe even the nerds are here!"





"If the oceans keep rising, we'll be apologizing!"

"Don't let the ice caps turn into water, stop the Earth from getting hotter!"

We returned to Pace where we had lunch and dessert. Our "blender bartenders" also prepared delicious and healthy fruit and veggie smoothies as well as a peanut butter and banana veggie smoothie. We had a "toppings bar" set up which included: matcha, mushroom extract, flax, chia, hemp, kaniwa, moringa, maca, cacao nibs, cacao powder, cocoa, coconut oil, turmeric, and wheat grass. We ended the day with a "reflection haiku" written by the participants.

Generous supporters of the event included: Pfizer, Pace University, the Chem Club of Pace, St. Joseph's College, Guttman College, CUNY, Hunter College, CUNY, and Kingsborough Community College, CUNY.

We were blessed with perfect weather for our gathering in an effort to bring awareness to all with issues relating to our beautiful Earth.



Above, Isabella Napoleon and Julia Quinn.



At left, our two Illustrated Poem winners, Julia Quinn and Isabella Napoleon, with Dr. Elmer Mojica, Coordinator of the Poem Contest.

(All photos courtesy of Dr. JaimeLee Rizzo)

WESTCHESTER CHEMICAL SOCIETY AWARDS CEREMONY

On April 26, 2018 Dr. Eugene Stephane Mananga was presented the Westchester Chemical Society's (WCS) 2018 Distinguished Scientist Award "For Contributions and Advanced Studies in the Theory of Spin Dynamics in Solid-State Nuclear Magnetic Resonance and Quantum Mechanics." In addition, WCS presented A Salute To Excellence Award to Dr. Harry D. Gafney "For Recognition of Outstanding Service and Extraordinary Commitment to the Field of Chemistry since 1968." The awards were presented at the WCS Distinguished Scientist, Salute To Excellence, and Student Achievement Award Dinner Meeting. This was held at Pace University, Pleasantville, New York.

Dr. Mananga, who is an Assistant Professor, Departments of Chemistry and Physics (Ph. D. Programs), at the Graduate Center, The City University of New York (CUNY), an Assistant Professor of Physics and Nuclear Medicine, at Bronx Community College (CUNY), and an Adjunct Professor, in the Department of Physics at New York University, was initially educated at The University of Yaounde, Yaounde, Cameroon [B.Sc. Physics (minor in Chemistry), 1990, Maitrise, Physics (Minor in Mechanics), 1991, and DEA, Physics (Minor in Mechanics), 1992]. He continued his education at the CUNY, receiving an M.A in Physics (2002), an M.Phil in Physics (2004) and completing his Ph.D. in Physics from the Graduate Center of the City University of New York in 2005 under the supervision of Prof. Steven Greenbaum at Hunter College. Dr. Mananga also has additional graduate degrees and training from various institutions including Harvard University, Massachusetts General Hospital, and City College of New York. He did his postdoctoral studies in the National High Magnetic Field Laboratory of USA, Harvard Medical School, and Massachusetts General Hospital. Prior to joining Harvard he was an "Ingenieur de Recherche" in the French Atomic Energy Commission and Alternative Energies (*Commissariat a l'Energie Atomique de France*, CEA-SACLAY) where he introduced the Floquet-Magnus expansion in the field of Solid-State Nuclear Magnetic Resonance. Dr. Mananga has published more than 60 peer-reviewed scientific articles (mainly as first and corresponding author) including prestigious and major scientific journals such as Physics Reports, Royal Society of Chemistry, the Journal of Chemical Physics, the Journal of Physical Chemistry, Chemical Physics, Journal of Magnetic Resonance, etc. and has been serving as editorial board member for more than 30 international scientific journals. He currently serves as the Editor-in-Chief of the Journal of Imaging Science and also serves the most prestigious position of "Chief Editor" for the editorial board of "The Scientific Journal of Molecular Physics". He has been an honorable Scientific Adviser and Organizing Committee Member for several major international scientific conferences in the US and around the world. His scientific contribution in the field of Nuclear Magnetic Resonance was honored during the 70th anniversary (1946 - 2016) of the Russian Academic of Sciences. Professor Mananga was selected by the Academy of Humanities and Sciences as Laureate of the prestigious 2017 Henry Wasser Award in Physics for outstanding achievements at the City University of New York.

Dr. Gafney is a Professor of Chemistry at the Queens College of the City University of New York. His research interests include inorganic photochemistry, solar energy conversion, material science and integrated optics. He and his students have made fundamental contributions to understanding excited state electron transfer and acid base chemistries, the relationship between excited state energy and redox potential, the luminescence of photocatalytic transition metal oxides, the photocatalysis of multi-electron, multi-proton conversions, the spectroscopy and chemistry of dopants within nanoporous silica matrices, and the photopatterning of optical elements and circuits in glass. For more than forty years, his research has been supported by the National Science Foundation, The Office of Naval Research, the Air Force Office of Scientific Research, the US Army CECOM, the New York State Science and Technology Foundation, the Dow Chemical Company, Corning Inc., the Corning Foundation, and the US Navy Civil Engineering Laboratory and Fiber Optics Fabrications. He has taught General Chemistry and Advanced Inorganic Chemistry at the undergraduate and graduate levels, as well as graduate and undergraduate courses in Electronic Spectroscopy, Photochemistry and Solar Energy Conversion. He has served on more than twenty college and university committees, including the Committee on Tenure and Promotion, the Middle Atlantic States Review Committee, and various search and evaluation committees. He has served as Chair of the Department of Chemistry and Biochemistry at

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Queens College, Director of the City University's Center of Advanced Technology, and on its Board of Directors. In addition, he has served as a Program Officer at the National Science Foundation. He is a member of the American Chemical Society, the New York Academy of Science, the Society of Imaging Science and Technology and the Materials Research Society.

Dr. Karen Caldwell of the Pace University Chemical Department initiated the evening's proceedings with a welcome to all of the honorees, their friends and families and all other attendees. Dr. Rolande Hodel, in the Chemistry Department of Westchester Community College and co-chair of WCS, introduced Dr. Joseph Serafin, of the Chemistry Department of St. John's University and chair of the New York Section of ACS, who graciously attended the evening's event. She then made the award presentations to Drs. Mananga and Gafney. Dr. Gafney, who was Dr. Hodel's doktor-vatter, made an inspiring, brief introductory address thanking the WCS board for his honor.

In his talk Dr. Mananga gave an introductory background to nuclear spins and magnetic resonance, The talk was centered on the dynamics of spin systems in solid-state NMR spectroscopy, which is a kind of NMR spectroscopy characterized by the presence of anisotropic interactions. The importance of solid-state nuclear magnetic resonance stands in its ability to determine accurately intermolecular distances and molecular torsion angles. Controlling the spin dynamics in solid-state NMR is mainly a theoretical problem, which consists of striving to solve the time-dependent Schrödinger equation, which is a central problem in quantum physics in general and solid-state NMR in particular. The commonly used methods to treat theoretical problems in solid-state NMR are the average Hamiltonian theory and the Floquet theory, which have been successful for designing sophisticated pulse sequences and understanding of different experiments. The Floquet-Magnus expansion recently introduced in solid-state NMR establishes the connection between the averaged Hamiltonian theory and the Floquet theory.

In addition to the Distinguished Scientist and Salute To Excellence Awards, Dr. Peter Corfield, of Fordham University's Chemistry Department and the WCS Treasurer and Education Secretary, presented a number of undergraduate and high school student achievement awards. We thank Dr. Corfield for his considerable efforts in the selection of student awardees. These awardees were:

School	Faculty	Awardee
Bronx Community College	Anthony Durante	Koudeissatou Yaya-Sebou
College of New Rochelle	Lee Warren	Jhosalie Danseco
Fordham University	Jon Friedrich	Matthew Chen
Iona College	Rodney Versace	Juan Rosario
Manhattan College	John Regan	Ryan Torres
Manhattanville College	Darlene Gandolfi	Barbara Gardia
Pace University, Pleasantville	Karen Caldwell	Giovanni Fardella
Rockland Community College	Lou Rosenfeld	Maria Aono
St. Thomas Aquinas College	Paul Dent	Abigaile Kimbrell
Westchester Community College	Jody Reifenberg	Semere Ghebreghiorgis
Briarcliff High School	Robert Saar	Matthew Tu
Horace Greeley High School	Christina Provenzano	Dorothy Low
Ossining High School	Angelo Piccirillo	Vishnu Polkampally
Rye High School	Sally Mitchell	Julia Quinn

The awards presentations and Dr. Mananga's lecture were followed by a delicious dinner and socializing with each other.

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. Karen Caldwell). We gratefully acknowledge financial support for this event from the Departments of Chemistry at Bronx Community College, Fordham University, Iona College and Manhattan College.

Photographs from the evening follow on the next 9 pages.

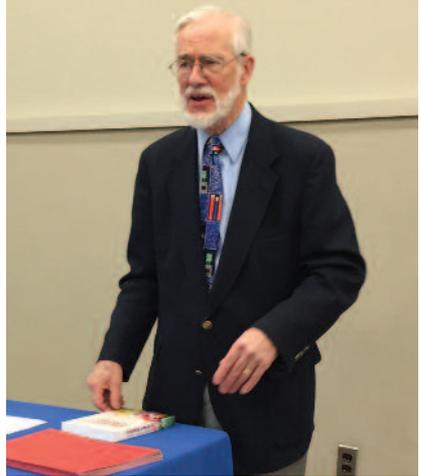
WESTCHESTER CHEMICAL SOCIETY AWARDS CEREMONY

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Karen Caldwell (Pace U.) Opening the Event

(Photo courtesy of Paul Dillon)



Peter Corfield Making Student Presentations

(Photo courtesy of Joseph Serafin)



Koudeissatou Yaya-Sebou and Anthony Durante (Bronx Community College)

(Photo courtesy of Rolande Hodel)



Jhosalie Danseco and Lee Warren (College of New Rochelle)

(Photo courtesy of Paul Dillon)



**Matthew Chen and Jon Friedrich
(Fordham University)**

(Photo courtesy of Joseph Serafin)



**Juan Rosario and Rodney Versace (Iona
College)**

(Photo courtesy of Joseph Serafin)



**Peter Corfield and Ryan Torres
(Manhattan College, Ryan's Faculty,
John Regan, was unable to attend)**

(Photo courtesy of Joseph Serafin)



**Barbara Garcia and Darlene Gandolfi
(Manhattanville College)**

(Photo courtesy of Paul Dillon)

WESTCHESTER CHEMICAL SOCIETY AWARDS CEREMONY

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**Giovanni Fardella and Karen Caldwell
(Pace University)**

(Photo courtesy of Paul Dillon)



**Maria Aono and Lou Rosenfeld
(Rockland Community College)**

(Photo courtesy of Joseph Serafin)



Abigaile Kimbrell and Paul Dent (St. Thomas Aquinas College)

(Photo courtesy of Joseph Serafin)



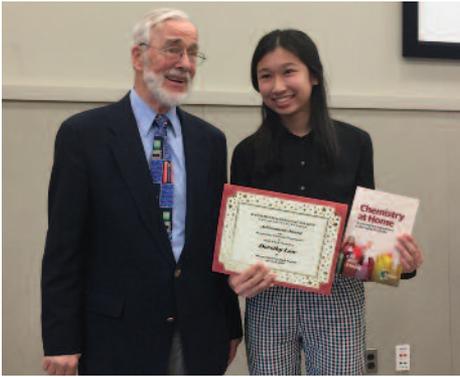
Ekta Bhatia, standing in for Semere Ghebreghiogis, who could not attend, and Jody Reifenberg (Westchester CC)

(Photo courtesy of Joseph Serafin)



Matthew Tu and Robert Saar (Briarcliff High School)

(Photo courtesy of Joseph Serafin)



Peter Corfield, standing in for Dorothy's Faculty, Christina Provenzano, who could not attend, and Dorothy (Horace Greeley HS)
(Photo courtesy of Joseph Serafin)



Peter Corfield, Standing in for Vishnu's Faculty, Angelo Piccirillo, who could not attend, and Vishnu Polkampally Low (Ossining High School)
(Photo courtesy of Joseph Serafin)



Julia Quinn and Sally Mitchell (Rye High School)
(Photo courtesy of Joseph Serafin)



Group Photo of the Student Awardees with Peter Corfield and Rolande Hodel
(Photo courtesy of Paul Dillon)

WESTCHESTER CHEMICAL SOCIETY AWARDS CEREMONY

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Rolande Hodel presenting The Salute To Excellence to Harry Gafney

(Photo courtesy of Joseph Serafin)



Harry Gafney giving his Acceptance Speech

(Photo courtesy of Joseph Serafin)



Dr. and Mrs. Harry Gafney

(Photo courtesy of Paul Dillon)



Eugene Mananga giving his Distinguished Scientist Lecture

(Photo courtesy of Paul Dillon)



Paul Dillon and Rolande Hodel presenting The Distinguished Scientist Award to Eugene Mananga

(Photo courtesy of Joseph Serafin)

WESTCHESTER CHEMICAL SOCIETY AWARDS CEREMONY

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Jean Delfiner (WCS Board of Directors), Ekta Bhatia (Westchester Community College and Jody Reifenberg (WCS BoD)

(Photo courtesy of Paul Dillon)



Attendees

(Photo courtesy of Paul Dillon)



Attendees

(Photo courtesy of Joseph Serafin)



Joan Laredo-Liddell, Paul Dillon and Jean Delfiner (WCS BoD). In background, between Joan and Paul, Anne O'Brien and Donald Clarke (NYACS BoD)

(Photo courtesy of Joseph Serafin)



Ralph Stefani, Donald Clarke and Harry Gafney

(Photo courtesy of Joseph Serafin)



Attendees

(Photo courtesy of Joseph Serafin)

WESTCHESTER CHEMICAL SOCIETY AWARDS CEREMONY

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Attendees

(Photo courtesy of Rolande Hodel)



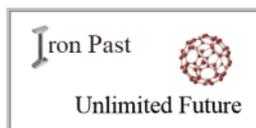
Attendees, including Drs. Gafney and Mananga

(Photo courtesy of Rolande Hodel)



Joseph Serafin (NYACS Chair), Hiroko Karan (NYACS BoD), Joan Laredo-Liddell and Jean Delfiner (WCS BoD)

(Photo courtesy of Rolande Hodel)



2018 Middle Atlantic Regional Meeting

NanoMARM Small Meeting - Big Results
A One Day Meeting for the Mid-Atlantic Region

June 3, 2018

Meeting Highlights

Poster Sessions

12:00-2:00 PM & 2:00-4:00

Chemagination 12:00-4:30 PM

Oral Sessions

12:00-2:00 PM & 2:00-4:00 PM

Plenary Speaker 4:00 PM

Awards Dinner 5:00-7:30 PM

Plenary Speaker:

Dr Jenny Rampling

*Assistant Professor
History of Science
Program*

Princeton University

on

“George Ripley (c.1414-1490) and the Image of English Alchemy”

MARM Awards

Chemagination

Contact: nanomarm2018@gmail.com

Website: www.marmacs.org/2018

Grants Available

NORTH JERSEY SECTION TRAVEL GRANTS

Each year the North Jersey Section ACS awards up to four travel grants of \$600 each to aid undergraduate students in presenting papers or posters at ACS National Meetings. Scientific merit of the paper to be presented is considered and all applicants must be a member of the North Jersey Section ACS. More information may be found at: <http://www.njacs.org/ug-travel-grants>. Applications are currently being accepted for the ACS Fall National Meeting in Boston, MA, **August 12-16, 2018**.

James Mizvesky, Fairleigh Dickinson University, Madison, received a travel grant to present his research at the 2018 ACS Spring National Meeting in New Orleans, LA. His research is entitled, "Structure-based design of molecularly imprinted polymers for G-quadruplex nucleic acids."



SENIOR CHEMISTS COMMITTEE

2018 Mini-Grant Program for Local Sections

Dear Local Section Officers, Senior Chemists Chairs, and Event Leaders,

The ACS Senior Chemists Committee (SCC) is offering a limited number of grants to local sections that wish to sponsor an event or activity that will increase the engagement of senior members and encourage innovative activities that will benefit the local community, schools, or legislative government.

Grant Details:

A limited number of grants (up to \$500) are available to local sections that wish to host an event/activity that meets the above criteria.

Local sections must submit a grant application **by Friday, July 6, 2018**. Grant funds are limited and will be awarded on a first-come, first-served basis.

A summary report must be submitted within 30 days of the conclusion of the event/activity.

For more information, please email seniorchemists@acs.org.

SCIENCE CAFE MINI-GRANT

This message is sent on behalf of Jason Ritchie, Chair of the Committee on Local Section Activities (LSAC) and Greg Milligan, Chair of the LSAC Subcommittee on Grants and Awards.

Dear ACS Local Section Chairs and Councilors:

The ACS Committee on Local Section Activities is pleased to offer the Science Café Mini-Grant again this year. **The submission deadline to apply is May 31, 2018.**

The Science Café Mini-Grant program supports ACS Local Section activities that serve the public. Funding of up to \$500 is available to local sections interested in hosting a single science café or an ongoing science café series in their area. Science cafés provide a relaxed space for non-scientists to discuss current, general or special interest topics with scientists.

ACS has launched a new online grants management system for submitting applications using your ACS ID and password! Please follow their steps to apply by the May 31 deadline.

Note: if your section was awarded a Science Café Mini-Grant in 2017, the Section must submit a summary report if it wishes to be considered for this grant cycle.

Please contact lsac@acs.org with any questions, comments, or concerns.

Sincerely,
Jason Ritchie and Greg Milligan

Congratulations!



SURPRISE

our editor by calling and saying you appreciate the quality and content of our newsletter. Our editor works hard to maintain a publication of interest to our membership. Oh, and by the way, you could also give credit to our advertisers who financially support us.

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 jespersen@stjohns.edu.



NY SECTION'S OUTSTANDING SERVICE AWARD FOR 2018

Many members of the New York Section provide their time, leadership talent, and knowledge to the New York Section. The tradition of excellence of the New York Section is attributable directly to the cumulative effect of these dedicated individuals. Each year the New York Section presents the Outstanding Service Award to a most deserving member of the section. The New York Section is now accepting nominations for this award.

A nomination letter with supporting data should be emailed to the 2018 OSA Committee Chair, Dr. Marc A. Walters at marc.walters@nyu.edu. Nominations will be accepted **until June 30, 2018**.

The nominations will be reviewed by a committee consisting of the previous five winners of the award. The Outstanding Service Award for 2018 will be presented at the New York Section's Section-wide Conference in

January 2019.

For more information about the award along with a list of former award recipients, please visit the ACS New York Section's website at http://www.newyorkacs.org/awards_nyacs.php

In Memoriam



In life, ACS President Eli Pearce championed the Committee on Minority Affairs and the ACS Scholars Program and founded the Senior Chemists Committee (formerly the ACS Silver Circle). Upon his passing, the New York Local Section (through the Tercentenary Fund and individual contributions) joined with the Senior Chemists Committee in an effort to endow an ACS Scholar in honor of our beloved friend and colleague Eli Pearce. At present, all the pledges made are sufficient to fully fund the Eli Pearce ACS Scholar in perpetuity. The New York Local Section wishes to thank the following members who pledged \$500 or more to the fund:

Theresa R. Cea
Chung Chi Chou
Donald Clarke
David Deutsch
Brian R. Gibney
Barbara Hillery
Allison Hyslop
Neil Jespersen
Pam Kerrigan
Joseph Serafin

The first Eli Pearce ACS Scholar will be named in Fall 2018 and will be a student in/from the New York Local Section. The New York Local Section is the largest Local Section contributor to the ACS Scholars Program. Our Chemical Marketing & Economics Topical Group has contributed separately from the Section and is the only ACS Topical Group to contribute the level of National Partner.

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.



SEMINAR 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

Call for Applications

OPEN-NJ Scholarship Program Department of Chemistry and Biochemistry



MONTCLAIR STATE
UNIVERSITY

Receive one of the scholarships (\$10,000/year for 2 or 3 years) to enter one of the following programs at Montclair State University

- *Masters in Pharmaceutical Biochemistry*
- *Masters in Chemistry*
- *Masters in Chemistry with a Concentration in Biochemistry*

This program is open for the following majors: Biochemistry, Chemistry, Physics, Molecular Biology, Biology, Environmental Sciences, and related degrees (B.A., B.S.).

Summer Research Stipends available for highly qualified students.

Information: <https://www.montclair.edu/csam/open-nj/>

<https://www.montclair.edu/graduate/news/article.php?ArticleID=16127>

Requirements for Program

- Minimum overall 3.0 GPA (B.S. or B.A. degree)
- Completed General Chemistry I (with lab), General Chemistry II (with lab), Organic Chemistry I (with lab), Organic Chemistry II, Calculus I and II and a year of Physics.
- US citizen, national, admitted refugee or permanent resident
- Enrolling full time in an MSU Department of Chemistry and Biochemistry M.S. program
- Financial aid eligible as determined by the Office of Financial Aid.
- Committed to participating in all OPEN-NJ meetings including networking events.

Apply

Apply to the Graduate Program at Montclair State University (<http://www.montclair.edu/graduate/>) AND email Dr. Nina Goodey (goodeyn@mail.montclair.edu) to indicate interest in the OPEN-NJ Scholarship Program. The OPEN-NJ Selection Committee will use your graduate school application.

Questions?

Please, email Dr. Nina Goodey (goodeyn@mail.montclair.edu).



In the News

POWER PR

Simplifying Moisture Measurement to Optimize Chemical Quality and Production Efficiency

Instantaneous, “point-and-measure” handheld analyzers that can be operated by virtually any technician deliver lab-quality moisture readings in seconds

In the chemical industry, measuring and controlling moisture content can impact product quality, production throughput, and processing efficiency, as well as the purchase price of feedstock and shipping costs.

Whether converting feedstock into products such as synthetic rubber, plastics, polymers, pigments, resins, salts, acids, additives, fertilizers, cleaners, cosmetics, or pharmaceuticals, the amount of moisture in the deliverables can have a wide range of effects.

A chemical compound or final product’s quality, drying efficiency, as well as transactions based on weight, can be adversely affected by improper moisture contents. Furthermore, the satisfaction of legal requirements can be a determining factor influencing a company to measure moisture content, which can impact effectiveness.

However, until recently conducting frequent moisture content tests throughout the process or in the field has been difficult. In many cases, the primary barrier has been the expertise and time required to conduct such tests. Often, sophisticated moisture measurement devices must be operated by trained personnel that can properly calibrate the equipment. Many also require meticulous sample preparation and disposal.

Fortunately, handheld devices are now available that allow even less-skilled personnel to take lab-quality moisture measurements. These “point-and-measure” options allow moisture readings to be quickly taken at any stage of the process, as well as at loading docks, on trucks, at suppliers, or in bins, vats or vessels.

By simplifying the process, chemical producers can increase the quality of their products from feedstock receipt, formulation, and processing to end product manufacturing and distribution.

The Many Benefits of Moisture Readings

Although the reasons for measuring the moisture content of chemical products can

vary, the primary motivation is to improve quality and the bottom line.

Monitoring and controlling moisture content in all stages of production ensures the most efficient processing, and can increase the customer’s satisfaction with the product. From measurement of incoming feed materials to mid-process measurement, the optimization of product quality and plant resources will be ensured.

Substance interaction can be affected by the presence of moisture. For example, if the moisture content in paint is too high, the adhesion and drying principles of the product will be adversely affected, causing cracking to occur after it dries. If the moisture level is insufficient, premature drying will occur.

Establishing the moisture content is also very important when mixing two substances together. If the mixing is not done at the proper moisture levels, the way the two products react can be affected. This includes chemical reactions that take place, the way the two are blended together, or the amount one substance is able to be dissolved into another.

It is also important to know the precise moisture content in any feedstock prior to beginning the manufacturing process. Otherwise, its time in the dryer, the dryer temperature, the conveyor belt speed, and many other factors must be modified each time a new shipment is introduced.

While drying has been reported to account for 12-20% of industrial energy consumption, drying processes are particularly energy-intensive operations in chemical processing industries. As such, measuring moisture content in batch or continuous drying processes can help to optimize the process and significantly reduce energy costs.

Another benefit of frequent moisture measurement is for chemical products sold based on regulated moisture content, which could affect product effectiveness. Prescribed percentages must be met in order to comply with these specifications. In certain industries, heavy fines could be levied, while in others, the product or substance will not be accepted by the regulating agency. These industries can include pharmaceutical, agrochemical, and consumer products, among others.

There may even be legal ramifications, if the acceptable moisture content of a product is decided prior to purchase or shipping. Fees

can be levied on companies that do not ship at the agreed moisture level or the product could be rejected outright.

Finally, since moisture content contributes significantly to the weight of such materials, properly drying a substance to acceptable limits before it is transported can dramatically reduce shipping and disposal costs.

Simplifying Moisture Measurement

Although traditional laboratory and online based moisture measurement techniques are useful in the right settings, they have lacked the simplicity and flexibility required for frequent spot checks.

One common test is Loss on Drying, which measures the total material weight change after drying. However, such tests typically require a sample to be prepared and brought back to the lab. The test takes at least 15 minutes to several hours to perform, which is too slow when more immediate measurements are required. It also requires the sample to be altered or destroyed.

The other common test is a Karl Fischer (KF) test. This procedure calls for chemical reagents to be added to the sample to separate the water from the remaining product. The water removed is then compared with the initial mass or volume. Samples are generally small, making the assumption that a large batch is homogenous. Also, since the chemical reagents need to be used, skilled personnel are required to determine the initial parameters, confirm that the system is properly calibrated and maintained and, at times, required to actually conduct the tests. Disposal of the reagents and waste can be subject to substantial documentation and costly handling.

As a result, secondary test methods have typically been used to deliver faster results. This type of test uses an indirect method and a single conversion to achieve accurate results. Secondary measurement techniques are routinely accepted as equal to the gold standard method. Examples are speedometers, common infrared and liquid thermometers and most pressure gauges. If there is a disadvantage, it is that the instrument must first be calibrated to ensure accurate results. In some cases, calibration could only be performed by trained staff familiar with the equipment.

In response, industry innovators have developed a simplified approach that allows even less-trained personnel to take portable, instant moisture readings of chemical industry feedstock, in-process formulations, or

end products as needed.

The approach involves moisture meters that utilize Near-Infrared (NIR) light, a highly accurate, non-contact, secondary measurement method that can deliver immediate, laboratory quality moisture readings.

In addition, because the process is non-destructive, samples remain unaltered so they can be used for additional tests or put back into the product stream.

Unlike complex laboratory equipment, portable NIR equipment is designed for ease of use. For example, with Kett's KJT130 Handheld Portable Instant Moisture Meter, the user simply points the instrument at the product and the moisture content is instantly shown on a digital display, with results accurate to .01% in a 0-100% measurement range.

Because no direct contact or sample alteration is required, particle size variation and unusual textures are not an issue. This can be important when used with a range of feedstocks, formulations, or end products in different settings.

For ease of use, the unit is operated via user friendly menu commands. The unit, which is the size of a camcorder, is designed for frequent spot checks wherever necessary, on both stationary and moving (process line) products. Moisture measurement data may be stored in the instrument, downloaded continuously, or manually recorded.

"The goal is for any staff member to be able to successfully use the moisture meter wherever it is needed, with minimal required training," says Bogart. "This allows chemical industry processors to have the certainty that what they are producing is of the highest quality.

"The key is to cost-effectively be able to conduct as much testing as required, with full confidence in the results, each and every time," adds Bogart.

For more info, contact Kett: call 800-438-5388; email support@kett.com; or visit www.kett.com.

BIO-SANITIZE USA (BSU)

go to www.biosanitizе.us

Saniswiss biosanitizer 'ambulance' english

SWISS OFFER BETTER AND MORE EFFICIENT SOLUTION TO LOWER HAI's (Hospital Associated Infections)

(Cape Coral, Florida) Bio-Sanitize USA is bringing a radically new, highly effective bio-sanitizing device to market in the U.S. The eco-friendly, preventive airborne sanitizer is a product of Saniswiss™, a Geneva based international company focused on health and medical disinfectant challenges.

Addressing the worldwide healthcare crisis resulting from nosocomial (hospital-borne) pathogens and antibiotic-resistant bacteria, the "Saniswiss Automate aHP" is designed to use boosted hydrogen peroxide in a scalable mechanically aerosolized application to disinfect virtually all surfaces in places where these bacteria exist and persist.

This application method can replace the ineffective infection control efforts in hospitals (which costs between \$30-40 Billion every year), nursing homes, ambulances, physician offices, daycare centers, schools, cruise ships, public transportation and any area where many people are likely to pass through (and pass along germs) during a day.

Bio-Sanitize USA (BSU) CEO Tayfun "Sonny" Taylor, says, "Current methods of sanitizing these places are inherently incomplete, time consuming, not scalable and expensive, and also toxic cause of the usage of silver-ions (ag) , Volatile Organic Compounds (VOCs) or Formaldehyde (CH₂O) and no QAC (Quat; Alkyl (40% C12, 50% C14, 10% C16) dimethyl benzyl ammonium chloride). Our technology is completely ecological."

BSU is introducing their device to the U.S. market with a strong European endorsement. EU standards have rated the product effective in bactericide activity (such as staphylococcus aureus, MRSA, aspergillus niger, pseudomonas aeruginosa, e coli, enterococcus hirae), virus activity (such as norovirus and adenovirus) yeasicide/fungicide activity (such as candida albican) and spore activity (such as bacillus subtilis and c-diff). This product has been in use for some time in many European, Asian and Arabic countries, and has recently started in Canada.

The method of application for Biosanitizer a-

HP is through a device similar in size to a canister vacuum cleaner. Mr. Taylor says, "The device is placed into a room or vehicle and a bottle of solution (H₂O₂ boosted) is inserted. Simply push the start button and the solution is dispersed into the space in an aerosolized state, covering virtually every surface – floor to ceiling and in between."

The application takes approximately 5-10 minutes, depending on room size.

The device is then removed from the room and the door closed for 30 minutes processing time. The Biosanitizer aHP can immediately be moved to another space and started again for optimum use of the device. Mr. Taylor says, "Most of the other companies with automatic disinfection devices do not talk about the residues measured in PPM (parts per million). Our solution has only 0.7 ppm left of hydrogen peroxide after 30 minutes, with vending it is even possible to cut the 30 minutes to 20-25 minutes. The ppm is one of the most important factors about saving patients and staff health. These standards has to be focused, when talking about health improvement also."

Hospital associated infections (HAIs) result in an estimated 100,000 deaths a year; cost healthcare providers \$35 billion to 45 billion annually; and create immeasurable suffering. To more personally explain the crisis in spreading infections, all major news outlets have reported this week that 2018 has already seen one of the worst influenza "epidemics" in US history with nearly every state reporting growing numbers of cases. The elderly and the young are the prime targets. Forty infants in the U.S. have succumbed to flu thus far, a tragic loss of life.

It is imperative that every effort be made to thwart the persistence of these "super bugs" and protect citizens everywhere – at home, at play and most especially in medical settings. Tayfun Taylor says, "If we want to fight superbugs, we cannot use ingredients for disinfectants, which make them more resistant. Also we have to say, that our product Biosanitizer AhP Preventive and AhP Curative have proven a Log-7 Kill on Germs and Bacterials, which is much more better than existing Log-5 Kill solutions.

Detailed information about this exciting new technology is available from <http://www.saniswiss.com> and www.biosanitizе.us

Mr. Sonny Taylor can be reached at Ceo@biosanitizе.us

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Positions Available

Full-time contract faculty positions: Analytical Chemistry and Organic Chemistry, St. John's University, Queens, NY

The Department of Chemistry in St. John's College of Liberal Arts and Sciences at St. John's University (Queens, New York) is seeking applicants for two full-time one-year contract positions in the fields of analytical chemistry and organic chemistry at the rank of assistant professor, to begin in fall 2018.

St. John's University (www.stjohns.edu), founded in 1870, is a Catholic and Vincentian university that prepares students for personal and professional success in today's global society. The Princeton Review and other top rankings consistently recognize the University's outstanding academics, diverse student body, dynamic internship and volunteer opportunities, focus on student life, and diverse study abroad offerings. Our quality springs from an institutional vision of excellence and service. Students come from nearly 50 states and 127 countries to pursue more than 100 associate, bachelor's, master's, and doctoral degrees in the arts, humanities, business, education, law, pharmacy, the sciences, and specialized professional programs. The University is accredited by the Middle States Commission on Higher Education and 12 other major academic and professional associations. St. John's has three New York City campuses; a Graduate Center in Hauppauge, NY; international campuses in Rome, Italy, and Paris, France; and study abroad locations in Seville, Spain, and around the world. The University's Division I athletic program offers 17 men's and women's programs in the Big East Conference.

St. John's College of Liberal Arts and Sciences is the cornerstone and oldest division of St. John's University. The College offers three undergraduate degrees: the Bachelor of Arts, the Bachelor of Science and the Bachelor of Fine Arts. Although the College has always emphasized the liberal arts tradition, we offer more than thirty majors and forty minors in the arts and sciences, business, and education. The college's graduate division provides numerous programs leading to master's and doctorate degrees. St. John's College serves approximately 3300 undergraduate and graduate students. Faculty in the College also teach the majority of courses in the University's core curriculum whose courses are taken by every St. John's University undergraduate student regardless of college/school or major. For additional information, please visit <http://www.stjohns.edu/academics/schools-and-colleges/st-johns-college-liberal-arts-and-sciences>.

The Department of Chemistry offers a B.S. and an M.S. program; we have twelve tenure and tenure track faculty members and we graduate about twenty B.S. chemistry majors per year. The department is well equipped with modern instrumentation, including a 400 MHz NMR, ICP, GC-MS, GC, UV-vis, fluorescence, HPCL, and FTIR instruments. More information about the Department can be found at <http://www.stjohns.edu/academics/schools-and-colleges/st-johns-college-liberal-arts-and-sciences/chemistry>

Applicants should have a Ph.D. in analytical chemistry or organic chemistry (post-doctoral experience preferred) and be committed to excellence in teaching. Applications from and nominations of women and minority candidates are highly encouraged.

Send letter of application, CV, and teaching philosophy to Dr. Alison Hyslop, Chair, and arrange for three letters of reference to be sent.

Department of Chemistry
St. John's University
Queens, NY 11439
hyslopa@stjohns.edu

Review of applications will begin June 1, and will be accepted until the position is filled. I understand that any offer of employment is subject to receipt by St. John's University of satisfactory references, verification of employment and education. St. John's University is an Equal Opportunity Employer and encourages applications from women and minorities. All qualified applicants will receive consideration without regard to race, color, religion, sex, sexual orientation, gender identity, national or ethnic origin, age, status as an individual with a disability, protected veteran status, or any other characteristic protected by law.