

THE **Indicator** ▶

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Professor Paul Sideris Receives ACS New York Section's 2018 Outstanding Service Award



See article on page 5.

THIS MONTH IN CHEMICAL HISTORY

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

I have just finished reading a fascinating book that is a part of chemical history in the United States. It's entitled "The Poison Squad". The author is Deborah Blum who directs a Science Journalism program at MIT and is a Pulitzer Prize winner for a series of articles on primate research. "The Poison Squad" is subtitled "One chemist's single-minded crusade for food safety at the turn of the twentieth century."

In a column I wrote some time ago I discussed the career of Frederick Accum who published in 1820 "A Treatise on Adulterations of Food, and Culinary Poisons" (popularly known as "Poison in the Pot") that was perhaps the first book by a chemist pointing out the sometimes literally poisonous additives unscrupulous vendors were adding to food to improve its color or flavor or longevity on the grocer's shelf: "our pickles are made green by copper; our vinegar rendered sharp by sulphuric acid....". Eventually this and similar revelations led 40 years later to the passage of the first British legislation imposing (modest!) fines on those found guilty of such adulterations.

While there were voices raised in the United States against similar practices there were no laws banning them at the beginning of the twentieth century. Enter Dr. Harvey Washington Wiley. He was a Professor of Chemistry at Purdue who had an M.D. from Indiana Medical College but found chemistry more to his taste than medicine, and so went on to get a degree in chemistry from Harvard. Purdue appointed him as its first Professor of Chemistry, and he later spent a sabbatical year in Europe, mostly in Germany, working in food-quality laboratories and attending the lectures of August Wilhelm von Hoffmann. Returning to Purdue he was asked by the Indiana State Board of Health to examine the quality of commercial sweeteners sold as "honey" and "maple syrup". Some 90% of the samples he tested were fraudulent, mostly made of corn syrup with coloring added, or fake additives (paraffin posing as honeycomb). He published his findings in "Popular Science" delighting some bee-keepers and maple sugar providers, but angering the growers and processors of corn syrup.

In 1883 Wiley was appointed chief chemist of the United States Department of Agriculture and began using the rather limited resources of his new department to investigate cases of adulteration of food and drink. Of particular concern was the purity of milk. This "healthful" beverage, consumed mainly by children, was adulterated by being watered, or by having formaldehyde added to it to prolong its shelf life. Wiley recruited a group of young men as volunteers who became known as "The Poison Squad" and they began tasting the dubious food items that the group was investigating. They occupied their own dining room in the USDA cafeteria, emblazoned with the slogan "Only the Brave Eat the Fare".

Wiley had allies including Fanny Farmer, author of a famous cookbook; Upton Sinclair, novelist, and author of "The Jungle", an expose of conditions in the Chicago stockyards; and Henry Heinz, proprietor of the food company that still bears his name, and who was a passionate advocate for pure foods. It was still an uphill battle because of vigorous lobbying from many segments of the food and grocery industries, but persistence won out in the end. In 1906 Congress passed, and President Theodore Roosevelt signed, two landmark bills: The Meat Inspection Act, and The Food and Drug Act, putting into law some of the safeguards that had been urged by Wiley. To some The Food and Drug Act became known as Dr. Wiley's Law.

Wiley continued his work at the USDA under a Department Chief who was not very supportive, studying ketchup, cola beverages, corn syrup, bleaching agents for flour etc. But the constant battles to have his views heard and published were taking their toll. In March 1912 Wiley resigned from the USDA after 29 years of dedicated service to the health of the citizens of our country. He took a position on the staff of the magazine "Good Housekeeping" and continued his campaign against food, drug, and beverage adulteration from that "bully pulpit". Harvey Wiley died in 1930 at the age of 86 fighting for his causes to the end. He had just completed his autobiography, but its publication came just too late for him to hold a copy in his hands.

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THE Indicator

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January 2020	November 28, 2019
February 2020	December 28, 2019
March 2020	January 28, 2020

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www.TheIndicator.org

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

March Calendar

NEW YORK SECTION

Thursday, March 7, 2019

Westchester Chemical Society
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Thursday, March 7, 2019

Long Island Subsection
See page 15.

Thursday, March 7, 2019

Chemical Marketing & Economics Group
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Friday, March 8, 2019

Board of Directors Meetings
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Thursday, March 14, 2019

Biochemical Topical Group
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Tuesday, March 26, 2019

New York Nanoscience Discussion Group
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Wednesday, March 27, 2019

Society for Applied Spectroscopy
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Thursday, March 28, 2019

Westchester Chemical Society
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Friday, March 29, 2019

Novartis Lecture in the Chemical Sciences
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also

Thursday, April 4, 2019

Long Island Subsection
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Friday, April 12, 2019

Nichols Symposium and Dinner
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Tuesday, April 16, 2019

Biochemical Topical Group
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Wednesday, April 24, 2019

Metro Women Chemists Committee
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Wednesday, April 24, 2019

Westchester Chemical Society
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Thursday, April 25, 2019

Biochemical Topical Group
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Friday, April 26, 2019

Biochemical Topical Group
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Saturday, April 27, 2019

Chemists Celebrate Earth Week
See pages 23-25.

Tuesday, June 4, 2019

New York Nanoscience Discussion Group
See page 2.

Friday, June 7, 2019

Friday, September 13, 2019

Friday, November 15, 2019

Board of Directors Meetings

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Saturday, October 5, 2019

Science Café - The Periodic Table People
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NORTH JERSEY SECTION

March 1-15, 2019

Chemistry Olympiad exams start.
See page 8.

Tuesday, March 5, 2019

ChemTag
At New Providence HS. See pages 6-7.

Tuesday, March 12 2019

Mass Spectrometry Topical Group
No further information provided.

Wednesday, March 20, 2019

NMR Topical Group
See page 8.

Monday, March 25, 2019

North Jersey Executive Meeting
See page 6.

Wednesday, March 27, 2019

North Jersey Chromatology Group
No further information provided.

March 31 - April 4, 2019

ACS National Meeting
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also

Tuesday April 9, 2019

Wednesday April 10, 2019
Jean Dreyfus Lectureship
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Friday April 12, 2019

70th Annual Undergraduate Research Conference
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Professor Paul Sideris is NY Section's Outstanding Service Awardee

Professor Paul J. Sideris was presented with the ACS New York Section's Outstanding Service Award for 2018 at an award ceremony held on January 19, 2019 at Queensborough Community College, CUNY, at the annual Sectionwide Conference. This award recognizes the efforts of members of the New York Section who provide their time, leadership skills and dedicated service in promoting quality programs that contribute to the excellence of the Section. Paul was honored for his outstanding work with the Student Activities Committee, the Undergraduate Research Symposium, the Middle Atlantic Regional Meeting and the Long Island Subsection.

Paul received his Ph.D. in Chemistry at Stony Brook University in 2009. From 2009 to 2012 he was a postdoctoral researcher with Steve G. Greenbaum in the Department of Physics and Astronomy at CUNY Hunter College, and joined CUNY Queensborough Community College as a full-time faculty in 2012.

Since 2013, Paul has served as a co-chairperson of the New York ACS Student Activities Committee that organizes the section's highly successful annual Undergraduate Research Symposium that is held at a different venue each year. He has been critical to the fund raising support of the event. Paul has been a board member of the Long Island Subsection of the New York Section since 2014 and was elected Chairperson and Director-at-Large of the subsection in 2015 and 2017 respectively. From 2013 to 2016 he organized and hosted the Long Island Subsection's Annual Chemistry Challenge event – a competition between undergraduate student teams representing as many as a dozen local colleges and universities. Since 2012, he has participated as a demonstrator at the NY Hall of Science for the National Chemistry Week Celebrations. In 2015-2016, he was a crucial member of the Executive Board for the Planning Committee of the 44th Middle-Atlantic Regional Meeting held at the College of Mount Saint Vincent. He served as the Publicity Chairperson and Webmaster. That conference, held for the first time in New York City since 2008, attracted close to 1,000 attendees and involved 63 individual sessions.

Paul's dependability, knowledge and leadership skills have benefitted the Section in numerous ways. Events he has contributed to have been huge successes. His steady attendance at Board Meetings and his excellent and thorough end of year reports have not been overlooked. They always have been very much appreciated. In the Long Island Subsection, Paul is known as the "guy who fills in all the holes." He gets the job done and, most of all, is always a pleasure to work with. The New York Section thanks Paul, once again, for all of his many contributions and dedicated volunteerism.



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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.

At our January meeting, we started the evening with a "Pass the Gavel" ceremony and presented Miriam with her Past Chair pin. (See photos below.)

Date: Monday, March 25, 2019

Time: 6:30 - 8:30 PM

Place: Merck & Co., Inc.
2000 Galloping Hill Road
Room K15-1074
Kenilworth, NJ 07033

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, March 20, 2019.



CHEM TAG

Using the NGSS PreScreen and Task Screener to Identify how Existing Labs/Projects fit into the NGSS Framework

Speaker: Ilze Kancans

The topic will use the NGSS Task prescreen, https://www.nextgenscience.org/sites/default/files/resource/files/Achieve%20Task%20PreScreener_Final_9.21.18.pdf and the task screener <https://www.nextgenscience.org/resources/science-task-screener> to go over existing projects, labs, etc to see how they fit in to NGSS.

Date: Tuesday, March 5, 2019

Place: New Providence High School
35 Pioneer Drive
New Providence, NJ 07974
(park by Media Center)

See flyer on page 7 for full details.



MASS SPECTROMETRY TOPICAL GROUP

Date: Tuesday, March 12, 2019

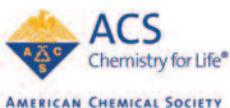
Place: Somerville Elks
Bridgewater, NJ



At left, past chair Miriam Gulotta passes the gavel to incoming chair, Amjad Ali.

Above, Amjad Ali presents Miriam Gulotta with her past chair pin.

(Photos courtesy of Bettyann Howson)

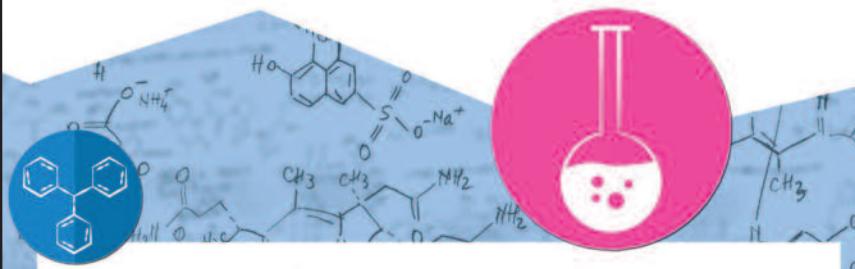


**ChemTAG - Wednesday, March 5, 2019
Snow Day: Wednesday, March 12, 2019**

4:30 – 6:30 pm

New Providence High School

35 Pioneer Drive, New Providence, NJ 07974



You're Invited:

Local area teachers invited to form an inter-district group focused on improving chemistry education and alignment to NGSS standards, practices, and concepts.

Topics:

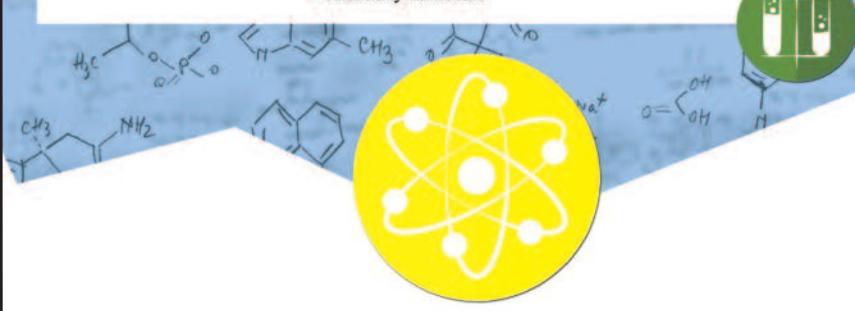
Using the NGSS Task Prescreen and Screener to identify how existing labs/projects fit into the NGSS framework.

• Presented by: Ilze Kancans

RSVP:

Ilze Kancans: ikancans@npsdri.org

Refreshments Provided



RUTGERS
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Department of Chemistry

**Dr. H. Martin Friedman
University Lecture**

Thursday, April 25, 2019 – 4:00 p.m.

Life Science Center II Room 130
225 University Ave., Newark, NJ



Professor Ana Moore

School of Molecular Sciences
Arizona State University, Tempe, AZ

**"Multiple Proton Transfers
Coupled to a Single Electron
Transfer in Artificial
Photosynthesis"**

<http://chemistry.rutgers.edu/info/seminar>

CHEMISTRY OLYMPIAD

For the Olympiad, registered teachers may schedule a single testing date at their convenience **between March 1 and March 15, 2018**. The exam will be a hard copy with an online answer panel. All answers must be entered electronically using a computer. No Scantron answer sheets will be accepted. Students who qualify for the national exam will be notified at the end of March.



NORTH JERSEY NMR TOPICAL GROUP

Multi-Isotope NMR Sensor for Quantification and Characterization of Nutrients in Manure, Wastewater, Foods, and Soils

Speaker: Prof. Morten Kjærulff Sørensen,
PhD
Dept. of Engineering
Aarhus University
Denmark

Date: Wednesday, March 20, 2019

Times: 6:00 - 8:00 PM

Place: Princeton University
Frick Chemistry Laboratory
Room A57

Cost: Dinner: \$15 employed;
\$10 retired/unemployed/student/
postdoc
No charge for seminar only.

Contact: Qi Gao (qi.gao1@merck.com
and Justyna Sikorska (justyna.sikorska@merck.com).



NORTH JERSEY CHROMATOGRAPHY TOPICAL GROUP

Date: Wednesday, March 27, 2019



ACS NATIONAL MEETING

Dates: March 31 - April 4, 2019

Place: Orlando, FL.

For more information go to: <https://www.acs.org/content/acs/en/meetings/national-meeting.html>

JEAN DREYFUS LECTURESHIP FOR UNDERGRADUATE INSTITUTIONS

Professor Karen Anderson from Yale University will give two seminars at Montclair State University. All are welcome and the event is free of charge.

For additional info, contact catalanoja@montclair.edu.

Lecture 1: "Challenges in Developing New Therapies for AIDS"

Date: Tuesday, April 9, 2019

Times: 4:00 - 5:00 PM

Refreshments starting at 3:00 PM

Place: Montclair State University
Center for Environmental and
Life Sciences CELS120

Montclair, NJ

Cost: Free of charge

Lecture 2: "Novel Strategies Targeting Bifunctional TS-DHFR in Parasitic Infections"

Date: Wednesday, April 10, 2019

Times: 3:00 PM – 4:00 PM

Reception to follow.

Place: Montclair State University
Center for Environmental and
Life Sciences CELS120

Montclair, NJ

Cost: Free of charge



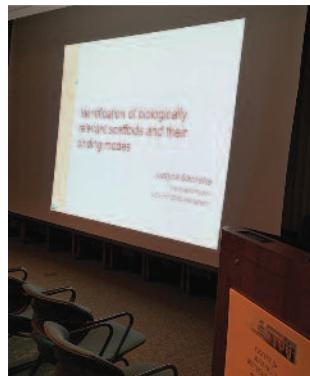
NORTH JERSEY NMR TOPICAL GROUP JANUARY MEETING

The NMR Topical Group held its first monthly evening seminar of 2019 at Rutgers University in Piscataway. Dr. Justyna Sikorka, senior scientist at Merck and 2019 co-chair of the NMR Topical Group presented two topics of NMR applications in pharmaceutical research. She first presented recent work on structural characterization and activity determination of natural products. In the second half of her talk she illustrated the power of the “INPHARMA” approach which reveals key drug-protein interactions. This information empowers chemists to drive optimization of potency and selectivity of drug leads. The seminar was preceded by an optional dinner which offered ample networking opportunities.

See pictures on page 9.



Chair Qi Gao introducing speaker Justyna Sikorska
(Photo courtesy of Luciano Mueller)



Snapshot of Justyna's presentation
(Photo courtesy of Luciano Mueller)



Buffet dinner served during NMR Topical Group's January meeting at Rutgers University.

(Photo courtesy of Qi Gao)



Fantastic event participation for the NMR Topical Group's January meeting.

(Photo courtesy of Qi Gao)

NORTH JERSEY NMR TOPICAL GROUP

NMRFx: A New Integrated Software Suite for NMR Data Analysis with Applications to Biomolecular NMR

Speaker: Bruce A. Johnson, PhD
Structural Biology Initiative from Advanced Science Research Center CUNY



The NMR Topical Group hosted its February meeting on **Wednesday, February 13, 2019**, at Princeton University, Frick Chemistry Laboratory. Bruce A. Johnson, PhD was the evening speaker.

Abstract:

Knowing the structure, dynamics and ligand binding specificity of proteins and nucleic acids is essential to understanding the mechanisms of human disease and to the optimal design of molecules that can intervene therapeutically in

disease processes. Nuclear Magnetic Resonance (NMR) Spectroscopy is one of the most versatile techniques for obtaining this molecular information. The optimal use of this information requires complex data analysis including signal processing, chemical shift assignment and structure calculation. In this talk I'll describe our work on a new integrated software suite for NMR data analysis. This new software, NMRFx, is a cross platform tool running on MacOs, Linux and Windows and builds on our previous experience in developing NMRviewJ. I'll illustrate the software suite with applications to the assignment of RNA molecules that incorporates data processing, chemical shift prediction and a new visual assignment tool that has applications to RNA, peptides and medicinal chemicals.



UNDERGRADUATE TRAVEL GRANTS

North Jersey ACS provides four travel grants of \$600 each to aid undergraduate students in presenting papers or posters at ACS National Meetings. Students must be members of North Jersey ACS and complete the application found at: <https://www.njacs.org/ug-travel-grants> Scientific merit of the paper receives top priority for award consideration.

Receiving travel grants to attend the 2019 Spring National Meeting in Orlando, FL, **March 31 – April 4, 2019**, are **Sarah Costa** and **Gisselle Rojas**, senior chemistry majors at Drew University. Sarah's research presentation will address "Synthesis and Reactivity of the diosmium diamide, carbonyl complexes OS₂(CO)₆RCONH)₂ (R=CH₃, PH)." Gisselle will present her research poster entitled, "Method development of air-free techniques with samarium diiodide." Dr. Mary-Ann Pearsall, Drew University chemistry professor, will accompany both students to the meeting.

Students wishing to apply for travel grants to the **Fall National Meeting, August 25-29, 2019**, San Diego, CA, must submit the application by **May 31, 2019** to North Jersey Section ACS Secretary, 49 Pippins Way, Morristown, NJ 07960.

See pictures on next page.

Analysis:	
Thermal	Defects
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Gisselle Rojas, (top) and Sara Costa (bottom), recipients of the Undergraduate Travel Grants.

(Photo courtesy of Bettyann Howson)



NORTH JERSEY SECTION'S 70th ANNUAL UNDERGRADUATE RESEARCH CONFERENCE

The Seventieth Annual Undergraduate Research Conference provides an opportunity for talented undergraduate students in the North Jersey Section to give an oral presentation on their research results. All undergraduate students in the North Jersey Section are invited to participate in this very rewarding event. The research presentations will be judged by local chemists working in industry or academia and the student giving the best presentation will be given the 2019 Jean Assell Duranna Award. In addition the top three presenters will be awarded cash prizes. The student award winners and their advisors will then be invited to attend the North Jersey Section's Annual Awards

Dinner held on the Fairleigh Dickinson University campus in Madison, NJ.

Abstract Information: Clearly indicate the title of the presentation and all authors. Abstracts must be no more than 200 words and need to be submitted as a word document attached to an email to Matthew Mongelli at mmongell@kean.edu.

Abstracts deadline is Wednesday, March 29, 2019

Date: Friday, April 12, 2019

Times: 11:30 AM - 4:30 PM

**Place: New Jersey Institute of Technology
Tiernan Lecture Hall 1
Newark, NJ 07102**

For more information about this event contact Matthew Mongelli at mmongell@kean.edu.



2019 WILLIAM H. NICHOLS MEDAL DISTINGUISHED SYMPOSIUM AND AWARD DINNER



Symposium: "INTERFACIAL AND MULTIPHASE CHEMISTRY RELEVANT TO THE ENVIRONMENT"

Award Recipient: DISTINGUISHED PROFESSOR VICKI H. GRASSIAN

Date: Friday, April 12, 2019

Place: Crowne Plaza Hotel, White Plains, NY



PROGRAM

1:30 PM	Welcome	Professor Justyna Widera-Kalinowska 2019 Chair, ACS, New York Section Adelphi University
1:35 PM	Opening of the Distinguished Symposium	Professor Ruben M. Savizky 2019 Chair-elect, ACS, New York Section The Cooper Union
1:45 PM	Sunlight Driven Chemistry in Aqueous Environments: Implications for Planetary Atmospheres	Professor Veronica Vaida Department of Chemistry University of Colorado, Boulder

Atmospheric aerosols on the contemporary and ancient Earth provide unique chemical environments for the abiotic synthesis of biomolecules needed for life. In this presentation, results on the multiphase organic chemistry of oxaocids will be presented to highlight building molecular complexity in the natural environment.

2:30 PM	Porous Nanomaterials: From Greener Synthesis to Interactions with Environmental and Systems in the Environment	Professor Sarah C. Larsen University of Houston
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Porous nanomaterials, such as zeolites and mesoporous silica, are used for applications in catalysis, adsorption, separations and biomedicine. Greener, more sustainable methods for the synthesis of these porous nanomaterials have been developed to reduce the environmental impact of producing large quantities. After synthesis and use in applications, these nanomaterials inevitably make their way into the environment and into biological systems. However, relatively little is known about the molecular level details of the surface chemistry of zeolites and mesoporous silica when exposed to biological and environmental complexes. The insights gleaned from studies of the surface chemistry of mesoporous silica nanomaterials after exposure to natural organic matter and proteins will be presented.

3:15 PM	Coffee Break	
3:45 PM	Pore Scale Changes in Shales after Reaction with CO ₂ and Fluids	Dr. Angela Goodman National Energy Technology Laboratory

It is becoming increasingly important to expand the fundamental understanding of geochemical interactions between CO₂, fluids, and shale. These interactions will significantly impact the processes of 1) storing CO₂ in hydraulically fractured shale formations, 2) using CO₂ as a fracturing agent, and 3) enhancing hydrocarbon recovery in shales via CO₂ flooding. In each scenario, CO₂ will be injected into shale formations where it will interact with shale surfaces (i.e. clays, organic matter), in-situ fluids (i.e. natural brines), and previously injected fracturing fluid. The reactions that occur between CO₂, fluids, and the shale may alter petrophysical properties such as porosity and permeability that may alter flow pathways potentially impacting the storage permeance of CO₂ and the effectiveness of CO₂ to behave as a fracturing agent or to mobilize hydrocarbons. In this work, we use in-situ Fourier Transform infrared spectroscopy, feature relocation scanning electron microscopy, and surface area and pore size analysis using volumetric gas sorption and density function theory methods to characterize and quantify the reactions that occur between CO₂, fluids, and shale.

4:30 PM	Interfacial and Multiphase Chemistry Relevant to the Environment	Distinguished Professor Vicki H. Grassian Nichols Medalist University of California, San Diego
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The focus of this award talk is on environmental interfaces that are defined as any surface in equilibrium with its surrounding environment. From this broad definition, there are a myriad of different types of environmental interfaces that include atmospheric aerosols, nanomaterials and indoor surfaces. The *physical chemistry* of environmental interfaces puts an emphasis on molecular and nanoscale level interactions that occur in these inherently complex systems. Examples of the complexity of these interfaces and how a deeper understanding can be obtained through molecular-based approaches are highlighted.

MEDAL AWARD BANQUET

5:45 p.m.	Social Hour	
6:45 p.m.	Medal Award Dinner	
	Presiding:	Dr. Justyna Widera-Kalinowska 2019 Chair, ACS New York Section Adelphi University
	ACS Greetings:	Dr. Bonnie A. Charpentier 2019 President American Chemical Society
	Introductory Address:	Dr. Sarah C. Larsen University of Houston
	Presentation of the Medal:	Dr. Justyna Widera-Kalinowska
	Acceptance Address:	Dr. Vicki H. Grassian Nichols Medalist

For More Information: Please visit the New York Section website at www.NewYorkACS.org

Tickets may be reserved using the following form, or through the New York Section website that accepts credit cards or Paypal. <http://www.NewYorkACS.org>.

***** RESERVATION FORM *****

2019 WILLIAM H. NICHOLS DISTINGUISHED SYMPOSIUM &
MEDAL AWARD BANQUET in honor of Dr. Vicki H. Grassian

Return to: ACS, New York Section, c/o Dr. Neil D. Jespersen, Department of Chemistry, St. John's University, 8000 Utopia Parkway, Queens, NY 11439 or fax the form to 516-883-4003

Please reserve _____ places for the symposium & banquet at \$135/person ACS member
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_____ places for the symposium & banquet at \$165/person Non-member
_____ places for the symposium only at \$65/person Non-member
_____ places for the banquet only at \$135/person Non-member
_____ places for the symposium only at \$30/person, Students, Retired, Unemployed
_____ places for the symposium only is complimentary - for 50 year+ ACS members

(For table reservations of 8 or more, use the ACS member \$135/person rate for combination tickets)

Reserve a table in the name of: _____

Names of Guests

E-mail Address

Indicate numbers in your group who choose: Chicken , Prime Rib , Salmon

Mail Tickets to:

Name: _____ E-mail Address: _____

Address:

E-mail Address:

LINE: April 2, 2019

Please make checks payable to: ACS, NEW YORK SECTION

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, 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/direction>

WESTCHESTER CHEMICAL SOCIETY

Science Café – “Plastics: The Good, the Bad and the Ugly”

Speaker: Joseph W. Krumpfer, Ph.D.

Department of Chemistry

Pace University

Pleasantville, NY 10570



Biography:

Dr. Joseph W. Krumpfer received his B.S. in Chemistry at Seton Hall University in South Orange, NJ and his Ph.D. in Polymer Science and Engineering at the University of Massachusetts - Amherst. He was awarded a Post-Doctoral Researcher Fellowship at the Max Planck Institute for Polymer Research in Mainz, Germany. Currently, he is an assistant professor of Inorganic and Polymer Chemistry at Pace U., with research interests in conductive and light-emitting polyquinolines, silicone-inorganic oxide equilibration reactions, and pre-ceramic polymers and materials for high temperature applications.

Talk Summary

Dr. Krumpfer will introduce the effects of the environmental impacts of polymers, both positive and negative, along with recent advances in mediating polymer waste problems. He will also give a brief outlook into how these materials can solve many of the most pressing problems facing our society.

Date: Thursday, March 7, 2019

Times: Lecture and Discussion 5:30 PM (Snacks, coffee, tea, cold drinks freely available, as well as a cash bar.)

7:00 PM Option to Order Dinner

Place: Stone Manor Restaurant
101 Saw Mill River Rd. (Rte. 9A)
Hawthorne, NY 10532
1-914-703-4112

Cost: \$3.00 Students; \$5.00 All Others

For further information:

contact Peter Corfield

E-Mail: pcorfield@fordham.edu

Phone: 914-762-4468

Text: 914-980-9128 or

914-218-7607

Please RSVP by text or email to Peter Corfield if you expect to come, to help us plan. But if you do not RSVP, you can still drop by!

LONG ISLAND SUBSECTION

Seminar Events for Spring 2019

Heterocycle Syntheses from Quinoids

Speaker: Dr. Shengping Zheng
The Hunter College of CUNY

Abstract

Heterocycles are ubiquitous in nature and arguably the molecular basis of the pharmaceutical industry: Well over half of all known organic compounds and about 90% of new drugs are heterocycles. Our group is interested in developing new methodologies on the synthesis of different heterocycles from quinoids, such as quinone monoketals, quinone imine ketals, and quinols. These quinoids can be easily prepared in one step from the commercially available phenols or anilides by hypervalent iodine oxidation. Our group has developed new synthesis of acridones, isoxazolidines, indoles, carbazoles, pseudoindoxyls, and oxazolidinones from quinone monoketals and quinols in one or two steps.

Date: Thursday, March 7, 2019

Times: Social with Light Refreshments - 5:30 PM

Seminar Start: 6:00 PM

Dinner: After Seminar, at a nearby restaurant, \$25 per person.

Place: Queensborough Community College, Science Building Room S-112

Directions:

<http://www.qcc.cuny.edu/about/driving.html>



CHEMICAL MARKETING & ECONOMICS GROUP

DowDuPont: Transforming the Chemistry Industry Landscape

Speaker: Ed Breen
CEO DowDuPont

Date: Thursday, March 7, 2019

For full details, see flyer on page 16.

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

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

Adult Stem Cells and Regenerative Medicine

Organizers: Elaine Fuchs, PhD
The Rockefeller University

Michael Franti, PhD
Boehringer Ingelheim

John Hambor, PhD
Boehringer Ingelheim

Joerg Hoeck, PhD
Boehringer Ingelheim

George Zavoico, PhD
B. Riley FBR

Sara Donnelly, PhD
The New York Academy of Sciences

Sonya Dougal, PhD
The New York Academy of Sciences

Keynote Speakers: Elaine Fuchs, PhD
The Rockefeller University

Irving Weissman, MD
Stanford University School of Medicine

Speakers: Helen Blau, PhD
Stanford University School of Medicine

Heinrich Jasper, PhD
Genentech

Carla Kim, PhD
Children's Hospital Boston,
Harvard Medical School

Mark A. Krasnow, MD, PhD
Stanford University School of Medicine

Emanuelle Passegue, PhD
Columbia University Irving Medical Center

Thomas Rando, MD, PhD
Stanford University School of Medicine

This interdisciplinary symposium will convene leading experts in adult stem cell research, tissue regeneration and bioengineering to discuss cutting edge research at

(continued on page 16)



DOWDUPONT: TRANSFORMING THE CHEMICAL INDUSTRY LANDSCAPE

CME ACS NY Luncheon/Webcast • Thu March 7, 2019 • Penn Club

Abstract

Few events have been as transcendental to the chemical industry in the last century as the DowDuPont merger.

Join us on March 7 to learn the insights of a most influential figure in the chemical industry and his views for the coming years.



Speaker: Ed 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."



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 Fee
\$120 for non-members
\$90 for members
Check for Early-bird savings
Webcast : \$30. Free webcast recording for ACS members

ACS New York Section CME Board

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www.cmeacs.org

BIOCHEMICAL TOPICAL GROUP

(continued from page 15)

the intersection of these disciplines, with the overall aim of translating current stem cell knowledge into clinical applications.

Date: Thursday, March 14, 2019

Time: 8:30 AM – 6:00 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 February 1, 2019**.

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

www.nyas.org/StemCells2019

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

NEW YORK NANOSCIENCE DISCUSSION GROUP

**Hosted by the New York University
Department of Chemistry**

Speakers to be announced

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

Date: Tuesday, March 26, 2019

Times: Refreshments at 7:00 PM
Science at 7:30 PM
Place: NYU Silver Center
31 Washington Place, between
Washington Square East and
Greene Street, Room 1003
(10th floor), New York, NY

For more information, contact: James
Canary (james.canary@nyu.edu)

Topical Group History: <http://www.nyu.edu/projects/nanoscience>



NEW YORK SECTION SOCIETY FOR APPLIED SPECTROSCOPY

**An Overview of Intellectual Property
Protection of Biopharmaceutical
Compounds via Natural-Abundance
Stable Isotopes**

Speaker: John P. Jasper, Ph.D.
Chief Scientific Officer of
Molecular Isotope Technologies
LLC / Nature's Fingerprint®
Authentication
Niantic, CT
www.NaturesFingerprint.com

Abstract:

The natural distribution of light stable isotopes in bio/pharmaceutical products and synthetic pathways permits the characterization of compound sources and differentiation of potentially-infringing synthetic pathways. The presentation will include three cases of process authentication: one of false advertising and two of process patent infringement. The cases of product characterization demonstrate the dynamic range of

the light stable isotopes in differentiating sources of bio/pharmaceutical materials. In addition, we will report on the status of our recent work in Molecular Isotopic Engineering (MIE) (i.e., directed stable-isotopic synthesis) for product identification and of product security, and also for intellectual property considerations.

Biography:

John P. Jasper is an Analytical Organic and Stable-Isotope Chemist who has worked in marine paleochemistry and in pharmaceutical sciences. He received his B.A. in Geophysical Sciences and Biological Sciences from The University of Chicago in 1981. He earned his Ph.D. from MIT and Woods Hole Oceanographic Institution in marine organic chemistry in 1988 where he assessed the quantitative relationship between paired specific biomarker compounds and contemporaneous carbon-isotopic of bulk organic matter for organic geochemical purposes. He was a Postdoctoral Fellow and Scientist at the Department of Chemistry at Indiana University at Bloomington from 1988-1994 where he employed the newly-developed gas chromatograph / isotope-ratio mass spectrometer (GC-IRMS) to reconstruct paleochemical CO₂ levels. In 2018, he was elected as a Fellow of The Explorers for that work on the global greenhouse effect spanning the last 500 Myr. He has spent the last twenty-five years in the pharmaceutical industry at Pfizer and Molecular Isotope Technologies LLC / Nature's Fingerprint, mainly working on product and process authentication.

**Our website is: www.nysas.org. Please consult the website regularly for meeting updates/last minute changes, meeting details, and information about future meetings. If you plan to attend a meeting, please notify the NYSAS secretary debperu@outlook.com beforehand so we can make arrangements for the expected number of people. Your name will then also be added to our e-mail list for future meeting announcements unless you request it not be added.

Date: Wednesday, March 27, 2019

Times: 5:15-5:30: Early Arrive, Sign in
5:30-6:30: Dinner, networking,
and dessert
6:30-7:30: Welcome &
presentation
7:30-8:00: Q&A and Wrap up

(continued on page 18)

NEW YORK SECTION SOCIETY FOR APPLIED SPECTROSCOPY

(continued from page 17)

Place: Horiba Scientific (new location)
20 Knightsbridge Road
Piscataway, NJ 08854

Cost: \$15 (members), \$5 (students);
RSVP for Dinner by Tuesday,
March 26, 2019 to debperu@outlook.com

If you cannot attend: We will live stream the presentation: RSVP for Webinar by **Tuesday, March 26, 2019**, to debperu@outlook.com and we will send you a link to the Webinar.

Directions: Take Route 287 S to Exit 8, at the traffic light go straight across the road. Horiba is second building on the right. Or take Route 287 N to Exit 8, turn right at the end of the exit ramp & go ~1/4 mile to next traffic light. Turn right & go to next traffic light (at the southbound exit from Route 287). Turn left onto Knightsbridge Road. Or, take Route 18 North straight. It becomes Hoes Lane, then go left onto Knightsbridge. On site, park in visitor lot in front of building. Use right-hand door entrance. If doors are locked, call phone number on door.



WESTCHESTER CHEMICAL SOCIETY

Note that this talk had originally been scheduled for November 15, 2018 but had to be rescheduled because of inclement weather.

Special Seminar – “Chemistry in Cameroon: Quality Control of Drugs”

Speaker: Rolande Hodel, Ph.D.
Adjunct Lecturer
Department of Chemistry
Westchester Community College
Valhalla, NY
Founder and President of
AIDSfreeAFRICA
Ossining, NY 10562
RRHodel@aol.com



Abstract:

AIDSfreeAFRICA's mission is to implement and advance pharmaceutical drug production in Sub-Saharan Africa. Although AIDSfreeAFRICA has been working in Cameroon since 2005, the

organization has only recently decided to tackle the problems that arise because of the general lack of basic laboratory services in the African nation.

AIDSfreeAFRICA is often approached and asked to take samples of pharmaceutical drugs to the USA and test them for their composition and/or quality. The import of pharmaceuticals in Cameroon is largely unregulated. Much of the imported drugs are brought into the country from Nigeria by salespeople who buy and sell drugs with little regard for the origin of the drugs. Additionally, the salespeople are not educated on how to transport or store drugs properly. We suspect that the main problem with drug quality in Cameroon is degradation due to heat and humidity rather than the counterfeit drugs. However, without the ability to quality control drugs on a large scale, it is hard to say.

In this talk Dr. Hodel will discuss the efforts underway to bring quality control to Cameroon.

Dr. Rolande Hodel, co-chair of the Westchester Chemical Society, was born in Germany, is a US citizen, and is a legal resident of Cameroon. She received an M.S. in Inorganic Chemistry from the University of Kansas; and a Ph.D. in Organic Chemistry from the City University of New York. She has worked for companies such as BASF/Germany, Nanocrystals Technology/NY, Pharmaceutical Discovery Corporation/NY (today Mannkind/CT) and Emisphere Technologies/NY. She founded and is President of a non-profit, AIDSfreeAFRICA that manufactures pharmaceuticals in Cameroon. This talk is based on her more recent work in Cameroon. She is also an Adjunct Lecturer in Chemistry at the Westchester Community College. She is active in the American Chemical Society and its sections and has won various humanitarian awards. She is active in Rotary, Landmark Education, loves ballroom dancing, hikes, swims, skis and does yoga.

Date: Thursday, March 28, 2019

Times: Refreshments: 5:30 PM

Lecture: 6:00 PM

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

Inclement weather: The WCC information number for closures: 1-914-606-6900

RSVP: Appreciated but not necessary.

NOVARTIS LECTURE IN THE CHEMICAL SCIENCES

Mini Symposium

Organizer: Dirk Trauner
New York University

Speakers: Tom Muir
Princeton
Howard Hang
Rockefeller
Christian Hackenberger
FMP Berlin
Andy Patterson
Novartis

Date: Friday, March 29, 2019

Times: 1:00-6:00 PM

Place: The Jurow Lecture Hall
NYU Silver Center, Room 101
31 Washington Place (between
Washington Square East and
Greene Street)
New York, NY

For more information, contact
julie.kaplan@nyu.edu.



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.



LONG ISLAND SUBSECTION

Seminar Events for Spring 2019

FUTURE MEETINGS

Conformational Consequences and Structural Details of the Self-Assembly of hIAPP₂₂₋₂₉

Speaker: Dr. Ruel Desamero
The York College of CUNY

Abstract

The octapeptide NFGAILSS (hIAPP₂₂₋₂₉), derived from human islet amyloid polypeptide, has been extensively used as a model

system to study amyloid formation. However, despite being the target of numerous investigations, information describing specific molecular interactions and conformational details are still lacking in regard to aggregates formed by this peptide. We synthesized peptide analogs of hIAPP₂₂₋₂₉ and employed turbidity measurements in conjunction with FTIR, Raman and fluorescence spectroscopy along with computer modeling to investigate and probe the structure of aggregates formed by the NFGAILSS sequence. Our findings unambiguously indicate that, at neutral pH, hIAPP₂₂₋₂₉ self-assembles into a parallel β-sheet secondary structure in which the aromatic ring of Phe-23 engages in π-stacking interactions. Computational modeling confirms that of the possible ring stacking motifs (sandwich, parallel displaced, parallel staggered and T-shaped geometries) only a parallel displaced stacking arrangement can account for the observed vibrational modes in the Raman spectra. The amide I vibrational mode ca. 1655 cm⁻¹ in the Raman spectra of aggregates from hIAPP₂₂₋₂₉ indicates the presence of a parallel β-sheet secondary structure. Fluorescence data also support these observations and point to the formation of excimers due to ring stacking. These observations are compared and contrasted to results obtained with amidated hIAPP₂₂₋₂₉ (SNNFGAILSS-NH₂) analogs that are only capable of forming amyloid composed of antiparallel β-sheets in which π-stacking interactions involving Phe-23 cannot occur. Consistent with this, the presence of an electron donating substituent on the aromatic ring of Phe-23 was found not to abolish the amyloidogenic potential of hIAPP₂₂₋₂₉ as it has previously been shown with hIAPP₂₂₋₂₉. Raman spectra of aggregates formed from hIAPP₂₂₋₂₉ were distinctly different from those of hIAPP₂₂₋₂₉ in the amide and ring mode vibrational regions and provide evidence of an antiparallel β-sheet structure. Finally, results from these investigations reveal that the hIAPP₂₂₋₂₉ sequence is sensitive to its chemical environment and can undergo “conformational switching” between parallel and antiparallel β-sheets in response to changes in pH. The ramifications of the above findings are discussed in the context of other amyloidogenic systems and full-length hIAPP.

Date: Thursday, April 4, 2019

Time: 6:00 PM to 8:00 PM
(Refreshments starts at 5:30 PM)

Place: Queensborough Community College, Room 112
222-05 56th Avenue
Queens NY 11364

Directions to QCC:

<http://www.qcc.cuny.edu/about/getting-here.html>

2019 WILLIAM H. NICHOLS MEDAL DISTINGUISHED SYMPOSIUM AND AWARD DINNER

See program on pages 12 and 13.

Date: Friday, April 12, 2019



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

Microsatellite DNA Expansions in Rare Genetic Diseases

Organizers: Christine Bulawa, PhD
Pfizer

Aileen Healy, PhD
Pfizer

Stefan McDonough, PhD
Pfizer

Laura Ranum, PhD
University of Florida

Claire Steppan, PhD
Pfizer

Kari Fischer, PhD
The New York Academy of Sciences

Keynote: Laura Ranum, PhD
University of Florida

Speakers: Beverly Davidson, PhD
University of Pennsylvania

Joseph Nabhan, PhD
Pfizer

Christopher Pearson, PhD
The Hospital for Sick Children,
University of Toronto

Ekaterina Rogaeva, PhD
University of Toronto

Peter Todd, MD, PhD
University of Michigan

Eric Wang, PhD
University of Florida

Vanessa Wheeler, PhD
Massachusetts General Hospital

This event will explore recent developments in our knowledge of the biological processes driving repeat expansion diseases, as well as strategies for effective therapeutic inter-

vention, and barriers to drug discovery.

Date: Tuesday, April 16, 2019

Time: 8:30 AM – 5:10 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 March 4, 2019.**

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

www.nyas.org/DNAExpansions

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

Other Details: To Be Announced



METRO WOMEN CHEMISTS COMMITTEE

Please join us for a seminar sponsored by the NY ACS Metro Women Chemists' Committee:

Butters, Oils, Powders, and Flowers As Antimicrobial Surfaces

Speaker: Dr. JaimeLee Iolani Rizzo
Professor, Department of Chemistry & Physical Sciences, Pace University, NY



Abstract:

The challenge to maintain a sterile environment and protect patients in a clinical setting has grown in the recent years, due to the exposure of microorganisms. The discovery of the antimicrobial surfaces in previous research has shown a minimized growth in microorganisms such as bacteria, fungi, and viruses. Challenges still arise in creating surfaces because of the difficulty to industrialize, the non-uniformity throughout the surface, and the activity of the antimicrobial agent being washed off a given surface. Our current work not only focuses on bacteria affecting our internal makeup, but also

how the mutagen, UV radiation, can alter the expression of our cells and lead to lethal health issues like cancer. In order to test against bacteria and UV radiation, a variety of natural butters are infused with an array of exotic essential oils, plant powders, and dried flowers at different concentrations. The resultant material is a homogeneous viscous surface. The novel materials have been tested against *S. aureus*, *E. coli*, and *P. aeruginosa* and against UV radiation. We herein report the formulation of these naturally-derived materials and their efficacy against bacteria and UV radiation.

About the Speaker:

Dr. JaimeLee Iolani Rizzo is Professor and Assistant Chair of Chemistry and Physical Sciences at Pace University, NYC. She received an A.S., B.A., M.A., M.Phil., and Ph.D. all through the City University of New York. Amongst other duties, she serves as the Coordinator of the Professions in Health Advisory Team (PHAT) and Faculty Advisor of the Chemistry Club at Pace. She had been named a Distinguished Fellow by the American Chemical Society in 2017 and in 2018 was honored with the Homer and Charles Pace Faculty Award. She currently serves as Councilor for the New York Section of the ACS and was Chair of the Section in 2012.

Dr. Rizzo's work involves the synthesis and characterization of materials bearing antimicrobial activity where she has 15 patents and numerous publications and presentations relating to her work. She is also a co-author of two textbooks, "Phosphorus Chemistry" and "Organic Chemistry". Her current work relates to the development of antibacterial materials, which comprises completely naturally-based materials which include exotic butters, oils, powders, and flowers. Some of these materials have also demonstrated UV protection.

Date: Wednesday, April 24, 2019

Time: 12:10 PM – 1:10 PM

Place: Pace University
One Pace Plaza
New York, NY 10038

For further information, please contact Dr. Rita K. Upmacis (rupmacis@pace.edu), Chair of the Metro Women Chemists' Committee.

WESTCHESTER CHEMICAL SOCIETY

HOLD THE DATE

2019 Distinguished Scientist and Student Awards Dinner Meeting

Date: Wednesday, April 24, 2019

Place: Pace University
Pleasantville, NY 10570



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

Translating Genetics into Medicine

Organizers: Judy Cho, MD
Icahn School of Medicine at Mount Sinai

Caroline Fox, MD
Merck Research Labs

Paolo Guarnieri, MD
Boehringer Ingelheim

Julie Hawkins, PhD
Boehringer Ingelheim

Tuuli Lappalainen, PhD
Columbia University,
The New York Genome Center

Alan Shuldiner, MD
Regeneron Pharmaceuticals,
The University of Maryland

Dawn Waterworth, PhD
GlaxoSmithKline

Alison Carley, PhD
The New York Academy of Sciences

Sonya Dougal, PhD
The New York Academy of Sciences

Keynotes: Richard P. Lifton, MD, PhD
The Rockefeller University
Robert Plenge, MD, PhD
Celgene

Speakers: Christopher Brown, PhD
University of Pennsylvania
Molly Gasperini
University of Washington

(continued on page 22)

BIOCHEMICAL TOPICAL GROUP

(continued from page 21)

- Rajat Gupta, MD
Broad Institute, Massachusetts General Hospital,
Harvard Medical School
- Ruth Loos, PhD
Icahn School of Medicine at Mount Sinai
- Matthew Nelson, PhD, MA
GlaxoSmithKline
- Daniel J. Rader, MD
Perelman School of Medicine,
University of Pennsylvania
- Timothy E. Reddy, PhD
Duke University

This symposium will highlight emerging strategies to experimentally and computationally identify and validate causal genetic associations, and will outline the challenges and opportunities in translating these associations into successful drug discovery programs.

- Date:** Thursday, April 25, 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 March 14, 2019**. The **Abstract Submission deadline is February 28, 2019**.

For more information and to register for the event, go to: www.nyas.org/GenMed2019

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

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

Severe Asthma: Novel Concepts & Therapeutics

- Organizers:** David Artis, PhD
 Weill Cornell Medicine
 Roland Kolbeck, PhD
 MedImmune
 Jamie Orenco, PhD
 Regeneron
 Matthew Sleeman, PhD
 Regeneron
 Sonya Dougal, PhD
 The New York Academy of Sciences

Marie Samanovic-Golden
 The New York Academy of Sciences

- Keynotes:** Bart N. Lambrecht, MD, PhD
 Ghent University
 Sally Wenzel, MD
 University of Pittsburgh
 Asthma Institute

- Speakers:** David Artis, PhD
 Weill Cornell Medicine
 Kathleen Barnes, PhD
 University of Colorado
 School of Medicine
 Alison Humbles, PhD
 MedImmune
 Melanie Konigshoff, MD, PhD
 University of Colorado Denver

James Martin, MD
 McGill University

Kari Nadeau, MD, PhD
 Stanford University School of Medicine

Jamie Orenco, PhD
 Regeneron

Xin Sun, PhD
 University of California
 San Diego

This symposium will focus on novel insights into the pathophysiology of severe asthma and offer perspectives on potential new therapeutic opportunities.

Date: Friday, April 26, 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 March 15, 2019. The Abstract Submission Deadline is February 26, 2019.

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

www.nyas.org/SevereAsthma2019

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



COME AND JOIN US CELEBRATE EARTH WEEK WITH OUR 8th ANNUAL "WALK THE BROOKLYN BRIDGE" EVENT

This year's Chemists Celebrate Earth Week's theme is: "Take Note: The Chemistry of Paper"



We will meet at Pace University in the Bianco Room at 11:00 AM for check-in followed by welcoming remarks, our keynote address, and our celebratory "Earth Day Parade" across the iconic Brooklyn Bridge! Participants will be provided with lunch and Earth Day gifts. The event is free and open to all, but **EVERYONE must register by April 11**. Past the registration deadline there will be a \$15 onsite fee at the event (cash only). To register:

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

Date: Saturday, April 27, 2019
Time: 11:00 AM – 3:00 PM
Place: Pace University
 Bianco Room

Cost: Free and open to all. However, past the registration deadline, there will be a \$15 onsite fee at the event (cash only)

Contact: Prof. JaimeLee Rizzo, CCED Coordinator, jrizzo@pace.edu

For more information about Earth Day celebrations, see pages 24 and 25.



NEW YORK NANOSCIENCE DISCUSSION GROUP

Hosted by the New York University Department of Chemistry

Speakers to be announced

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

Date: Tuesday, June 4, 2019

Times: Refreshments at 7:00 PM
 Science at 7:30 PM

Place: NYU Silver Center
 31 Washington Place, between Washington Square East and Greene Street, Room 1003
 (10th floor)
 New York, NY

For more information, contact: James Canary (james.canary@nyu.edu)

Topical Group History: <http://www.nyu.edu/projects/nanoscience>



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**2019 CCEW Illustrated Poem Contest
Take Note: The Chemistry of Paper
ENTRY FORM**

Please fill out this form, print, and attach to the back of the poems. All fields are required. Incomplete forms will invalidate the entry.

The deadline for the **Local Section Contest** is .

Student and Organization Information

Student Name:

Grade:

Parent/Guardian Name:

Parent/Guardian Email:

Parent Address:

City:

State:

Zip:

School or sponsoring group:

(e.g. Boys and Girls Club or Scout Troop, 4-H, etc.)

Teacher Name:

Teacher Email:

School Address:

Address Line 2:

City:

State:

Zip:

Please send any follow up for the student to the school or parent address.

Judging Category by Grade (Check one)

K-2

3-5

6-8

9-12

FOR LOCAL SECTION USE ONLY

Local Section Name:

CCEW Coordinator Name:



Chemists Celebrate Earth Week (CCEW) 2019

"Take Note: The Chemistry of Paper"

Illustrated Poem Contest

The New York City Local Section of the American Chemical Society (ACS) is sponsoring an illustrated poem contest for students in Kindergarten through 12th grade.

Contest Deadline: April 5, 2019

Prizes: 1st Prize in each category receives a \$20 gift certificate

Contact: Elmer E. Mojica, Department of Chemistry and Physical Sciences, Pace University, One Place Plaza, New York, NY 10038 (Phone: 2123461344; Email: emojica@pace.edu)

Winners of the New York City Local Section's Illustrated Poem Contest will advance to the ACS National Illustrated Poem Contest for a chance to be featured on the ACS website and to win prizes!

Write and illustrate a poem using the CCEW theme, "**The Note: The Chemistry of Paper.**" Your poem must be **no more** than 40 words and in the following styles to be considered:

HAIKU - LIMERICK - ODE - ABC POEM - FREE VERSE - END RHYME - BLANK VERSE

Possible topics related to paper chemistry include:
pulp, tree, recycling

Entries will be judged based upon:

Relevance to and incorporation of the CCEW theme, word choice and imagery, colorful artwork, adherence to poem style, originality and creativity and overall presentation



Contest Rules:

- All entries must be original works without aid from others.
- Poems maybe submitted by hand on an unlined sheet of paper not larger than 11" x 14" or scanned and sent via email.
- Illustrations may be created using crayons, watercolors, other types of paint, colored pencils, or markers. The illustration may also be electronically created by using a digital painting and drawing app on a computer, tablet or mobile device. The text of the poem should be easy to read and may be type before the hand-drawn or digital illustration is added or the poem may be written on lined paper, which is cut out and pasted onto the unlined paper with the illustration. No clipart or unoriginal images can be used.
- There will be 4 categories: Grades K-2, Grades 3-5, Grades 6-8 and Grades 9-12.
- Only one entry per student will be accepted. All entries must include an entry form. If the illustration is created using a digital painting or drawing app, the name of the program must be included on the entry form.
- All illustrated poems and/or digital representations of the poems become the property of the American Chemical Society.
- Acceptance of prizes constitutes consent to use winners' names, likenesses, and entries for editorial, advertising, and publicity purposes.

NEW YORK SECTION – SCIENCE CAFÉ – “THE PERIODIC TABLE PEOPLE”

FUTURE EVENTS

A Science Café and Contest Celebrating the International Year of the Periodic Table

This is an early notice of a Science Café and contest being held for the NY Section of the American Chemical Society to celebrate the International Year of the Periodic Table. It is being organized by Sally Mitchell and Sr. Mary Virginia Orna, Ph.D., both board members of the Westchester Chemical Society (a local sub-section of NYACS), using grant money from the ACS.

Periodic Table People: An Invitational Essay/Interactive Skit Contest from the American Chemical Society New York Section in a Gala Celebration of the International Year of the Periodic Table

Come One! Come All! Fun, eats, contest, grand prizes, skits, for all levels of chemistry, for teams of faculty members and students. And assemble a Cupcake Periodic Table – chemistry so good you can eat it!

What? Science Café

Date: Saturday, October 5, 2019

Time: 2:00 PM

Place: TBA

Students at any level of chemistry instruction are invited to submit a faculty-student-team-researched-and-written brief essay (1,000 words or less) describing a personality in the Periodic Table (see list below). The essay should contain biographical information, the contribution of this person to science, and a justification for his/her place in the table. At least two supporting scholarly references (not taken from the internet) should accompany the essay; they will not figure in the word count. The competing teams will perform a 5-minute (or less) skit based on the essay at the NY Section Science Café. Essays/skits will be judged on the depth and clarity of science covered, the quality of research, and historic content as evidenced in the skit. Winning teams will receive one of three Grand Prizes for their schools: a voucher for supplies selected from the Flinn Catalog (1st prize - \$300; 2nd prize - \$200; 3rd prize - \$100). **By September 10**, submit your team's (3 persons minimum, including your faculty member) intent to participate along with your

preferred five Periodic Persons to chemsource.info@gmail.com; you will receive your designated "person" by return email, on a first-come first served basis to avoid duplicates. **Before September 30, 2019**, please submit your essay and skit outline along with a captioned photograph of your team to the same email address. Please include the name and location of your institution and contact information. Essay entries and skit outlines will be judged and admitted for performance at the Science Café **by October 1**. Winners will be judged and announced at the American Chemical Society New York Section Science Café on October 5, 2019. Location: TBA Time: 2:00 PM. Refreshments, team prizes, camaraderie!! Come one, come all! To be eligible for one of the grand prizes, you MUST present your skit at the Science Café. Essays submitted by email only without a skit will be eligible for a Periodic Table-related prize only.

Periodic Table People (choose your top five and submit to chemsource.info@gmail.com with name of team leader, institution, and email address):

At. No.	Person
62	Vassili Samarsky-Bykhovets
64	Johan Gadolin
96	Marie Curie
96	Pierre Curie
99	Albert Einstein
100	Enrico Fermi
101	Dmitri Mendeleev
102	Alfred Nobel
103	Ernest O. Lawrence
104	Ernest Rutherford
106	Glenn Seaborg
107	Niels Bohr
109	Lise Meitner
111	Wilhelm Roentgen
112	Nicolaus Copernicus
114	Georgy Flerov
118	Yuri Organesson

THE HISTORY OF THE UNITED STATES PHARMACOPEIAL CONVENTION (USP)

By Debbie Peru

The first meeting in 2019 of the New York (New Jersey) Regional Section of the Society for Applied Spectroscopy (NYSAS) was held on January 24th at the Horiba Optical Spectroscopy center in Piscataway, NJ. The guest speaker was Michael Cutrera, M.S., B.S., Consultant, formerly with BMS, USP, Sun Pharmaceuticals, Core Pharmaceuticals, American McGaw Laboratories, Marion-Merrell Dow, R. P. Scherer, Integra LifeSciences Corporation, and IBAH Biopharm, Inc.

Mr. Cutrera has 38 years' experience in the Pharmaceutical Industry, focusing on analytical laboratory management, research & development, and Current Good Manufacturing Practices (cGMP) compliance. He was a long-term member of the USP Council of Experts, chairperson of several USP Monograph Development and Standard-Setting Committees and was the USP Director of Monograph Modernization. He organized and served as Co-Chairperson of the Pharmaceutical Analysis Symposium at the annual Rocky Mountain Conference on Analytical Chemistry, and Chaired the annual Technology Transfer Conference sponsored by the Institute of International Research. Currently a member of the EDQM Expert Working Group on Chromatography. Over the past 25 years, Mike has regularly presented seminars and courses nationwide on pharmaceutical and regulatory science, spectroscopy, chromatography, method and cleaning validation, instrument qualification, cGMP compliance, auditing, investigations, remediation, laboratory operations, and technology transfer.

Mike's presentation celebrated the founding of the United States Pharmacopeia (USP) by a convention of physicians in 1820. Their goal was to ensure consistency in the making of pharmaceutical products and the practice of medicine. As we approach the bicentennial anniversary, it's important to understand how such a documented public standards for medicines came into being. This talk took the audience on a journey starting in the early 1800s with publication of the first edition of the USP. Mike reviewed the effect that USP has had on the progression of pharmaceutical science and drug development and its importance to public health and why these guidelines are important in developing methods used to test pharmaceuticals and related products.

Mike shared his limited edition, original 1st edition of the USP book, which was published in December 1820 and printed in both English and Latin. He described ways of getting involved with the various USP committees to make changes, and how to gain access to the monograph guidelines. Overall, an interesting and very useful talk for spectroscopists.

We had 15 people attend the meeting at Horiba and several participated the in meeting online. If you missed the meeting and would like to hear a replay of the presentation, send an email to deperu@outlook.com and we will send you a link to the webinar.

More information about NYSAS schedule of meetings can be found at www.nysas.org.



Mike discussing the USP General Chapters which describe spectroscopic theory, techniques and procedures.

(Photo courtesy of Debbie Peru)

ACS NEW YORK SECTION'S NICHOLS FOUNDATION HIGH SCHOOL CHEMISTRY TEACHER AWARD FOR 2018

The ACS New York Section's Nichols Foundation High School Chemistry Teacher Award for 2018 was presented to Dr. Stephanie O'Brien on January 19 at the



Dr. Stephanie O'Brien, Dr. Justyna Widera-Kalinowska (2019 NY Section Chair) and Mr. Stephen Radice (Chair of Nichols Teacher Award Jury)

(Photo courtesy of Dr. Brian Gibney)

NYACS Section-wide Conference held at Queensborough Community College in Bayside, NY. This annual award is given to recognize highly effective teaching and inspirational leadership to students in chemistry. Dr. O'Brien's enthusiasm, outstanding work ethic and novel teaching methods surely contribute to the success of her many students.

Stephanie O'Brien received her B.S. degree in Chemistry with a minor in biology and M.S. in Chemistry in 2008. She received her Ph.D. in science education in 2017. All of the degrees were earned from Stony Brook University. Stephanie has professional teaching certificates from New York State in both Chemistry and Biology. She is currently employed at Commack School District High School in Commack, NY. She has taught students in various levels of chemistry including: Introductory, Regents, Regents inclusion and pre-IB/honors, International Baccalaureate standard and higher level

chemistry.

Stephanie uses fun and effective techniques to explain difficult chemistry concepts. One example is the use of phenomena in chemistry. To introduce a lesson on polarity and solubility, the class is motivated and intrigued by a balloon magically exploding when a lemon peel is squeezed on it. To introduce chemical reactions, a story is told of her children spilling taco bell sauce on coins in her car and how after it was wiped off it cleaned the pennies. Students are then given pennies, taco sauce and ingredients to investigate the mystery.

Another technique is flipped learning. Flipped learning is an instructive approach in which classroom-based learning is reversed, so that students are introduced to the learning material prior to class. Class time is then used to enhance understanding through discussion with peers and problem-solving activities facilitated by teachers. Stephanie creates short video topics in each course she teaches. At home, students watch and take notes on the videos. Student performance is tracked via Edpuzzle, a flipped learning program, to ensure students are watching and checked for understanding via embedded questions. A wonderful learning tool – this tool helps to identify students who are in need of extra assistance on a topic. Since students are asked questions in the video the night before, students who struggled are offered, at the beginning of class, additional instructional support. This approach allows more time for hands on activities and laboratories, cooperative learning and group discussion.

Stephanie also utilizes Process Oriented Guided Inquiry Learning (POGIL) activities where students are provided a model with content information and together work in cooperative groups utilizing an assigned role to work on process skill and content development. During POGIL activities students are evaluated with rubrics on their process skills. The aim is to have students learn skills such as oral and written communication, and critical thinking. These are skills that are important to develop prior to entering the workforce.

One lab that stimulates her student's interests is the lab in which they pretend to be EPA workers and receive a report that the water quality of their high school pond is too acidic.

Without a procedure students collect pond water, titrate to determine safe levels for aquatic life, hold a press conference to discuss results and continue to investigate the health of drinking water in school fountains. Students enjoy the opportunity to do “real hands on science” in an academic setting.

Outside the classroom Stephanie serves on the STANYS state board as the chemistry director at large, on the Suffolk STANYS board as the Chemistry subject area representative and News Site Editor. She is a leading contributor to Chemical Education Xchange publication, a POGIL facilitator and trainer and member of the NYS Master Teacher Academy. She is a reviewer for the Journal of Chemical Education and recently edited a textbook for Pasco Scientific titled Essential Chemistry.

Her student Kathleen wrote “Chemistry quickly transitioned from what I thought would be the hardest part of my day, to my favorite academic interest. ... through her

use of videos in her flipped classroom, I grasped the core concepts of chemistry. ... Dr. O'Brien has become a mentor to me. She made our chemistry class my second home.”

Her colleague Kimberly King wrote: “Dr. O'Brien is committed to professional growth, not only for herself, but for her colleagues. She has led a variety of professional development workshops on topics such as: use of technology in the classroom, literacy strategies, and the latest developments of the Next Generation Science Standards. The teachers in our department have positively grown because of the shifts in instructional practices that Dr. O'Brien adopted and shared with us.”

Her supervisor, Dr. Offerman-Celentano writes “I have yet to meet a more motivated, driven, hard-working individual with this level of dedication to continuous improvement.”

Congratulations Dr. O'Brien!

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.

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.

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 Pippins 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

National

CONGRATULATIONS TO THE NEW ACS COUNCILORS FOR 2019

Sent on behalf of Ms. Lisa Houston – Vice Chair, ACS Council Policy Committee (CPC)

Dear ACS Leaders,

Congratulations on your election as Councilor of the American Chemical Society (ACS)! Election to Council represents an opportunity to participate as an ACS volunteer leader at the national level. On behalf of the Council Policy Committee (CPC), I invite you to attend the New Councilor Orientation & Reception at the ACS 2019 Spring National Meeting in Orlando, FL on Saturday, March 30 starting at 3:00 PM in the Hilton Orlando Hotel.

The orientation program has been designed by CPC and the Office of the Secretary & General Counsel to increase your familiarity with ACS and to prepare you for your new responsibilities as a Councilor. We have invited a number of ACS leaders to share how you can become part of a vibrant network of volunteers and staff. As a part of the orientation, a reception is being planned to enable interactive dialogue and networking with committee chairs and other governance leaders. The reception will follow the orientation program (6:00-7:00 PM). Over the past few years, this has been a highlight for the program because new leaders receive information first-hand on how to "get involved.

Please respond to let us know if you will be attending the orientation and reception by sending an email to Semora Smith (s_smith@acs.org) no later than Monday, March 4. If you have any questions or concerns, please send an email message to the secretary@acs.org.

CPC is also hosting its Pre-National Meeting Webinar for New Councilors on Wednesday, February 6 from 3:00 - 4:00 p.m., ET in preparation for the Orlando meeting. I encourage you all to participate. You will receive some key information about the operations of the Society and you will have a chance to ask questions of your peers about service on the ACS Council and preparing for the national meeting. You should expect to receive an invitation to participate in the webinar very soon. Please register once you receive the invitation from GoToWebinar.

I would like to introduce our mentorship program for new Councilors. To enable an enjoyable, effective, and efficient experience for all those elected to Council, CPC has established a mentoring program to bring together new Councilors and those from whom they can learn and be inspired. If you would like to have a mentor, you will be matched with an experienced colleague who can help you effectively navigate and integrate into ACS governance, and can provide you with resources that will make your role as a Councilor more rewarding. You should expect to receive more information regarding the program during the webinar.

Thank you for your service to the Society, and congratulations again on your election. We are looking forward to seeing you in Orlando!

Regards,

Lisa Houston

Director | Process Analytics

lisa.houston@paclp.com

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