

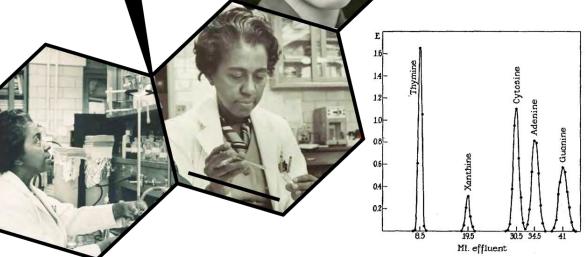
Celebrating the life and legacy of

**Dr. Marie Maynard Daly** 

First African American Woman To Earn a Ph.D. in Chemistry

A STUDY OF THE PRODUCTS FORMED BY THE ACTION OF PANCREATIC AMYLASE ON CORN STARCH

by
MARIE MAYNARD DALY



National Historic Chemical Landmark Dedication Ceremony See page 9





MAY 2023

HC

Vol. 104 • No. 5 ISSN0019-6924

www.theindicator.org

#### THIS MONTH IN CHEMICAL HISTORY

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

Time for a pause in my review of 90 year old chemistry as seen in the "Annual Reports of the Progress of Chemistry", This month's column is going to be a review of a recent book: "The Devil's Element: Phosphorus: And a World Out Of Balance" by Dan Egan (W.W. Norton, 2023). Much of my research in my ancient history was on aspects of phosphorus chemistry, including my Ph.D. thesis on phosphorohalidates (1956). I went on to synthesize phosphiran, the 3-membered CCP ring, and to embark on early studies of dynamics and structure of phosphorus compounds by nmr methods. When I encountered Egan's book I was a skeptical chemist. Could it include anything new? After all Egan had taken his title from John Emsley's excellent survey of the history of phosphorus chemistry: "The Shocking History of Phosphorus: A Biography of the Devil's Element (2000)". The answer to my earlier question is a resounding YES. This new book concentrates on one aspect of the history of phosphorus – the use and flagrant misuse of phosphates in agriculture.

The industrial revolution of the late 18<sup>th</sup>. and 19<sup>th</sup>. centuries led to rapid population growth, and urbanization. In turn this led to growing demand for food at a time when agriculture was losing its workforce. The pressure was on to increase agricultural productivity and that led to the rapidly increasing use of artificial fertilizers. Early research by Humphry Davy and, particularly, Justus Liebig had shown the importance of the magic trio, N, K, and P, in improving crop yields. Farmyard manure could no longer suffice. Other sources would have to be employed, and South American guano came to the rescue for a while. Guano, the almost "fossilized" deposits of bird excrement, was found in quantity on islands off the coast of Peru, and Humboldt on an expedition in 1802, realized the potential utility of these deposits to European farmers. Guano exports to Europe began in the 1820s and rapidly boomed from 6 million pounds in 1841 to 40 million pounds in 1842 and to 600 million pounds in the middle of the decade. All of this guano was carried in hundreds of sailing vessels making the dangerous journey around Cape Horn to and from the west coast of South America.

Eventually these guano deposits were mined out. But just in time John Lawes in 1842 patented his superphosphate process in which insoluble phosphate rock could be made into a useful fertilizer by treating it with sulfuric acid. The catch is that phosphate rocks are also a quite limited resource, being the fossilized bones of ancient animals. Significant deposits of phosphate rocks are found in many countries. Currently about 250 million tons are mined annually worldwide. Projections suggest that most deposits will cease to be productive in as little as a few decades to at most a couple of centuries. Prices will inevitably increase – and consequently food prices will rise. Soon demand will exceed supply. The major remaining supply of phosphate rock is found in areas within Morocco or under the control of Morocco in the Western Sahara – at least 70% of what is available worldwide.

That is the history. Egan's book doesn't stop there. He reveals the wastefulness of our current use of phosphates, The majority of phosphates applied to crops is not utilized by plants but is washed out into rivers and lakes and leads to algal blooms and eutrophication. Few urban water treatment plants recover phosphates for re-use and that may have to change in the near future. And a major potential target for recovery of phosphates is animal and human excreta; the potential amount for recovery is enormous, and there are some pilot experiments underway that, if successful, will need to be expanded rapidly.

It's an absorbing story, and an under-appreciated one. The phosphorus crisis may well be more immediate and more consequential than the fossil fuel crisis.

AUTHOR'S NOTE: I have recently published "<u>Great Chemistry Books: A Personal View</u>", available in paperback from Amazon. It is the second volume in my series "Chemical Sketches". The first volume: "<u>A Chemical Chrestomathy: Chemists</u>" is still available from the same source.

#### THE INDICATOR

#### **Editor**

DR. BRIAN GIBNEY

brg33@newyorkacs.org

#### **Associate Editor**

DR. KATHLEEN GILBERT

kgilbert@njacs.org

#### **Acting Advertising Manager**

DR. NEIL JESPERSEN

Phone 516-883-7864 • Cell: 347-658-9898

jespersn@stjohns.edu

#### INDICATOR COMMITTEE

DR. LES McQUIRE, Chair 908-334-5473

Les@LesMcQuire.org

#### **New York Section Representative**

DR. NEIL JESPERSEN

Phone 516-883-7864 • Cell: 347-658-9898

jespersn@stjohns.edu

#### **North Jersey Section Representative**

Dr. QI GAO

qi.gao1@merck.com

#### **SECTION WEB MASTERS**

NY Section - DR. BRIAN R. GIBNEY

postmaster@newyorkacs.org

NoJ Section - PAUL TUKEY

ptukey@njacs.org

#### NORTH JERSEY SECTION https://www.njacs.org

Chair, DR. JUSTYNA SIKORSKA

Associate Principal Scientist, Merck & Co., Inc. 2015 Galloping Hill Rd., Kenilworth, NJ 07033 justyna.sikorska@merck.com

Chair-Elect, DR. SANDRA KEYSER

EH&S Senior Safety Specialist, Rocket Pharma

9 Cedarbrook Drive, Cranbury, NJ 08512

732-939-6412 • <u>sandrakkeyser@gmail.com</u> **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

#### **NEW YORK SECTION** http://newyorkacs.online/

Chair, DR. MARY VIRGINIA ORNA

ChemSource, Inc.

39 Willow Drive, New Rochelle, NY 10805

914-310-0351 • mvorna@newyorkacs.org

Chair-Elect, DR. PING Y. FURLAN

**US Merchant Marine Academy** 

300 Steamboat Road, Kings Point, NY 11024

516-726-5783 • furlanp@usmma.edu

Secretary, DR. DANIEL AMARANTE

Dept. of Chemistry, Stony Brook University 100 Nicolls Road, Stony Brook, NY 11794

631-632-2043

daniel.amarante@stonybrook.edu

#### Section Office, BERNADETTE TAYLOR

Office Administrator

St. John's University, Dept. of Chemistry, 8000 Utopia Parkway, Queens, NY 11439 732-770-7324 • btaylor@NewYorkACS.org

# Indicator

# http://www.theindicator.org/

The monthly newsletter of the New York & North Jersey Local Sections of the American Chemical Society. Published jointly by the two sections and distributed to their 6,200 members.

CONTENTS			
May Calendar	4		
North Jersey Section Meetings	5		
Younger Chemists Committee	5		
Mass Spectrometry Discussion Group	6		
NJACS Executive Committee Meetings	7		
Drug Metabolism Discussion Group	8		
New York Section Meetings	9		
National Historic Chemical Landmark	9		
2023 Undergraduate Research Symposium	11		
Computers in Chemistry Topical Group	12		
MARM 2023	13		
New York ACS Officer Elections	14		
William H. Nichols Distinguished Symposium			
& Award Banquet	16		
Chemists Celebrate Earth Week	22		
NJACS Mass Spectrometry Discussion Group	25		
NJACS Chemistry Olympiad	26		
Job Board	30		

#### **EDITORIAL DEADLINES**

June 2023 May 16, 2023 September 2023 August 16, 2023 October 2023 September 16, 2023 November 202 October 16, 2023

The Indicator (ISSN 0019-6924) is published on-line monthly except July and August by the New York and North Jersey Local Sections of the American Chemical Society, Office of Publication.

All views expressed are those of the editor and contributors and do not necessarily represent the official position of the New York and North Jersey Local Sections of the ACS unless so stated. The Indicator is distributed electronically to members via email and their websites. Non-members are invited to read it online. ACS Members should register their email addresses here.

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

# May Calendar

#### **NEW YORK SECTION**

#### Friday, May 5, 2023

Computers in Chemistry Topical Group *See page 12* 

#### Saturday, May 6, 2023

Undergraduate Research Symposium *See page 11* 

#### Friday, May 19, 2023

ACS National Historic Chemical Landmark Dedication Ceremony See page 9

#### Monday, June 5, 2023

Board of Directors Meeting See page 13

#### Friday - Saturday, June 9-10, 2023

ACS Middle Atlantic Regional Meeting See page 13

The Indicator is posted to the web on the 1<sup>ST</sup> of each month September – June at

http://www.theindicator.org/

# Ad Index

Robertson - Microlit	7
Engineering Career Solutions	15
Micron	27

#### **NORTH JERSEY SECTION**

#### Thursday, May 4, 2023

Drug Metabolism Discussion Group See page 8

#### Monday, May 15, 2023

North Jersey Executive Committee Meeting See page 7

#### **Tuesday, May 16, 2023**

NMR Discussion Group (flyer)

#### **Tuesday, May 16, 2023**

Mass Spectrometry Discussion Group See page 6

#### Monday, May 22, 2023

North Jersey Awards Dinner

#### Friday, June 9, 2023

Younger Chemists Committee *See page 5* 



# NORTH JERSEY SECTION MEETINGS

# **NORTH JERSEY ACS - CALL FOR 2023 ELECTION CANDIDATES**

The North Jersey Local Section is seeking candidate nominations for the 2023 ACS local section election, which will take place online from the middle of September through the middle of October. We are looking for candidates to run for the positions of Chair Elect (one) and Councilor (three). If interested in running for these positions, or you would like more information, please contact the Local Section Secretary at <a href="mailto:bhowson@njacs.org">bhowson@njacs.org</a>.



### NORTH JERSEY YOUNGER CHEMISTS COMMITTEE

The North Jersey YCC organized and is hosting the "Younger Chemists Symposia" at MARM 2023. It features a great line up of young researchers, that will be presenting on Friday June 9, 2023. If you have not registered yet, what are you waiting for!? Confirmed speakers include, the following:

- Amanda Ooi, Columbia University
- Angelle N. Montana, Hartwick College
- Scott Ruppel, Stephens Institute of Technology
- Hasanuwan Ihalagedara, The College of Staten Island & the PhD Program in Chemistry at the CUNY Graduate Center
- Emma Gogarnoiu, New York University

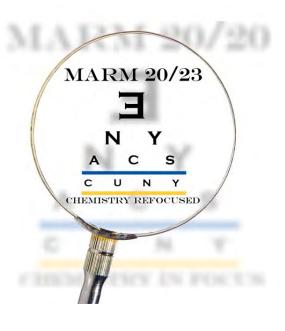
Date: Friday, June 9, 2023

**Time:** 1:30 PM – 3:00 PM

**Place:** The Graduate Center of the

City University of New York

365 Fifth Avenue New York, NY Directions



### NORTH JERSEY ACS MASS SPECTROMETRY DISCUSSION GROUP

The Mass Spectrometry Discussion Group is pleased to announce our May 16, 2023, Meeting. NJ MSDG is the second largest mass spectrometry professional association in the nation behind ASMS, with over 1,100 members in the tristate area.

NJ-ACS
MASS SPEG DISCUSSION GROUP

Date: Tuesday, May 16, 2023 Venue: <u>Somerville Elks Lodge 1068</u>

> 375 Union Avenue Bridgewater, NJ 08807

(908) 707-1545

**Program:** 5:30 PM Social Time

6:15 PM Complementary Dinner

6:55 PM Welcome Remarks

7:05 PM Speakers

Please <u>register here</u>. Registration is free compliments of <u>SCIEX</u>. Masks or no masks are respected and welcomed.



**Speaker 1: Eric Chan**, *PhD*, *Associate Director, Proteomics,*HotSpot Therapeutics, Inc.

HotSpot Therapeutics, Inc.

Chemoproteomic workflow for target identification of small molecules allosteric inhibitors

**Abstract:** HotSpot Therapeutics, Inc. is pioneering a new class of allosteric drugs that target certain naturally occurring pockets on proteins called "natural hotspots". These pockets are decisive in controlling a protein's cellular function and have significant potential for new drug discovery by enabling the systematic design of potent and selective small molecules with novel pharmacology.

We present our implementation of microflow LC, Q-TOF-MS and Zeno MS/MS for routine intact protein analysis, label-free PTM characterization, and isobaric tag-based proteomic profiling. To maximize throughput and to minimize downtime, all protein and proteomic workflows are carried out on the same trap-elute LC system and with a single ionization source. LC-MS complements our suite of biophysical, biochemical and modeling tools for the in vitro characterization of protein-ligand binding. Furthermore, when coupled with structure-based design of chemical probes, microflow LC and Zeno-MS/MS enable the characterization of target engagement in live cells with performance comparable to nanoLC-MS3, producing physiologically relevant information that expedites hit-to-lead progression in our drug discovery efforts.

### NORTH JERSEY ACS MASS SPECTROMETRY DISCUSSION GROUP (continued)

**Speaker 2: David Colquhoun**, *PhD, Market Development Manager SCIFX* 

Novel approaches to pharmacoproteomics analysis: higher throughput and deeper characterization

**Abstract:** Proteomics analysis in drug discovery and development requires a considerably different approach compared to classical discovery approaches. This technique demands high throughput measurement of hundreds or thousands of samples, high inter-instrument and quantitative reproducibility and site-specific characterization of post-translational modifications. This presentation will illustrate approaches to deepen proteome coverage in shorter run times and to increase quantitative robustness. We will discuss methods for identifying site specific modifications, novel PTMs, and the technology that underpins these advancements.



Where speed and accuracy are elemental

Elemental CHN, S, X analysis

Metals by ICP-OES, ICP-MS, USP<233>

FTIR, UV/VIS spectroscopy, Optical Rotation

GC-MS/FID, Residual Solvents, Headspace

Ion Chromatography

KF Aquametry, Titrimetry

DSC, TGA, melting point

**HPLC** 

1705 US Highway 46 • Suite 1D • Ledgewood, NJ 07852 • 973.966.6668 • F 973.966.0136 www.robertson-microlit.com • results@robertson-microlit.com

Rapid Results

Quality

Accuracy

Competitive Pricing

### 2023 NORTH JERSEY ACS EXECUTIVE COMMITTEE MEETINGS

2023 North Jersey ACS Chair Justyna Sikorska and the Executive Council welcome you to our monthly NJACS meetings. Meetings will be held either virtually or in hybrid mode (virtually with an in-person option at the Merck Kenilworth site). The meetings are normally held on **Mondays from 7 pm to 9 pm once per month.** All members are welcome to attend and become more involved in section activities.

For any additional information including a link to virtual meetings and RSVP deadline for inperson meetings, please <u>click here</u>.

May 15 (hybrid) Oct June 19 (hybrid) Nove September 18 (hybrid)

October 23 (virtual) November 13 (virtual) December - TBD

# NORTH JERSEY ACS DRUG METABOLISM DISCUSSION GROUP

# **2023 Spring Symposium and Vendor Exhibition**

Date: Thursday, May 4, 2023

**Time:** 8:00 AM – 4:00 PM

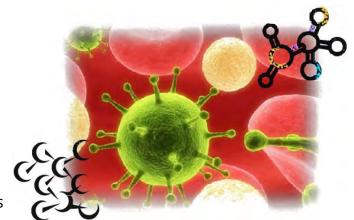
**Place:** The Palace at Somerset Park

333 Davidson Avenue Somerset, New Jersey

Directions

**Registration:** Contact Matthew Hoffmann for details

**Exhibitors:** Please contact Naiyu Zheng for more information



# **Download Flyer**

# "Evolving Paradigms for Dose Selection and Emerging Models and Technologies" Program

8:00 AM	Registration / Continental Breakfast / Vendor Exhibit		
9:00 AM	Introductory Remarks		
	lmad Hanna, PhD, Chair, North Jersey DMDG		
9:15 AM	The Evolving Paradigm of Dose Selection in Oncology		
	Anshu Marathe, PhD, Novartis Institutes for Biomedical Research		
10:00 AM	Aiding Discovery and Early Clinical Drug Development by Elucidation of		
	Relationship Between Tumor Growth Inhibition (TGI) and Survival for		
	Hematological Drug Development in Light of FDA's Project Optimus		
	Yiming Cheng, PhD, Bristol Myers Squibb		
10:45 AM	Vendor Exhibit & Coffee Break		
11:15 AM	Stem Cell-Directed Targeted Chemotherapy of Ovarian Cancer		
	Arash Hatefi, PharmD, PhD, Rutgers University		
12:00 PM	Lunch & Vendor Exhibit		
1:15 PM	Improving In Vivo Predictions from In Vitro Hepatocyte Models: Model		
	Selection, Protein Effect, and Transporter Regulation		
	Kenneth Brouwer, PhD. , RPh., BioIVT		
2:00 PM	Chloroquine and Hydroxychloroquine, as Proteasome Inhibitors, Upregulate		
	the Expression and Activity of Organic Anion Transporter 3		
	Zhengxuan (Zoey) Liang, PhD Candidate, Rutgers University		
2:45 PM	Vendor Exhibit & Coffee Break		
3:00 PM	Applications of MIDD in expediting rare diseases development		
0.45.014	Rajesh Krishna, PhD, Certara Strategic Consulting		
3:45 PM	Program closure		

### **NEW YORK SECTION MEETINGS**

NATIONAL HISTORIC CHEMICAL LANDMARK DEDICATION CEREMONY HONORING. DR. MARIE MAYNARD DALY

Where:

Columbia University

Havemeyer Hall 3900 Broadway New York, NY 10016

Date:

Friday, May 19, 2023

Time:

10:00 AM - 2:00 PM



### **National Historic Chemical Landmark Dedication Ceremony**

All are welcome to attend the dedication of the National Historic Chemical Landmark honoring Dr. Marie Maynard Daly, the first African American woman to earn a Ph.D. in Chemistry in the United States. Registration is FREE. The dedication ceremony at her alma mater, Columbia University, will start with a symposium honoring Dr. Daly's life, contributions to science and ongoing legacy. Confirmed speakers include, the following:

- Dr. Linda Meade-Tollin (University of Arizona, Emerita)
- Dr. Mandë Holford (Hunter College CUNY)
- Dr. Sibrina Nichelle Collins (Lawrence Technological University)
- Dr. Marc Walters (New York University)

This symposium will be followed with remarks from her family, colleagues, and invited dignitaries. The New York ACS Committee on Minority Affairs will premiere a short film about Dr. Daly's life and impact. Following the film, the National Historic Chemical Landmark plaque in her honor will be unveiled. A reception will follow.

# NATIONAL HISTORIC CHEMICAL LANDMARK DEDICATION CEREMONY HONORING. DR. MARIE MAYNARD DALY

The New York Section wishes to thank the following individuals and companies for financial support of our public outreach programs honoring Dr. Marie Maynard Daly. These events include the National Historic Chemical Landmark dedication ceremony, production of the short film about Dr. Marie Maynard Daly and its use in high schools, a high school teacher workshop entitled "Diversifying the Curriculum in High School Chemistry" as part of the MARM 2023 meeting, and a museum installation at the New York Hall of Science in 2024.

Donors that contribute to these public outreach programs by May 5<sup>th</sup> will be acknowledged in the National Historic Chemical Landmark program booklet and on the New York ACS website.

Click here to donate online Click here to donate via check

Lisa Balbes Brian Gibney Robert Hoyte Kathleen Kristian Joseph Serafin Paris & Soraya Svoronos Maria Contel C. Michael Greenlief Neil & Marilyn Jespersen Mary Virginia Orna Deborah Shanks Rita Upmacis Ping Furlan Barbara Hillery Hiroko Karan Gerard Parkin John Sharkey





















#### 2023 UNDERGRADUATE RESEARCH SYMPOSIUM

The <u>70<sup>th</sup> Annual Undergraduate Research Symposium</u> being held at LaGuardia Community College, CUNY on **Saturday May 6, 2023** (<u>directions</u>). The New York ACS Student Activities Committee proudly sponsors this opportunity for undergraduate chemistry students in the New York Metropolitan Area to present the results of their research.

Download program booklet here

Date: Saturday, May 6, 2023

Place: LaGuardia Community College

**Program:** 8:00 AM Breakfast and Registration Entrance on Van Dam St.

9:00 AM Welcome remarks! Little Theater, M Building

Dr. Mary Virginia Orna, New York ACS Chair Dr. Maria Entezari, LaGuardia Community College

Natural Sciences Chair

9:20 AM Keynote Addresses Little Theater, M Building

Early Development of Macrocyclic Peptides as Therapeutic Lead Compounds Christopher John Hipolito, PhD Merck & Co.



Christopher John Hipolito, Ph.D.



Gerardo Reyes Chavez

A Recipe for Eggs and Sperm: Is Blimp1 a conserved ingredient?

Gerardo Reyes Chavez
LaGuardia Community College alum, Brown University

10:20 AM	Instruction for the day	
10:30 AM	Group Photograph	Cobblestone yard
11:00 AM	Presented Papers	E Building

12:40 PM Lunch Atrium, E Building

Sponsors' Presentations / Tables

PepsiCo

**CUNY Graduate Programs** 

1:44 PM Raffle Atrium, E Building

Closing remarks

Announcement of the next year URS campus

#### COMPUTERS IN CHEMISTRY TOPICAL GROUP

# Predicting optical properties of molecules in complex environments

**Speaker:** Dr. Tim Zuehlsdorff

Department of Chemistry Oregon State University

Date: Friday, May 5, 2023

Time: 11:00 AM via Zoom



#### **Abstract**

Modeling optical properties of complex systems, like solvated dyes, nanostructured materials or pigment-protein complexes is highly challenging, as both coupling of the electronic excited states to nuclear vibrations and explicit interactions with the environment have to be accounted for. In this talk, I will introduce some of the computational methods developed in our research group to address this problem. I will describe the cumulant method, a very successful, albeit computationally expensive approach to calculating optical spectra, that relies on performing molecular dynamics simulations of a molecule embedded in its complex environment. I will then showcase some recent applications of the methodology in our group, including the modeling of solvent-induced changes to the absorption lineshape in the Crystal Violet dye, and understanding the role of pigment-protein interactions in influencing the optical properties of the photoactive yellow protein (PYP). Finally, I will discuss how to model optical spectra with significant contributions from non-Condon effects, such as Herzberg-Teller coupling and conical intersections between multiple excited states, using the example of Methylene blue in solution.

#### **Biography**

Tim Zuehlsdorff is an Assistant Professor in Physical Chemistry at Oregon State University. He received his PhD in Theoretical Physics at Imperial College London in 2015. He completed his postdoctoral training at the Cavendish Laboratory at the University of Cambridge (2014-2016) and the University of California in Merced, before joining Oregon State as a Faculty Member in 2020. Tim's research focuses on developing the theoretical approaches and computational methods necessary to understand how complex systems like pigment-protein complexes and nanostructured materials interact with light. He is a contributor to the electronic structure software package ONETEP (<a href="https://www.onetep.org">www.onetep.org</a>).

#### SEMINAR SPEAKERS WANTED

The New York Section wants to add to add you to our Speakers Bureau database of local 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 send an email to Ms. Bernadette Taylor with the following information that will be posted on the Section's website: your name, affiliation, a seminar 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 your fellow members!

#### **MIDDLE ATLANTIC REGIONAL MEETING MARM 2023**



The New York ACS is hosting the 51<sup>st</sup> Middle Atlantic Regional Meeting of the American Chemical Society (MARM) from June 9–10 at the Graduate Center of the City University of New York (CUNY) and St. John's University. The meeting theme is "Chemistry Refocused" and program details / registration information can be found at <a href="mailto:marm2023.org">marm2023.org</a>.

The technical program is focused in the areas of the Chemistry of Life Sciences, Materials Science, Flavors and Fragrance Chemistry, Cosmetic Chemistry, Environmental Chemistry, and includes a Younger Chemists Symposia organized by the North Jersey ACS's YCC. These are augmented with three poster sessions spanning the full field of chemistry in rooms adjacent to the Concourse holding the Meeting Exposition. A box lunch is included with registration and to give everyone time to mingle that time is free from formal presentations.

The MetroWomen Chemists Committee will be holding a "<u>Promotion to Full Professor Workshop</u>" on Friday afternoon, a hands-on workshop to catalyze your preparation for applying for promotion to full professor. On Saturday afternoon the New York ACS Minority Affairs Committee will be hosting a workshop for High School Teachers entitled "<u>Diversifying the Curriculum in High School Chemistry</u>" at St. John's University based on Dr. Marie Maynard Daly's science.

MARM 2023 will include several opportunities for undergraduates to learn about career and graduate schools. A panel discussion on employment opportunities in various sectors such as start-ups and established industry, will be held on Friday afternoon. A graduate school fair will host programs from around the region.

There will be an exposition, a 50-, 60-, 70-year member luncheon, a Social Media Social, an ACS Governance Mixer and an awards dinner.



#### **NEW YORK ACS 2023 ELECTIONS**

The Board of Directors would like to extend its heartfelt thanks to the following candidates for accepting the nominations, and for their willingness to support the New York Local Section and chemistry through donating their time, efforts, and sharing their expertise.

#### Chair-Elect for 2024

Mr. Joseph Wiener (PepsiCo)
Dr. Eric Chang (Pace University)

#### **Treasurer for 2024 - 2025**

Dr. Brian Gibney (Brooklyn College)

### **Director-at-Large for 2024**

Dr. Rakhl Agarwal (Nassau Community College)

Dr. Ipsita Banerjee (Fordham University)

Dr. Ron D'Amelia (Hofstra University)

Dr. Barbara Hillery (SUNY at Old Westbury)

Dr. Mihaela Leonida (Fairleigh Dickinson University)

Dr. Joseph Ulichny (Columbia University)

Dr. Justyna Widera-Kalinowska (Adelphi University)

#### **Councilors for 2024 - 2026**

Dr. Yosra Badiei (Saint Peter's University)

Dr. Maria Contel (Brooklyn College)

Dr. Hiroko Karan (Medgar Evers College – CUNY)

Dr. Aaron Moment (Columbia University)

Dr. Patricia Redden (St. Peter's University)

Dr. Ruben Savizky (The Cooper Union)

Dr. Frank Romano (Agilent Technologies)

Dr. Paris Svoronos

(Queensborough Community College)

# Alternate Councilor -to fill current vacancies

Dr. Qi Wang (Nassau Community College)

Download the Candidate Biographies here

#### **BOARD MEETING DATES FOR 2023**

The dates for the remaining Board Meetings of the ACS New York Section for 2023 are below. The meetings are open to all, but an RSVP for in-person attendance is required 5 days before the meeting. All members who would like to attend any of the meetings should inform the New York Section office by emailing Ms. Bernadette Taylor. Mary Virginia Orna, Ph.D. will Chair all meetings. The meetings will start at exactly 6:30 PM.

The remaining board meetings dates for 2023 are, as follows:

Monday, June 5, 2023 (hybrid) Monday, September 18, 2023 (hybrid) Monday, November 20, 2023 (hybrid)

Please note that there will also be an in person meeting of the Finance Committee on Wednesday, **November 15, 2023**.

More information will be posted in future monthly issues of *The Indicator* and on the New York ACS <u>website</u>.

Engineering Career Solutions is offering a virtual course on May 2-4, 2023 in Pilot Plant and Laboratory Safety: Basic Principles and Code Compliance. Topics include successful and efficient safety reviews, appropriate hazard analysis and risk assessment, efficient safety inspections, how to pick the best space for your operations, research standards and codes and how they affect your design and operations, NFPA 45 Fire Protection for Laboratories Using Chemicals training, overview of the National Electric Code and how it affects research activities and many other areas of interest to laboratories, pilot plants, and research operations. Group discounts are available.



Engineering Career Solutions

For more info, click here.





Join <u>Engineering Career Solutions</u> as an advertiser in <u>The Indicator</u> and reach over 6,200 American Chemical Society members in the New York metropolitan area. Support the STEM programs of the North Jersey and New York ACS while building brand awareness among a focused group of chemistry professionals.

Click here for our <u>rates</u> and fill out our online <u>order form</u>. Advertisements are due by the 16th of the month. For questions, please contact the <u>Advertising Manager</u>.

# **MEETING REPORTS**

#### 2023 WILLIAM H. NICHOLS DISTINGUISHED SYMPOSIUM & AWARD DINNER

Professor Karen I. Goldberg of the University of Pennsylvania was presented with the William H. Nichols Medal Award on April 14, 2023 following a distinguished symposium in her honor. Dr. Goldberg the earned Nichols gold Medal for her "pioneering work in organometallic reaction mechanisms." As illustrated in the panoramic photo below, over one hundred twenty-five chemists and guests attended the day's events. Dr. Ping Furlan, Chair-Elect of the New York Section for 2023, superbly organized and conducted the symposium while New York ACS Chair Dr. Mary Virginia Orna emceed the award banquet.

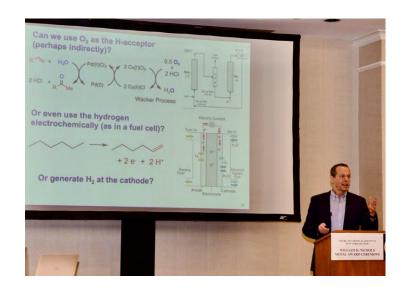




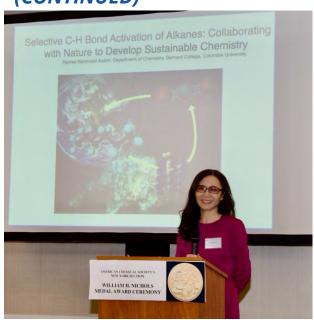
The William H. Nichols Distinguished Symposium, that preceded the award ceremony, was titled "Catalysis for a Sustainable Future." The attendees enjoyed absolutely stellar talks by the following internationally known speakers:

- Prof. Melanie Sanford
- Prof. William Jones
- Prof. Alan Goldman
- Prof. Rachel Narehood Austin

The symposium was capped off with the 2023 Nichols Medalist Address by Prof. Karen I. Goldberg.

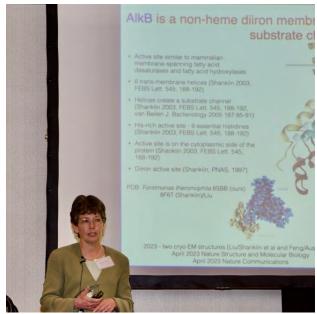


Prof. Alan Goldman (Rutgers University) discusses the use of molecular oxygen as a hydrogen atom acceptor.



New York ACS Chair-Elect Ping Furlan introducing Prof. Rachel Narehood Austin (Barnard College)

The 2023 William Н. **Nichols** Distinguished symposium was held in person for the first time since 2019. Attendees enjoyed the opportunity to catch up with each other at this festive event. It was also great to see each other outside the confines of the little black squares on Zoom. Shown at right are Elise Megehee, Alison Hyslop and Jill Rehmann, at the symposium's intermission.



Prof. Rachel Narehood Austin discussing her research on AlkB using structural biology and radical clocks.





New York ACS colleagues Peter Corfield and Ruben Savizky enjoying being in-person

Attendees from Cooper Union enjoying the symposium.

Prof. Karen I. Goldberg capped off the symposium with her Nichols Medal Award Lecture. Entitled "Molecular Oxygen as a Reagent in Late Transition Metal Organometallic Chemistry", she detailed her research Southern Illinois University, the University of Washington and the University of Pennsylvania organometallic reaction mechanisms working first with undergraduate student and later with graduate students and postdoctoral scholars. She discussed her work in the context of the global need for catalysis development in the conversion of methane methanol. She finished her award lecture with comments designing and overseeing construction inclusive of research laboratories at the University of Pennsylvania.



2023 Nichols Medalist Prof. Goldberg presenting her award address on mechanistic studies of organometallic reactions and the use of oxygen as a reagent.

# Supported in part by the William H. Nichols Fund For Chemistry at the Boston Foundation

The New York ACS is the entrusted custodian of William H. Nichols and wishes to expresses its eternal gratitude for the support of the Nichols family over the past 120 year. We were honored that members of the Nichols family were able to attend this year's celebration, pictured from right are Gardner Nash, Lyle Prockop, Whitney Nash, Molly Prockop, 2022 Medalist Alison Butler and 2023 Medalist Karen Goldberg.





Prof. Alan Goldman introducing Prof. Karen Goldberg at the Award Dinner.

At the Nichols Award dinner, Dr. Mary Virginia welcomed the guests, introduced the dignitaries seated on the dais, including 2022 Nichols Medalist Alison Butler, and related the History of the Nichols Medal. The New York ACS was very honored to have Dr. Judith Giordan, ACS President, (pictured at right) offer greetings and congratulations from the American Chemical Society. Prof. Alan Goldman, Rutgers – The State University of New York, introduced his long-time friend and colleague Prof. Karen Goldberg to the audience of 125 attendees. Dr. Mary Viginia Orna then presented Prof. Karen Goldberg with the gold medal, a bronze replica and an honorarium.



Prof. Karen Goldberg being presented with the 2023 William H. Nichols Medal by New York ACS Chair Mary Virginia Orna.





Dinner guests enjoying Prof. Goldberg's remarks upon receiving the 2023 William H. Nichols Medal.

In her Medal Acceptance Address, Prof. Karen Goldberg recounted the mentorship that she received in her own chemical journey and how it has inspired her to be a great mentor to her students and colleagues. She talked fondly about her undergraduate days at Barnard College with Profs. Bernice Segal, Sally Chapman and Les Lessinger – all friends of the New York ACS. She credits Prof. Bernice Segal with encouraging her to believe in herself and to learn to write well. She talked about her summer research project with Prof. Roald Hoffman at Cornell University which was just before he was awarded the Nobel Prize. She worked with Prof. Stephen Lippard at Columbia University on platinum dimers where she discovered that she had an unsolvable problem. When she discussed it with Prof. Lippard, he agreed, which bolstered her confidence to have her own research ideas. She earned her Ph.D. with Prof. Robert Bergman at the University of California - Berkeley working on mechanistic studies of radical chemistry. Lastly, she credits working as a postdoctoral scholar with Prof. Bruce Bursten, 2008 ACS President, with showing her the importance of teaching and service. Her list of mentors is a Who's Who.



2023 Nichols Medalist Karen I. Goldberg with students and faculty from St. John's University.

Prof. Goldberg encouraged the students in the audience with several pearls of wisdom. She encouraged them to do what they want to do, rather than following their advisors. She urged them to collaborate and to make their collaborators into friends. She told them to make friends and to keep them. She asked them to see out industrial chemists to learn what the real-world problems that needed solving were. She asked them to ask the right questions and to be a mensch. Following her address, Prof. Goldberg graciously took pictures with a number of students at the event.



2023 Nichols Medalist Karen I. Goldberg with students from The College of Mount Saint Vincent.



New York ACS Chair Mary Virginia Orna, Sandy Nichols Nash, 2023 Nichols Medalist Prof. Goldberg, Naomi Goldberg and 2023 Nichols Medalist Alison Butler enjoying the reception.

#### 2024 WILLIAM H. NICHOLS MEDAL – CALL FOR NOMINATIONS

The Nichols Medal Award was established in 1902 by Dr. William H. Nichols to honor a chemical scientist for outstanding original research and was first awarded in 1903. Dr. Nichols, an incorporator of the American Chemical Society and its president in 1918 and 1919, maintained a deep commitment to research and development and to the importance of supporting science education and students of chemistry. Since inception, its through endowment fund, the New York Section administers the award. It has been perpetuated by the generosity of Dr. Nichols, his family, the Nichols Foundation, Inc and the William H. Nichols Fund for Chemistry at the Boston Foundation. The William H. Nichols Medal is the first award in chemistry of the American Chemical Society.



Nominations for the 2024 Nichols Medal are due May 31, 2023

#### 2023 CHEMISTS CELEBRATE EARTH WEEK – NEW YORK ACS



On a sunny and brisk Saturday, April 16, 2023 the New York ACS celebrated its 10<sup>th</sup> Annual CCEW at New York's famous Jones Beach! The 2023 CCEW theme is, "The Curious Chemistry of Algae", and the newly renovated Energy and Nature Center was the perfect venue to gather everyone to celebrate nature and algae!



Dr. JaimeLee Rizzo welcoming the CCEW participants.



Jovan Tom presenting "The Great Atlantic Sargassum Belt".

The day's festivities included a welcome by the CCEW Coordinator, Dr. JaimeLee Rizzo, greetings by the NY ACS Chair, Dr. Mary Virginia Orna, an introduction of Jones Beach by the Education Team highlighting the important role algae has on our ecosystem, two presentations by Pace University's Science Clubs - "The Great Atlantic Sargassum Belt," and "What's in New York Harbor," a tour of the Nature Center, a self-guided hike through the beach and preserve area, as well as our "Ocean Blender Bar" (where fresh smoothies were prepared), a coffee/tea bar, snacks, and lunch. Food served also included algae-based and ocean delicacies such as sushi, salmon, furikake, wild tuna and salmon, and spirulina! The United States Merchant Marine Academy provided interactive, educational, and fun demonstrations for the participants throughout the day and everyone received gift bags that included personalized caps and a BPA-free water bottle along with beach-themed items. The day's festivities concluded with desserts, Hawaiian coffee, and a fun raffle!

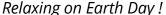
### 2023 CHEMISTS CELEBRATE EARTH WEEK - NEW YORK ACS (continued)

Over 100 participants from the following schools and institutions included: ACS Westchester, Adelphi University, Agilent Technologies, America Museum of Natural History, Borough of Manhattan Community College, Brooklyn College, BTHS, Commack High School, Covert Elementary, East Hills Elementary School, Entech, Floral Park High School, Fordham University, Greenwich Hospital, Half Hollow Hills, Hewlett-Woodmere, Kean University, Kellenberg Memorial High School, Mattituck High School, MDI Consultants, Northwell Medical, NYC Environmental Protection, NYPD, PACE University – NYC, PACE University – PLV, Queens College, Queensborough Community College, Roslyn Middle School, Safety Kleen, SCWA, Stony Brook University, Suffolk County Community College, and Wagging Tails of Westchester.



The US Merchant Marine Academy celebrating Earth Week 2023.







Assembling Gift bags for participants.

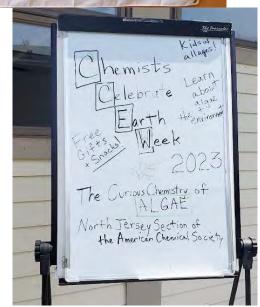
An educational and relaxing time was had by all with beautiful views and smells of the ocean with feet in the soft sand! Some stretched out on the beach and took in the warm and beautiful rays of the sun, while others collected pretty shells at the seashore ©

### 2023 CHEMISTS CELEBRATE EARTH WEEK - NORTH JERSEY ACS



Chemists Celebrate Earth Week festivities took place on Saturday, April 22nd, at the Meadowlands Environment Center's Science Building and grounds. Volunteers and visitors learned about the Curious Chemistry of Algae by demonstrations, hands-on activities, and an excellent interactive talk with Sue Lewicki, Educator at the Center. NJACS volunteers Mary Okorie, Bobbi Gorman, and Miriam Gulotta helped visitors learn about algae facts and how chemistry and the environment go hand in hand.

The kids and their parents stopping by had a lot of fun and we are looking forward to more events at the Meadowlands Environment Center!



Next year's CCEW topic is <u>Batteries: Get a Charge Out of Chemistry</u> and we hope you can join us for one of our events in 2024! Plans are underway for a teacher lunch and learn and more fun activities for kids and adults alike.

As with all our activities, if you'd like to pitch in as a volunteer, whether you have an hour or two or can devote more time, <u>contact us</u> to share what events you are interested in and we'll connect you to that event's leaders.



### **NEW JERSEY ACS MASS SPECTROMETRY DISCUSSION GROUP**

The NJ-Mass Spectrometry discussion group is back in-person and in Webinar format and going strong!!! The April 11, 2023 in-person meeting saw about 90 participants enjoying a free dinner, compliments of Bruker, and amazing presentations and discussion. Wendy Zhong, PhD, Sr. Principal Scientist, Analytical Research & Development, Merck Research Laboratories, Rahway, NJ, USA is shown below presenting "Label Free Molecular Imaging and Electron-based Dissociation via High Resolution Mass Spectrometry—Applications in Pharmaceutical Industry"



Ethan Yang, PhD, Applications Lead, Imaging/MRMS, Bruker Scientific LLC, Billerica, MA USA presented "Recent Advances in High Spatial Resolution MALDI Imaging for Metabolomics and Proteomics with the Bruker timsTOF fleX MALDI-2 Platform" as shown below.



The NJACS Mass spectrometry discussion group also hosted a webinar sponsored by Mobillon Inc., with the presentations by Ron Orlando, PhD, Complex Carbohydrate Research Center; Department of Biochemistry & Molecular Biology and Chemistry; University of Georgia entitled "HILIC/MS – It's not just for Glycans. Identification of Glycopeptides and Modified Peptides with the Combination of MS and HILIC Retention Modeling" and Heidi Vitrac, Sr. Market Development Scientist, MOBILion Systems who spoke on "Unraveling the Released N-Glycan Isomerome Complexity by Implementing High Resolution Ion Mobility (HRIM) in the HILIC-MS Workflow"

Be sure to check our May in-person meeting on page 6 of this issue of The Indicator. On May 16<sup>th</sup> AB Sciex is sponsoring our in-person meeting at Somerville Elks Lodge 1068 in Bridgewater, NJ 08807, please check the <u>website</u> for current meetings updates!

# NORTH JERSEY ACS CHEMISTRY OLYMPIAD





During the month of March, 191 North Jersey students completed the local section qualifying test seeking to advance to the national test of the ACS sponsored International

Chemistry Olympiad (IChO). Students competed through their schools or as independent students. The North Jersey program was organized by Dr. Jiwen Chen and the test was administered by ACS using its online platform.





### NORTH JERSEY ACS CHEMISTRY OLYMPIAD (CONTINUED)

The local section membership number allowed the section to invite 15 students to advance to the national level based on their qualifying score. The national test involves three parts including a laboratory component. Caldwell University chemistry department and Chem Club members hosted the national test students on Saturday, April 22, 2023 for the all-day event. Special thanks go to Dr. Xiaolei Gao and her team for the wonderful setup and accommodations. At the end of the day test booklets were sent to ACS in Washington, DC for scoring. Results will be announced by the end of May. The top 20 scoring students throughout the country will be invited to participate in a study camp during the first 2 weeks in June. From those students, 4 will participate be selected to in the International Chemistry Olympiad competition July 2023. 16-25. Switzerland. Congratulations to all the participating students and thank you to all the teachers who encouraged and registered their students to participate.





The deadline for submitting material for the June issue of The Indicator is May 16<sup>th</sup> http://www.theindicator.org/



#### CONGRATULATIONS TO ESSEX COUNTY COLLEGE CHEMICAL SOCIETY

Congratulations to the Essex County College Chemical Society - ECS - Undergraduate ACS Chapter. The ECS Chapter received two exceptional awards for their contributions to chemistry at large and to Green Chemistry in particular. The Chapter Executive Officers and members are proud of their accomplishments and continue to thrive to bring awareness of chemistry to the greater college community. Miss Calixte Abanda, The Chapter President, and Miss Rafiatou Bakienga the chapter treasurer were accompanied by the ECS chapter Advisor, Dr. Nidhal Marashi, to the Spring 2023 ACS Annual meeting in Indianapolis, IN to receive the chapter 's two outstanding Awards -The Commendable Award & the Green Chemistry Award. The North Jersey ACS Local Section thanks ECS contributing to the success of the section.







#### CONGRATULATIONS TO ACS STUDENT CHAPTERS

The New York ACS wishes to extend its most hearty congratulations to the following ACS Student Chapters. Their hard work and dedication is being recognized by the Society Committee on Education (SOCED). Their programs and events have resulted in their being awarded the following honors:

College of Mount St. Vincent (Commendable)
Hudson Valley Community College (Commendable)
Pace University, NYC (Commendable) and Green Chemistry Award (pictured above)
Manhattan College (Honorable Mention)

# **OPPORTUNITIES**

#### **GRANT OPPORTUNITIES**

# SENIOR CHEMISTS COMMITTEE DIVERSITY, EQUITY, INCLUSION AND RESPECT (DEIR) GRANT

Grants of \$500 are available for projects that advanced ACS's core values of diversity, equity, inclusions and respect which are led by senior chemists.

**DUE MAY 31, 2023** 

Learn more

#### **SENIOR CHEMISTS MINI-GRANT**

Local Sections may request \$500 to support an event or activity to increase the engagement of senior members.

**DUE MAY 31, 2023** 

Learn more

# LOCAL SECTION MEMBER ENGAGEMENT AND ENHANCEMENT(LS-MEET) GRANT

Local Sections may request up to \$2000 to strengthen and build community by better engaging their current membership, or by recruiting new members.

**DUE MAY 31, 2023** 

Learn more



# LOCAL SECTION YOUNGER CHEMISTS COMMITTEE LEADERSHIP WORKSHOP

Local Sections are invited to participate in a professional development workshop. Former ACS President Bill Carroll will guide participants in developing and implementing a strategic plan for the local section YCC.

> Date: MAY 10, 2023 Time: 7:00 PM via Zoom

> > RSVP here

#### TRAVEL AWARD

# CIBA/YOUNGER CHEMISTS COMMITTEE YOUNG SCIENTIST TRAVEL AWARD

Provides up to \$1000 in travel funds for postdoctoral scholar or early career professional to attend an ACS regional or national meeting.

**DUE May 19, 2023** 

Learn more

# WOMEN CHEMISTS COMMITTEE / ELI LILLY TRAVEL AWARD

Provides funds for undergraduate, graduate and postdoctoral female chemists to travel to the Fall ACS meeting to present their research results.

**DUE JUNE 1, 2023** 

Learn more

### **TEACHER GRANT**

# ACS HACH HIGH SCHOOL CHEMISTRY CLASSROOM GRANT

Provides up to \$1,500 for High School Chemistry teachers to support ideas that enhance classroom learning, foster student development, and reveal the wonders of chemistry. **DUE JUNE 1, 2023** 

Learn more



The SAS Regional Section Affairs committee is soliciting nominations for the <u>Poehlman Award</u> to be emailed to the SAS Office <u>exdir@s-a-s.org</u>. If no information is received and the section sent back the annual SAS questionnaire, they can still be considered for this award. The date for receipt of all materials is **May 1**<sup>st</sup>.

#### FOR UNDERGRADUATES

SCC Madam CJ Walker Scholarship

Due May 19

Student Chapter Awards

Due May 31

ACS Division of Inorganic Chemistry Undergraduate Award in Inorganic Chemistry

Nomination by June 30

ACS Graduate Student and Postdoctoral Scholars recognition Program

Nominate by June 30

#### FOR GRADUATE STUDENTS & POSTDOCS

**ACS Bridge Conference** 

Due May 31

Dr. Mow Shiah Lin Scholarship

Due June 7

ACS Graduate Student and Postdoctoral Scholars recognition Program

Nominate by June 30

### **FOR PROFESSIONALS**

Poehlman Award – Society of Applied Spectroscopy

Due May 1

Edward Leete Award – ACS Division of Organic Chemistry

Due May 5

William H. Nichols Medal

Nominate by May 31

Dr. Mow Shiah Lin Scholarship

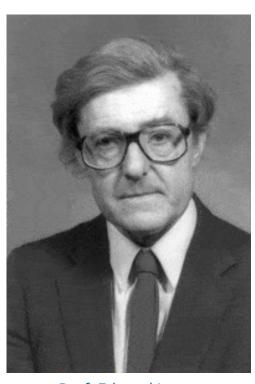
Due June 7

ACS Graduate Student and Postdoctoral Scholars recognition Program

Nominate by June 30







Prof. Edward Leete

#### FOR UNDERGRADUATES

The **FREE** Eastern Analytical Symposium Virtual Student Symposium (VSS) is back and will be held **May 8, 2023** from **10:00AM – 5:00PM (ET).** Undergraduate students and graduate students are invited to submit an abstract and present your work at this virtual event . Posters and slides, accompanied by oral presentations, are accepted. Abstract submission is now open!

Apply by May 1



#### SCIX2023 - CALL FOR ABSTRACTS

Abstract submission for SciX2023 is now open! The deadline to submit abstracts for oral presentations is **May 19**<sup>th</sup>, **2023**. The deadline for posters only is **August 1**<sup>st</sup>, **2023**.

Submit your Abstract here



#### SOCIETY OF APPLIED SPECTROSCOPY SYMPOSIUM



The New York Capital Region section of the Society of Applied Spectroscopy (NYCR SAS) invites you to attend and present your research at The Second Annual New York Capital Region Applied Spectroscopy Symposium, on Friday, **June 23rd, 2023**, in-person at the Holiday Inn Express and Suites Conference Center at 16 Wolf Rd. Albany,NY.

This Second Annual Symposium will cover a wide range of topics in spectroscopy including forensic sciences, medical diagnostics, biological studies, environmental analysis, and novel applications. We encourage all levels of scientists to present their research at this symposium. Academics, post-docs, students, and those in the industry are welcome to submit their abstracts. This symposium is a great introduction to presenting at larger regional and national conferences.

#### The abstract submission deadline is May 21st.

To submit your abstract and learn more information about the Symposium, visit this link

Register here

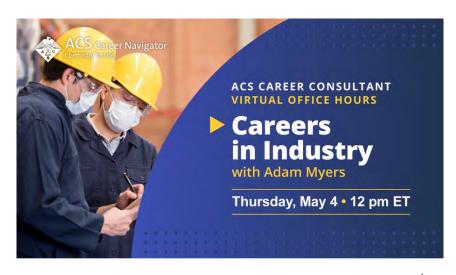
### **JOB BOARD**

Starting your career or looking for the next challenge? Review these and other postings at the New York ACS <u>Job Board</u>. Email your job postings to <u>Jobs@NewYorkACS.org</u> for inclusion.

### **Environmental Health and Safety Officer - Hofstra University**

Assistant Professor (Tenure Track) – Seton Hall	Apply here
Scientist I, Quality Control – Amneal	Apply here
Scientist i, Quanty Control - Allinear	
QC Chemist - American Regent	Apply here
Analytical Lab Chemist – Howmet Aerospace	Apply here
Chemist II – Perrigo	Apply here
Associate Principal Scientist, International Ingredients Innovation – L'Oreal	Apply here
Principal Scientist, Analytical Chemist- Pall Corporation	Apply here
Senior Surfactants Scientist – Nouyon	Apply here
Senior Scientist, Analytical Chemistry – Regeneron	Apply here
DMPK Preclinical Modeler, Senior/Principal Scientist – Schrödinger Research	Apply here
Scientist - Renal Research Institute	Apply here
	Apply here

# ACS VIRTUAL OFFICE HOURS - 1ST THURSDAY OF EACH MONTH AT NOON ET



Next month: Entrepreneurship, June 1st