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Earth Week Celebrations

Sees pages 18 and 19



ACS Local Section
North Jersey



ACS Local Section
New York

APRIL 2023

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THIS MONTH IN CHEMICAL HISTORY

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

What were the hot topics in organic chemistry 90 years ago as seen through the "Annual Reports of the Progress of Chemistry" published in London by The Chemical Society? (The report for 1933 is Volume XXX, the series having started in 1903.)

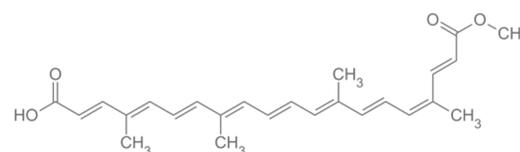
The subject is so large that it is subdivided into aliphatic, homocyclic, and heterocyclic sections. The polymerization of acetylene yields vinyl and divinylacetylene. Reaction between sodium or sodamide and vinylacetylene gives the sodium derivative of the latter as a reactive solid that can be used to introduce the vinylacetylenic group into other organic compounds. Halogen substituted alkynes have been investigated. Sodium acetylide prepared in liquid ammonia reacts with iodine to give a quantitative yield of di-iodoacetylene. Chloro- and bromo-vinylacetylenes, $\text{CH}_2\text{:CHCCX}$ are prepared as distillable liquids by direct reaction of the halogen with bis-(vinylethynyl)mercury.

Catalytic hydrogenation, a relatively new technique, has been refined with respect to its specificity, selectivity, and reaction conditions. Cleavage of many oxygenated compounds by hydrogenolysis has been observed when a copper-chromium oxide catalyst is used at fairly high temperatures ($120^\circ - 250^\circ \text{C}$) and high pressures of hydrogen (140 – 210 atm.).

Oximes and some nitriles can be reduced to amines by hydrogenation in presence of a palladium catalyst. Reaction rate studies of substituted alkenes with hydrogen in presence of a nickel catalyst show the order mono-substituted > disubstituted > trisubstituted > tetrasubstituted.

Karrer, Kuhn, and their collaborators have published much further work on the polyene pigments known collectively as carotenoids that are found in many plant and animal sources. In most of these materials there is a conjugated C_{20} fragment that is made up of two isoprene dimers linked by a double bond. Recall – this is 1933. No infrared; no magnetic resonance; no crystal structures of these materials. The elucidation of structure proceeded by ultraviolet-visible spectral measurements; and C,H and molar mass determinations of starting materials, degradation products, and derivatives. The work and the insights of 19th and early 20th century natural products chemists are a continual source of wonder to me. My own doctoral and post-doctoral work were on small molecules, and I didn't get my hands on an nmr instrument until my second faculty appointment. That was in 1962 at Cal. State, Los Angeles; it was a Varian A60 – hydrogen spectra only and initially only at room temperature. The variable temperature probe came a couple of years later.

In similar vein Kuhn has derived a formula for bixin, the pigment of the food colorant annatto, and crocetin, the saffron pigment. Karrer has explored the xanthophylls, colorants in plants – and egg yolks. Plant pigment research flourished in this period with structure proposals for azafrin from azafran root – a Mexican plant with a yellow root sometimes used as a saffron substitute; for flavoxanthin, from ranunculus plants; and for rhodoxanthin, a blue-black pigment from yew fruits.



Bixin

Turning to simpler systems new studies have clarified structures of peroxide oxidation products of carbonyl compounds. Acetaldehyde reacting with hydrogen peroxide produces a polymeric peroxide ($-\text{CH}_2\text{CHOO}-$)_n and similar polymers are formed from a variety of aldehydes and ketones. Reaction between acetaldehyde and oxygen gives per-acetic acid. The work of Szent-Györgi has produced a definitive structure for ascorbic acid, now known familiarly as Vitamin C. While the efficacy of citrus fruits in preventing scurvy had been known since the 18th. century the effective agent had not been isolated until the 20th. century. And now (in 1933) its structure has finally been established.

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

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EDITORIAL DEADLINES

May 2023	April 16, 2023
June 2023	May 16, 2023
September 2023	August 16, 2023
October 2023	September 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.

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Address advertising correspondence to [Advertising Manager](#). Other correspondence to the [Editor](#).

April Calendar

NEW YORK SECTION

Friday, April 14, 2023

William H. Nichols Distinguished Symposium
and Award Dinner
See page 10

Sunday, April 16, 2023

Chemists Celebrate Earth Week
See page 18

Thursday, April 27, 2023

Westchester Chemical Society Distinguished
Scientist and Student Achievement Awards
See page 8

Friday, April 28, 2023

Hudson-Bergen Subsection
24th Annual Student Research Symposium
See page 7

Saturday, May 6, 2023

Undergraduate Research Symposium
See page 6

Friday, May 19, 2023

ACS National Historic Chemical Landmark
Dedication Ceremony
See page 13

NORTH JERSEY SECTION

Tuesday, April 11, 2023

NJACS Mass Spectrometry Discussion Group
See page 21

Monday, April 17, 2023

North Jersey Executive Committee Meeting
See page 20

Thursday, April 20, 2023

NJACS NMR Spectroscopy Topical Group
See page 20

Saturday, April 22, 2023

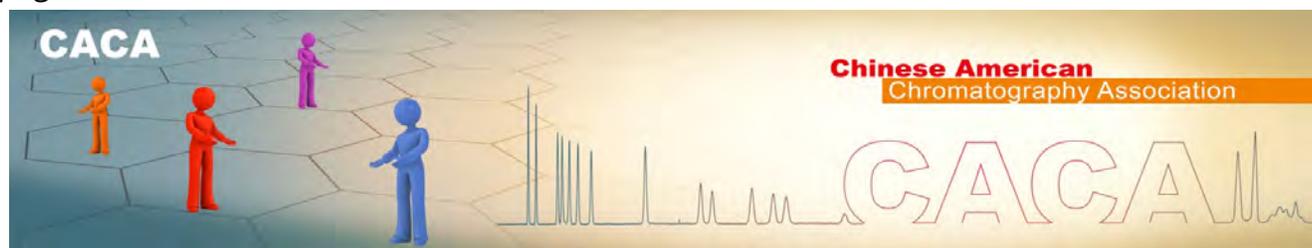
Chemists Celebrate Earth Week
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Friday, May 12, 2023

New Jersey Chemistry Olympics
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Monday, May 22, 2023

2023 Awards and Recognition Dinner
See page 27



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NEW YORK SECTION MEETINGS

<http://www.newyorkacs.online>

BOARD MEETING DATES FOR 2023

The dates for the 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](mailto:Ms.Bernadette.Taylor). Mary Virginia Orna, Ph.D. will Chair all meetings. The meetings will start at exactly 6:30 PM.

The board meetings dates for 2023 are, as follows:

Friday, April 14, 2023 (in person)

William H. Nichols Symposium and Medal Award Dinner at the Sonesta Hotel, White Plains, NY.

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 [website](http://www.newyorkacs.online).

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



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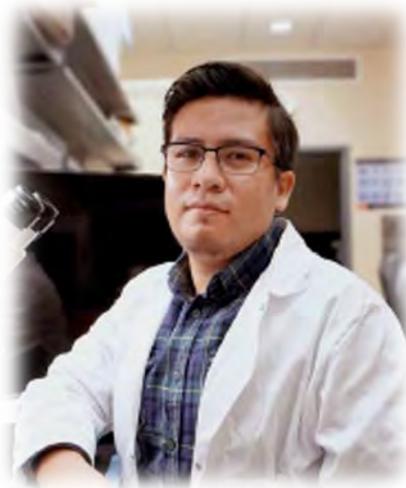
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2023 UNDERGRADUATE RESEARCH SYMPOSIUM

The Student Activities Committee of the New York Section of the American Chemical Society would like to invite you to attend the **70th Annual Undergraduate Research Symposium** to be held at LaGuardia Community College, CUNY ([directions](#)) on **Saturday, May 6, 2023**. This hallmark year also marks our return to an in-person symposium. The symposium provides an excellent opportunity for undergraduate chemistry students in the New York Metropolitan Area to present the results of their research. This year's in-person symposium features the following two Keynote lectures:

***Early Development of Macrocyclic Peptides as Therapeutic Lead Compounds***

Christopher John Hipolito, Ph.D.
Associate Principal Scientist
Merck & Co.

***A Recipe for Eggs and Sperm: Is Blimp1 a Conserved Ingredient?***

Gerardo Reyes Chavez
Ph.D. Student
Brown University

Presenters are asked to register as 'Student'. Students that wish to attend the event but are not presenting may register as 'Guests'.

Abstract submission deadline: April 1, 2023
Registration Deadline: April 15, 2023



**The Indicator is posted
to the web 1ST of the
month at**

<http://www.theindicator.org/>

HUDSON-BERGEN SUBSECTION**24TH ANNUAL STUDENT RESEARCH SYMPOSIUM - CALL FOR ABSTRACTS**

This is a virtual forum for students and their faculty mentors from colleges and universities that participate in the subsection's activities to present the results of their research. Outstanding graduating students are also being recognized (they receive the Hudson-Bergen Chemical Society Award consisting of a certificate and a gift certificate). All the presenters will receive certificates of participation. Students who wish to make virtual presentations must send an abstract via e-mail to mleonida@fdu.edu, by **April 14, 2023**. The abstract should be in MS Word (font Times New Roman 12) and must include the names and addresses of the student(s) and their faculty adviser(s) in addition to the title of the abstract. The abstract should not exceed 200 words. The name of the student presenting the poster should be underlined. **There is no registration fee.**

This year's symposium will feature the lecture:

Color Science – Optics in Cosmetic Applications

presented by

Mr. Giorgino D. Macalino

Estée Lauder Companies

Date: **Friday, April 28, 2023**
via [Zoom](#)

RSVP: **By April 14, 2023 via** email to
[Dr. Mihaela Leonida](#) or
[Mr. Thomas Drwiega](#)

Times: 3:00 PM – Student Presentations
5:00 PM – Awards
5:15 PM – Speaker Lecture



[Download flyer](#)

Abstract: Colors in makeup application tend to be superficial characteristics that are often viewed with a subjective observation. As a color cosmetic chemist or formulator continues to acquire skills in developing various cosmetic products, fundamental knowledge on color science and optics becomes essential in order to produce a variety of colors, color combinations, and optical effects that are desirable for today's makeup consumers. Fundamental theories of color science will be discussed together with classification of colorants and their interaction with a variety of substrates and solvents. Thermal and photo stability as it relates to the shelf lives of cosmetic products will be presented to gain understanding of the longevity of colorants in finished product forms. In addition to basic color science applications, optics will also be introduced and its use in producing a variety of visual effects from single, interference and multi-variable color shifting effects. It will reveal the importance of light, inorganic coatings, and the electromagnetic spectrum to produce spectacular color effects that WOW makeup users.

WESTCHESTER CHEMICAL SOCIETY**DISTINGUISHED SCIENTISTS AWARD AND STUDENT ACHIEVEMENT AWARDS****Engineered Peptide-Based Biomaterials for Developing Cell-Scaffold Matrices and Tumor Targeted Drug Delivery**

Speaker: **2023 Westchester Chemical Society Distinguished Scientist Awardee Prof. Ipsita A. Banerjee, Ph.D.**
Chair, Chemistry Department
Fordham University

Date: **Thursday, April 27, 2023**
Program: 5:15 PM Registration & Social Hour
6:00 PM Distinguished Scientist Award & Lecture
7:00 PM Student Awards
7:15 PM Dinner

Place: In-person:
Wilcox Multipurpose Room
Pace University
Wilcox Hall
861 Bedford Road
Pleasantville, NY

Hybrid option via Zoom (Contact [Peter Corfield](#) for details)

Cost: \$30 / \$20 Students
RSVP to [Peter Corfield](#) by Monday, April 24, 2023



[Download Flyer](#)

Abstract: Supramolecular biomimetic nano and microscale assemblies have been gaining attention due to their implications in the development of nanomedicine, sensors, optoelectronics and catalysis. Because of their facile self-assembly and molecular recognition properties, peptide based nanoassemblies can be modified to prepare biomaterials with applications in biomedical research. Our research is focused on the development of novel peptide-based biomaterials with nano or microscale spatial arrangements that can mimic the components of the extracellular matrix and allow for cellular adhesion and recognition. Specifically, we utilize a combination of biocomputational and experimental approaches to develop new biomaterials for tissue engineering and tumor cell targeted drug delivery. Recent approaches to receptor targeted drug delivery will be discussed. Additionally, the development of 3D bioprinted scaffolds created by us for tissue regeneration will also be discussed. Furthermore, we have also developed several phytochemical conjugated nanoconjugates to target breast and glioma cancer cells and have examined the mechanisms of targeting. A brief overview of recent results obtained in these areas will be presented.

WESTCHESTER CHEMICAL SOCIETY (continued)

Biography: Dr. Ipsita A. Banerjee has been a faculty member in the Chemistry Department at Fordham University, Bronx, NY since fall 2004 and has been chair of the department since 2018. She received her Ph.D. from the University of Connecticut and held post-doctoral positions at the University of Notre Dame and at the City University of New York. At Fordham, she has set up her Biochemistry, Bionanotechnology and Biocomputational research lab and has mentored over 80 undergraduate research students from various STEM majors. She has published over 100 peer-reviewed journal articles and has either co-edited or written five book chapters, and has participated in over 230 conference presentations (National/ Regional/ International). Her research lab has mainly focused on the development of a broad range of molecularly designed supramolecular soft materials that can function as bioactive scaffolds. She is a recipient of Outstanding Research Mentorship award from the National Council of Undergraduate Research, Outstanding four-year Undergraduate College and University Chemistry teaching award from the New York section of the American Chemical Society as well as featured in an interview by the journal Nanotechnology in a “one-year on story”. She is also a recipient of the Faculty Undergraduate Research Mentor award in the Sciences from Fordham University. Dr. Banerjee is also PI on two NSF-MRI funded grants. Her students have also received several awards at various conferences for their research presentations.

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NY SOCIETY OF COSMETIC CHEMISTS: CALLING ALL UNDERGRADUATES

The New York Society of Cosmetic Chemists invites undergraduates to early career professionals to their Future Chemist Workshop at the Javits Convention Center on **May 2, 2023**. Gain hands-on experience in formulation. Email [John Carola](mailto:John.Carola@nyccsociety.com) to register and for more information about this event.

WILLIAM H. NICHOLS DISTINGUISHED SYMPOSIUM & AWARD BANQUET**Catalysis for a Sustainable Future**

A distinguished symposium honoring

Professor Karen Goldberg

University of Pennsylvania
*for pioneering work in
organometallic reaction mechanisms*

Date: Friday, April 14, 2023
Sonesta Hotel, White Plains, NY
[Hotel website](#)

Time: 1:00 PM – 9:00 PM

[Register here](#)

Symposium Program**1:00 PM Welcome**

Professor Mary Virginia Orna, 2023 New York ACS Chair

1:05 PM Opening of the Distinguished Symposium

Professor Ping Furlan, 2023 New York ACS Chair-Elect, US Merchant Marine Academy

1:15 PM Organometallic Chemistry of High Valent Late Transition Metals

Professor Melanie Sanford, Department of Chemistry, University of Michigan

This presentation will describe my group's studies of the design, synthesis, and reactivity of high valent complexes of Pd, Ni, Cu, and Co. As discussed throughout the talk, our efforts in this area were inspired by Professor Goldberg's seminal work in the area of high valent platinum chemistry.

2:00 PM Development of New First-Row Metal FOX Complexes for Alcohol Dehydration

Professor William Jones, Department of Chemistry, University of Rochester

We have prepared a new route to a series of fused bis-oxazolidene (FOX) bicycles with either chiral *rac*- or achiral *meso*- stereochemistries, and attached these to first row transition metals (Mn, Fe, Co, Ni, Cu). The coordination geometries observed vary from K₂-NN to K₃-NNN to K₃-ONN to K₄-NNNO coordination. In addition, an iron FOX complex has been found to be active for alcohol dehydration. We will describe in detail the dehydration of 1-phenylethanol to give styrene. Off-cycle α -methylbenzyl ethers are also formed reversibly, and their role in the catalysis will be elucidated. Deuterium labelling studies give additional insights into the mechanism of this reaction. Extensions to other alcohols will also be discussed.

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

WILLIAM H. NICHOLS DISTINGUISHED SYMPOSIUM & AWARD PRESENTATION**2:45 PM Catalytic Dehydrogenation of Alkanes by Transition Metal Complexes**

*Professor Alan Goldman, Department of Chemistry,
Rutgers – The State University of New Jersey*

The dehydrogenation of alkanes and alkyl groups to give olefins is a reaction of tremendous potential value. Low-oxidation-state organometallic complexes were demonstrated to be effective for this reaction 40 years ago by Crabtree, and great progress has been made since then. We have found that “PCP”-pincer-ligated iridium complexes are particularly effective for alkane dehydrogenation, with the use of olefinic acceptors or by purging H₂ from solution, and we have incorporated these reactions into tandem systems for several dehydrogenation-based catalytic transformations. More recently we have turned our attention to systems that operate based on fundamentally different principles, such as Phebox-ligated catalysts. The iridium Phebox unit is formally isoelectronic to (PCP)Ir, but whereas (PCP)Ir operates via C-H activation by Ir(I), (Phebox)Ir effects dehydrogenation via Ir(III) (as an acetate complex) and possibly Ir(V) intermediates. Such a high-oxidation-state catalytic cycle offers advantages for many potential applications of dehydrogenation. For example, we are interested in dehydrogenation achieved by proton-coupled electron transfer (PCET), which could ultimately be driven electrochemically or with O₂ as the ultimate hydrogen acceptor. We have found that (PCP)Ir can operate via PCET but turnovers are limited by over-oxidation. High-oxidation-state catalysts could allow us to circumvent this problem and may generally be more favorable for PCET-based dehydrogenation.

3:30 PM Coffee Break**4:00 PM Selective C-H Bond Activation of Alkanes: Collaborating with Nature to Develop Sustainable Chemistry**

Professor Rachel Narehood Austin, Department of Chemistry, Barnard College

The transformation of alkanes into terminal alcohols using molecular oxygen as the sole oxidant with a catalyst that utilizes earth abundant metal ions exemplifies the kind of chemistry required for a sustainable future. Our lab is focused on determining the structure of alkane monooxygenase (AlkB), the metalloenzyme that catalyzes the selective oxidation of most liquid alkanes in the environment and understanding how its structure facilitates its function. In this talk, we will share our knowledge of how AlkB works and what lessons it offers us as we develop chemistry for a sustainable future.

4:45 PM Molecular Oxygen as a Reagent in Late Transition Metal Organometallic Chemistry

*Professor Karen Goldberg, Nichols Medalist,
Vagelos Institute for Energy Science and Technology, University of Pennsylvania*

From environmental and economic standpoints, molecular oxygen represents the ideal oxidant for chemical transformations. It is readily available, inexpensive (particularly if used without separation from air) and environmentally benign. However, more expensive and/or hazardous oxidants are often employed in homogeneous metal-catalyzed oxidation reactions. In fact, typically organometallic chemists don't even let their compounds “see” molecular oxygen, using special equipment and procedures to rigorously protect their compounds from the air. Unfortunately, this deliberate exclusion of air has resulted in a lack of understanding of exactly how transition metal complexes react with molecular oxygen, which in turn has inhibited efforts to design catalysts for selective aerobic oxidations. Kinetic and mechanistic studies of the reactions of oxygen with various late metal alkyl and hydride complexes will be presented along with our nascent mechanistic understanding of these reactions. The generality of these aerobic oxidation reactions and their potential for incorporation into hydrocarbon functionalization strategies will also be discussed.

WILLIAM H. NICHOLS DISTINGUISHED SYMPOSIUM & AWARD PRESENTATION**MEDAL AWARD BANQUET**

5:45 p.m. Social Hour

6:45 p.m. Medal Award Dinner

Presiding: **Dr. Mary Virginia Orna**
2023 Chair, ACS New York Section

ACS Greetings: **Dr. Judith C. Giordan**
2023 President, American Chemical Society

In-Person Recognition of the 2022 Medalist

Introductory Address: **Dr. Alan Goldman**
Rutgers – The State University of New Jersey

Medal Presentation: **Dr. Mary Virginia Orna**

Acceptance Address: **Dr. Karen Goldberg**
Nichols Medalist

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BANQUET RESERVATIONS DEADLINE – APRIL 5, 2023

DR. MARIE MAYNARD DALY US NATIONAL HISTORIC LANDMARK DEDICATION

Where: Columbia University
Havemeyer Hall
3900 Broadway
New York, NY 10016

Date: **Friday, May 19, 2023**

Time: 10:00 AM – 2:00 PM



Celebrating the life and legacy of

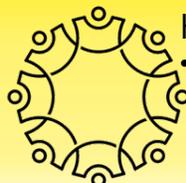
Dr. Marie Maynard Daly

*First African American Female
Ph.D. in Chemistry*



National Historic Landmark Dedication

- Symposium honoring Dr. Daly's legacy with a National Historic Chemical Landmark dedicated in Dr. Daly's honor at her alma mater, Columbia University



High School Outreach Program

- Visits to New York High School chemistry classrooms to inspire the next generation of STEM professionals from diverse backgrounds

US National Historic Landmark Dedication Ceremony

All are welcome to attend the dedication of the US National Historic Chemical Landmark honoring Dr. Marie Maynard Daly, the first African American woman to earn a Ph.D. in Chemistry. The dedication will be preceded by 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. Mandè Holford (Hunter College – CUNY)
- Dr. Sibrina Nichelle Collins
(Lawrence Technological University)
- Dr. Marc Walters (New York University)

The symposium will be followed with the screening of a short film about Dr. Daly's life and impact and the dedication of the US National Historic Landmark in her honor.

[Register here](#)

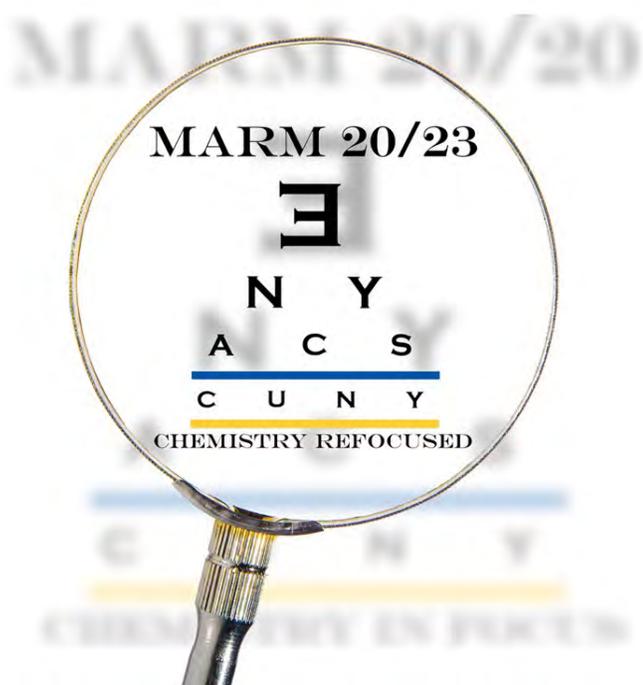
Help Us Inspire the Next Generation of STEM Professionals

The New York Section is celebrating Dr. Marie Maynard Daly throughout 2023. This includes the a symposium and National Historic Chemical Landmark dedication in her honor at Columbia University, school visits to discuss her life and promote diversity in STEM education, teacher outreach at MARM 2023 and a public exhibit at the New York Hall of Science. We need your help to honor her.

Click here to [volunteer](#)

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Click here to [donate via check](#)

MIDDLE ATLANTIC REGIONAL MEETING MARM 2023

**ST. JOHN'S
UNIVERSITY**



ACS Local Section
New York

All are invited to attend the 2023 Middle Atlantic Regional Meeting of the ACS (MARM2023) on **June 9-10, 2023** which is being hosted by the New York ACS. 'Chemistry Refocused' is the theme of the meeting which features technical talks and poster sessions at the City University of New York Graduate Center on June 9th and educational programming at St. John's University the following day. The program offers 225 talks/posters in sessions focused on the Chemistry of Life Sciences, Materials Chemistry, Cosmetic Chemistry, and Flavor & Fragrance Chemistry. There will be a session featuring Younger Chemists and luncheon honoring our 50-, 60- and 70-year members. MARM2023 also includes an equipment exposition, a graduate school fair, a workshop on promotion to full professor, a resume review workshop, a social media social, an ACS Governance social, and an awards dinner.

Where:	CUNY Graduate Center	&	St. John's University
Date:	Friday, June 9, 2023	&	Friday, June 9, 2023
Time:	9:00AM – 9:00PM	&	10:00 AM – 2:00 PM

[Register here](#)



Join Us at MARM 2023 EXPO

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The Graduate Center of the City University of New York | June 9, 2023

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	<p>AstaTech delivers an extensive portfolio of catalog products, cost-effective drug discovery and development, and manufacturing solutions to meet your needs.</p>
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	<p>The Ph.D. Program in Chemistry at the Graduate Center is a collaboration of over 120 faculty at seven CUNY colleges and the CUNY Advanced Science Research Center creating new knowledge at the forefront of the chemical enterprise centered in the world's most dynamic city. As the central science, chemistry is at the nexus of important societal challenges. Our faculty and students see these challenges as opportunities to creatively harness the transformational power of chemistry to affect solutions.</p>
	<p>Our Scientist to Engineer (S2E) Program is an intensive, accelerated program designed especially for new M.S. students without a B.S. in Chemical Engineering. This program covers the essentials of the entire undergraduate curriculum, followed by a standard M.S. program. Typically, this can all be accomplished in three semesters.</p>
	<p>Elsevier is a global leader in information and analytics that helps researchers and healthcare professionals advance science and improve health outcomes for the benefit of society. Elsevier is part of RELX, a global provider of information-based analytics and decision tools for professional and business customers.</p>
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	<p>Nanalysis Corp. is a world-leading developer and manufacturer of Magnetic Resonance (MR) NMR instrumentation. Our revolutionary benchtop NMR spectrometers, the100 MHz, and 60 MHz, increase access to this powerful characterization technique - offering accessible, affordable and automatable solutions in teaching labs, start-up/small-medium size, chemical research, industrial QA/QC, and online reaction monitoring.</p>
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	<p>St. John's University welcomes students to learn more about how to apply for our Masters in Science (M.S.) program in chemistry and discuss how our program can help the student meet their career goals.</p>
	<p>Shimadzu offers a wide-ranging portfolio of analytical and testing instrumentation for a broad range of applications. Products include chromatographs (UHPLC, SFC, GC); mass spectrometers (GC-MS/MS, LC-MS/MS, MALDI-TOF); spectrophotometers (FT-IR, Fluorescence, UV-VIS-NIR); atomic spectrometers (AA, ICP-MS); X-ray spectrometers; thermal analyzers; TOC analyzers; informatics systems; particle size analyzers; and materials testers.</p>



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<p>Gold Sponsor</p>	

ACS MARM 2023 Sponsorship Options* and Benefits

(Please pay by *May 1, 2023* to ensure full benefits)

Sponsorship Level	Fee	Exhibit Table	Signage/Event Placard	Meeting Program/June Issue Indicator	Website Logo/Link	Registration
Platinum	\$2500	Yes	Yes	Full Page	Yes	2
Gold	\$1000	No	Yes	Full Page	Yes	2
Silver	\$500	No	Yes	½ Page	Yes	1
Bronze	\$300	No	Yes	¼ Page	Yes	1

*You may choose to sponsor a technical session, poster session, workshop, luncheon, coffee break, raffle, or general purpose. Please visit [MARM 2023 website](#) for the sponsorship application form and email MARM 2023 Exhibition/Sponsorship Committee Chair, Dr. Ping Furlan, at furlanp@usmma.edu for questions. Please note, the Platinum Sponsorship option is no longer available.

NEW YORK ACS 2023 ELECTIONS

The Board of Directors would like to extend our 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 R. Gibney (Brooklyn College)

Director-at-Large for 2024

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Dr. Ipsita Banerjee (Fordham University)
Dr. Ron D'Amelia (Hofstra University)
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Dr. Mihaela Leonida (Fairleigh Dickinson University)
Dr. Joseph Ulichny (Columbia University)
Dr. Justyna Widera-Kalinowska
(Adelphi University)

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Dr. Maria Contel (Brooklyn College)
Dr. Hiroko Karan (Medgar Evers College – CUNY)
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Dr. Patricia Redden (Fordham University)
Dr. Ruben Savizky (The Cooper Union)
Dr. Frank Romano (Agilent Technologies)
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(Queensborough Community College)

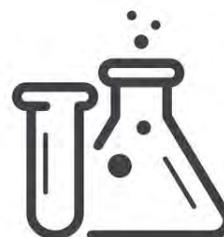
Alternate Councilor -to fill current vacancies

Dr. Qi Wang (Nassau Community College)



VOTING

Ballots, electronic or paper, will be sent to the membership by May 1, 2023. Any member that does not receive voting materials by May 1, please contact the Section Office.



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!

CHEMISTS CELEBRATE EARTH WEEK 2023 – NEW YORK ACS

Join the New York ACS at New York's famous Jones Beach as we celebrate Earth Week at the newly renovated [Energy and Nature Center](#)! What a perfect place to celebrate this year's theme of 'The Curious Chemistry of Amazing Algae'. [Registration](#) is FREE, but space is limited so everyone must register (including children). For more information contact: [Prof. JaimeLee Rizzo](#), NYACS CCEW Coordinator.

Date: **Sunday, April 16, 2023**
[Register here for FREE](#)
 Register by April 8, 2023

Time: 11:00 AM – 3:00 PM



Hope to "sea" you there!

[Download Flyer](#)

CHEMISTS CELEBRATE EARTH WEEK 2023 – NORTH JERSEY ACS



JOIN NJACS AT OUR CHEMISTS CELEBRATE EARTH WEEK EVENT ON APRIL 22nd!

North Jersey ACS is sponsoring an in-person fun- and fact-filled event at the Meadowlands Environment Center from 12pm – 4pm

VISIT

Who: Kids of all ages, K – 8 students and their adults are especially welcome!

What: An in-person event at Meadowlands Environment Center celebrating Earth Week

How: There will be hands-on activities and demonstrations by environment center staff, NJACS volunteers, and older students.

And...there will be free gifts available for the kids (and maybe some adults 😊)

VOLUNTEER

Who: High school and college students (science clubs, etc.) and their advisors (at least one adult per presenting group please)

What: Provide a hands-on activity and/or interactive demonstrations at the CCEW in-person event targeting younger kids

How: Sign up to volunteer then learn about our theme, The Curious Chemistry of Amazing Algae, at the ACS CCEW website to prepare for event day!

WHERE AND WHEN:

Saturday, April 22, 2023, from 12pm – 4pm

at

The Meadowlands Environment Center

2 DeKorte Park Plaza, Lyndhurst, NJ

[click here for directions](#)

CHEMISTS CELEBRATE EARTH WEEK 2023 – NORTH JERSEY ACS**2023 CCEW Illustrated Poem Contest*****The Curious Chemistry of AMAZING ALGAE***

The North Jersey Local Section of the American Chemical Society (NJACS) is sponsoring an illustrated poem contest for students in kindergarten through 12th grade. **EACH SCHOOL MAY SEND NJACS ITS TOP 3 WINNERS ONLY IN EACH GRADE CATEGORY:**

K-2 3-5 6-8 9-12

Contest Deadline: *Electronic entries only and must be received by April 30th by 11:59 pm*

Prizes: *Grade Category Winners: Amazon Gift Cards - 1st Place \$50, 2nd Place \$25, 3rd Place \$10 (Category Winner Teachers will also receive a corresponding monetary prize.)*

Contact and Submissions: *Dr. Kathleen Gilbert (kgilbert@njacs.org)*

First Place Winners of the North Jersey Local Section's Illustrated Poem Contest will advance to the 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 Curious Chemistry of AMAZING ALGAE"**. 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 the theme include:

- Seaweed
- Photosynthesis
- Bioluminescent Algae
- Algae as Food and Habitat for Animals
- Consumer Products from Algae
- Biofuels from Algae
- Micro-and Macro-Algae
- Oxygen from Algae

**Entries will be judged based upon:**

- *Artistic Merit* - use of color, quality of drawing, design, and layout
- *Poem Message* - fun, motivational, inspiring about yearly theme
- *Originality, Creativity* - unique, clever and/or creative design
- *Neatness* - free of spelling and grammatical errors

(Visit <https://www.acs.org/content/acs/en/education/outreach/ccew/educational-resources.html> for resources and ideas)

Contest rules:

- **Do not put your name on your illustrated poem.**
- All poems must be no more than 40 words, and in one of the following styles to be considered: Haiku, Limerick, Ode, ABC poem, Free verse, End rhyme, and Blank verse.
- Entries are judged based upon relevance to and incorporation of the NCW theme, word choice and imagery, colorful artwork, adherence to poem style, originality and creativity, and overall presentation.
- All entries must be original works without aid from others. Poems may be hand drawn on an unlined sheet of paper not larger than 11" by 14", 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 typed 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.
- 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.

NORTH JERSEY SECTION MEETINGS

<https://www.njacs.org/>

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 in-person meetings, please [click here](#).

April 17 (virtual)
May 22 (hybrid)
June 19 (hybrid)

September 18 (hybrid)
October 23 (virtual)
November 13 (virtual)
December - TBD

NJACS NMR SPECTROSCOPY TOPICAL GROUP

An Intrinsically Disordered Phosphoswitch Controls Circadian Timekeeping in Humans

Speaker: Carrie Partch, Ph.D.
Department of Chemistry and Biochemistry
University of California – Santa Cruz

Date: **Thursday, April 20, 2023**

Time: 12:00 PM ET via [MS Teams](#)

Further information can be found on the [NMR Topical Group website](#) and by emailing [Tom Osborn Popp](#) or [Christine Jorge](#).

[Download Flyer](#)



Abstract. Our lives are intimately linked to Earth's 24-hour solar cycle by circadian clocks that coordinate physiology and behavior into rhythms that coincide with the day/night cycle. Recent studies of the genetic basis of morning lark and night owl behavior in humans have identified inherited alleles that alter the intrinsic timing of circadian rhythms. Here, I'll describe our discovery of the mechanism by which morning lark alleles regulate clock protein dynamics and activity to shorten the human circadian clock by ~4 hours. NMR spectroscopy played a particularly powerful role in this project by identifying how sequential phosphorylation of a multi-serine cluster in the clock protein PERIOD generates feedback inhibition of the major clock kinase, CK1 δ , to control clock timing.

NORTH JERSEY ACS MASS SPECTROMETRY DISCUSSION GROUP

The [Mass Spectrometry Discussion Group](#) is pleased to announce our **April 11, 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.

Date: **Tuesday, April 11, 2023**
Venue: **[Somerville Elks Lodge 1068](#)**

375 Union Avenue
Bridgewater, NJ 08807
(908) 707-1545

Program: 5:30PM Social Time
6:15PM Complementary Dinner
6:55PM Welcome Remarks
7:00PM Invited Speaker



Please [register here](#). It's free, including dinner, but registration is required. Masks or no masks are respected and welcomed.

Speaker 1: Wendy Zhong, PhD, Sr. Principal Scientist,
Analytical Research & Development, Merck Research Laboratories, Rahway, NJ, USA

“Label Free Molecular Imaging and Electron-based Dissociation via High Resolution Mass Spectrometry—Applications in Pharmaceutical Industry”

Abstract: With the increased complexity of new and diverse modalities in the pharmaceutical industry, there is a high demand to develop more sensitive and versatile analytical tools. HRMS has become an important analytical technique due to its broad applications in small molecule structure identification, molecular imaging, large biomolecules such as protein and antibody-drug conjugate characterization. In this presentation, I will discuss several unique/innovative approaches we developed and applied to solve challenging problems in drug discovery and development.

• *Label free molecular imaging applications in tissues and tablets*

Fatty liver disease phenotype is characterized by both an increase in the concentration and synthesis rate of neutral lipids (NL) across the liver. The spatial distribution of multiple lipids classes is poorly characterized in fatty liver disease. A novel method was developed to enhance ionization of neutral lipid via Sodium-Doped Gold-Assisted Laser Desorption Ionization. This method can allow investigators to obtain spatial resolution of lipogenic flux by coupling imaging mass spectrometry and isotope tracers. Long-acting injectable (LAI) implants can deliver a drug over several weeks to years, reducing the dosing frequency and improving patient adherence. An innovative approach of using MALDI-MSI to characterize the drug release process from LAI implants was developed. This method provides definitive molecular-level information about the chemical composition as well as the distribution of APIs simultaneously.

NORTH JERSEY ACS MASS SPECTROMETRY DISCUSSION GROUP (continued)

Speaker 1: Wendy Zhong, PhD, Sr. Principal Scientist,
Analytical Research & Development, Merck Research Laboratories, Rahway, NJ, USA

“Label Free Molecular Imaging and Electron-based Dissociation via High Resolution Mass Spectrometry—Applications in Pharmaceutical Industry”

• *Development of Electron-based dissociation (ExD) to differentiate isomeric amino acids*
Isomeric amino acids such as aspartic isoaspartic acid leucine/isoleucine, and valine/norvaline are widely present in peptides and proteins. For example: Leu and Ile count for 16% of all amino acids in proteins. Nva differs from Leu by only one methyl group, and mis-incorporation of Nva is common during the production of recombinant proteins. Conventional CID generates the same m/z value for these isomers and consequently is unable to differentiate isobaric species. Therefore, it poses a challenge to establishing correct peptide and proteins sequences. Electron-activated dissociation (ExD) was developed to differentiate these isomeric amino acid residues in therapeutic peptide and protein.



Speaker 2: Ethan Yang, PhD, Applications Lead, Imaging/MRMS,
Bruker Scientific LLC, Billerica, MA USA

“Recent Advances in High Spatial Resolution MALDI Imaging for Metabolomics and Proteomics with the Bruker timsTOF fleX MALDI-2 Platform”

Abstract: Recent innovations in instrumentation in the Bruker MALDI imaging platform—the timsTOF fleX MALDI-2 with microGRID—are now enabling deeper biological investigations in small metabolites and large proteins. Specific examples of metabolic pathways and cancer biology with results as 5 μm spatial resolution are shown.



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NEW JERSEY CHEMISTRY OLYMPICS (NJCO) RETURNS TO IN-PERSON ON MAY 12!

2019 Champions Primoris Academy, seems like ages ago we were last in person!



The 2023 NJCO is in our 35th Year!



The Platinum Crucible, awarded to the highest-scoring team overall !

It's back!! The award-winning [2023 New Jersey Chemistry Olympics](#) will be held 100% in-person on **May 12, 2023** on the [New Jersey Institute of Technology](#) (NJIT) campus in Newark, NJ. This will be our 35th in-person competition and the first in-person since the pandemic forced the transition to a virtual (vNJCO) in 2020-2022.

We are very excited that in 2022, the 2021 vNJCO won the Outstanding High School Student Program Award from the American Chemical Society, a testament to the success of our program in reaching out to high school science students and their teachers.

This year's NJCO will look like our other in-person events, but we have incorporated some of what we learned through our 3 vNJCOs. Highlights include:

- **Teams:** traditional 8-12 member teams competing in 6 events (in-person) for the Platinum Crucible, and new based on our vNJCO experience, we are allowing smaller teams competing in fewer events with an adjusted registration fee.
- **Event medals:** Gold, Silver, and Bronze medals will be awarded for each of the events, true of both virtual and in-person NJCOs.
- **Platinum Crucible:** given to the highest-scoring team at each NJCO, to show off for the next year! This treasured prize will be awarded for the first time since 2019.
- **Events (11):**
 - Three research events: Chemistry, Environmental Science, and Chemical Engineering.
 - Four communication events: Website Design, Demo Show, Nomenclature Test, and Information Search.
 - Four Lab and Debate events: Analytical Lab, Instrumentation Lab, Microscale Lab, and Debate, the latter a very popular addition to our NJCO menu from its success in two vNJCO events!
- **Apparel:** all competing students and student volunteers get T-shirts. Coaches and judges receive polo shirts.
- **Certificates:** Competitors get Certificates of Participation. Coaches' certificates also give them 10 PD hours. Judges also get certificates for use in corporate volunteer donation programs.
- **Timing:** the earliest time slot is 8:30 AM and the latest is 11:15 AM. Then there is a Lunch break followed by the awards ceremony.

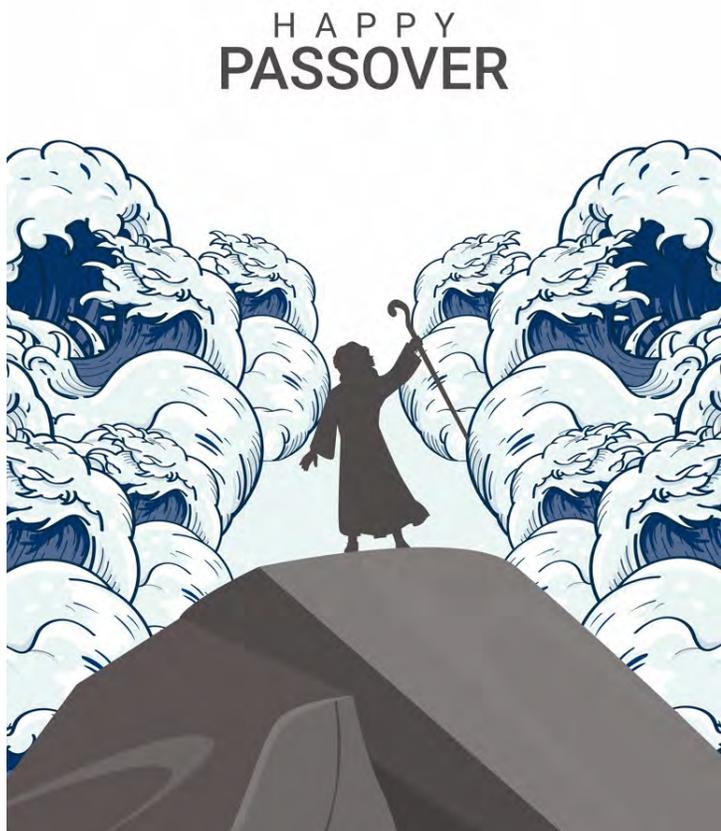
NEW JERSEY CHEMISTRY OLYMPICS (NJCO) CALL FOR VOLUNTEERS!

Do you want to make a difference in the life of a high school science student? Our program has reached out to up to 250 high school students each year (over 150 so far this year) to show them the wonders of chemistry and allied sciences. They use a combination of research and skills to tackle topics from chemical nomenclature to debating timely topics to decoding chemical mysteries.

Each event has a minimum of two judges who are from academia, industry, or graduate school. Although we have most of our judges for this year, we do encourage new volunteers to get involved and be a third judge or an observer. We even use our judges to help plan our events, so judging can lead to event development and possibly more leadership opportunities.

Undergraduate and graduate students, from NJIT or other colleges, can volunteer to help with events, registration, and guiding the high school students and coaches around campus.

The benefits of volunteering include not only the experience of being part of an American Chemical Society Award winning event. Anyone interested in judging or helping out should contact the NJCO Director [Dr. Miriam Gulotta](#)



Department of
Chemical & Biomolecular Engineering

Spring Lecture Series



Kathryn Whitehead
Carnegie Mellon University

Date: Friday, April 21st, 2023

Time: 10:45am – 12:00pm

Location: Pfizer Auditorium (5 MetroTech Center - Dibner Hall)

Distinguished Science Lecture Honoring Professor Herbert Morawetz

Lipid nanoparticles for RNA delivery: COVID-19 vaccines, chemistry, and beyond

Messenger RNA (mRNA) therapeutics have taken center stage thanks to the successful deployment of the SARS-CoV2 mRNA vaccines in hundreds of millions of people worldwide. These vaccines were made possible by a herculean effort to overcome the most significant barriers that have hindered translational efforts. Arguably, the largest challenge has been that RNA molecules do not readily enter their cellular targets within the body. This is because they are large ($10^4 - 10^6$ g/mol) and negatively charged; they do not have favorable biodistribution properties nor an ability to cross the cell membrane of target cells. In response to these issues, industrial and academic laboratories, including my own, have created lipid nanoparticles that spontaneously package RNA and deliver the RNA to key cellular targets in vivo. Here, I will describe biodegradable, ionizable lipid-like materials called 'lipidoids' that my lab has used to create RNA-loaded lipid nanoparticles that induce protein expression in a variety of tissues in mice. This talk will describe an especially potent lipid nanoparticle, its chemical characteristics that confer efficacy, and potential applications, including delivery to the pancreas. Together, these data advance our understanding of lipid nanoparticle chemistry and are expected to contribute to the successful formulation of next-generation mRNA therapies.

Per university policy, all visitors should be prepared to show legal ID & proof of COVID-19 vaccination.

MEETING REPORTS

FAIR FOR EMERGING RESEARCHERS (FER)

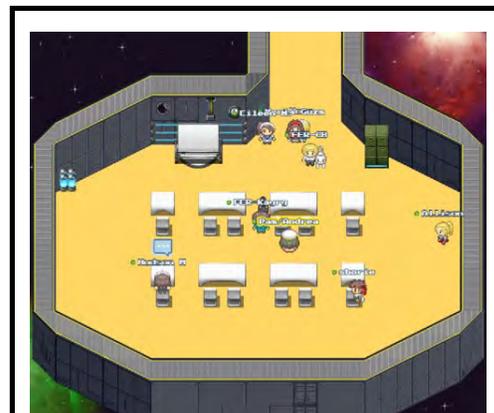
The seventh annual [Fair for Emerging Researchers](#) (FER) took place virtually on March 18th, 2023. Several 5th-8th grade students from schools across the tri-state area came together via the virtual platform [WorkAdventure](#) to present their findings from independent, longitudinal research projects conducted under the guidance of our 16-week mentorship program.

The mentorship program began in November and continued through February. The curriculum was designed by the FER Mentorship Director, Dorothy Helmken, and was implemented by a team of mentors from different Universities. The program offered a weekly activity focused on guiding the students through the development of their research projects for a total of 16 weeks. The curriculum focused on allowing students to explore any science topic they were interested in and taught them how to ask and answer their own scientific question. The students were guided by graduate and undergraduate STEM students from Maryland, New Jersey, and New York. They aimed to teach 5 key components to scientific research, including:

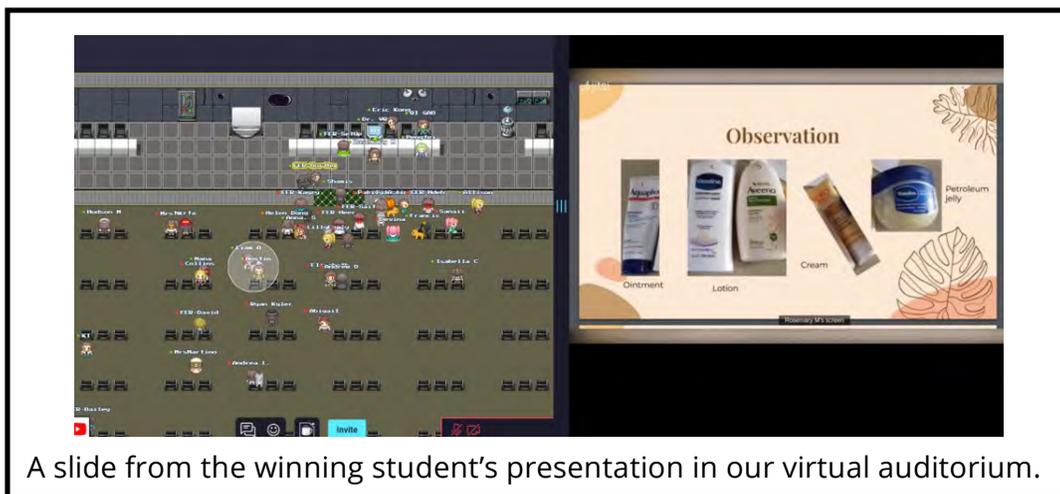
- Developing a research question,
- Writing a testable, educated hypothesis,
- Designing an experiment and identifying variables,
- Analyzing data and results, and
- Communicating results with others in both written abstracts and oral presentations.

The curriculum combined live mentorship with video modules to provide a well-rounded, engaging introduction to the scientific method for students. This is the first year the FER involved such an extensive curriculum, including eight online modules and six virtual mentorship sessions. Ms. Collins, a teacher from Netcong Elementary School, said that this year's mentorship program allowed students to learn "more about experimental design and how to write an abstract. They learned to manage their time and accept responsibility for their assignments and deadlines."

At the event on March 18th, students competed to win a variety of prizes, including a top prize of \$250 for the best experiment. Students presented a talk with slides for five minutes and then answered questions from a panel of judges composed of undergraduate and graduate students, industry professionals, and academics. Judges ranked students on the clarity of their abstract, the effectiveness of their presentation in communicating their findings, and the quality of their research and understanding of their topic.



The 7th Annual FER was hosted in a space-themed virtual world where students got to make their own character called a Woka.



A slide from the winning student's presentation in our virtual auditorium.

Out of 58 students from middle schools including the Academy of Saint Joseph in NY, Ridgedale Middle School in NJ, and STEM programs including NY's Iona University STEP, 7 were selected as finalists for exemplifying mastery of the curriculum implementation and effective communication, with projects like *"NYC Subway Microbes"* and *"Marshmallows, behind the fluff."* These seven finalists shared their work with a panel of industry professionals including Dr. Pengfei Ding, Dr. Qi Gao (Former NJACS Chair), Dr. Eric Kong, and Dr. Nancy Vitalone-Raccaro, who each questioned students on aspects of their work. The winning presentation, *"Which moisturizer works best to keep skin moist?"* wowed the judges and ultimately excelled for research rigor and presentation effectiveness. The winning student cleverly developed a model system to mimic skin using jello and was able to identify that a lotion with high glycerin and triethanolamine would preserve skin moisture best. Finalist judge Dr. Nancy Vitalone-Raccaro, an Associate Professor from Drew University's Master of Arts in Teaching program, said the winning presentation demonstrated a "well organized, clear presentation" deserving of the top prize. Overall, several students were awarded a total of \$600 in various prizes sponsored by the NYACS High School Teacher topical group.

Preparations for next year's science fair have already begun, with the date of FER 2024 scheduled for March 16th, 2024. The mentorship program will begin this October. We are actively looking for YCC involvement in our mentorship program so please contact mentorship.fer@gmail.com if you want more information. The growing team of FER, directed by Saif Yasin and advised by NJACS Councilor Dr. Sandra Keyser, aims to continue to increase diversity among future participants thereby achieving the organization's vision of "science for all." We are looking to expand further into communities in NJ, NY, MD, MA, and PA, and would love to involve anyone who is interested in participating.

We would like to thank our sponsors for their contribution to FER's success. Thank you to the ACS Local Section of North New Jersey and New York for their support with judges, volunteers, and sponsorship for awards and materials presented to the students. If you are interested in joining our sponsors in supporting our mission and helping children engage in science, donations are always accepted and appreciated!

If you would like to volunteer with FER, or are a teacher that wants us to work with your students, [please email us](#) for more information.

NJACS SALUTES ITS 50-, 60-, & 70-YEAR MEMBERS

Congratulations are in order to the 50, 60, and 70 Year Members of the North Jersey Section. These members will be recognized for their service to ACS and the Section at the Awards Dinner on Monday May 22, 2023.

2023 Awards and Recognition Dinner

Date: Monday, May 22, 2023

Times: 5:30 PM – Presentation of Certificates & Awards to 50, 60, and 70 year members
6:00 PM – Dinner 7:00 PM – Presentation of Awards to volunteers & students

Place: Fairleigh Dickinson University
College at Florham, Lenfell Hall in The Mansion
Madison, NJ

Mr. Andrew B. Auerbach	Mr. Vincent P. Gullo	Dr. Henry J. Mortko
Mr. Edgar C. Baker	Mr. William K. Hagmann	Mr. Carl A. Perini
Mr. Howard S. Baker	Mr. James Francis Hains	Dr. Daniel George Phillips
Ms. Trean Korbelak Blumenthal	Mr. Stephen Alan Jacobs	Mr. Robert M. Pricone
Ms Howching Karen Chan	Dr. Gregory J. Kaczorowski	Dr. Donald Prentice Satchell Jr.
Dr. Ismael Colon	Dr. Bruce A. Kaduk	Mr. Arpad Savoly
Dr. Alan Bruce Cooper	Mr. Kenneth J. Kaufmann	Dr. Irene Sawchyn
Dr. Thomas Gerard Cullen	Ms. Lakshmi Khemani	Dr. Dalbir Singh Sethi
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Dr. Anneli Mirja De Paolis	Dr. Hung Van Le	Dr. Jerauld S Skotnicki
Mr. Charles M. Delaney	Mr. Lawrence Joseph Lepore	Dr. John Joseph Tegeler
Dr. Allan B. Furtek	Mr. Louis M. Maresca	Mr. Paul Daniel Tyma
Mr. Joseph J. Gregg	Mr. Bert Minerley II	Mr Robert John Winchurch
		Mr. Bernard Zimmerman

CONGRATULATIONS

Mr. Joseph L. Bach	Mr. Leo F. Ryan	Dr. Robert Leo Augustine
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Dr. Albert C. Chen	Dr. Leonard N. Schoenberg	Dr. Alfred Christian Glatz
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Dr. John J. Rose	Mr. Jay Weinstein	Dr. Edwin A. Schmall
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		Mr. Arthur Montgomery Thomas Jr.
		Mr. Thomas Joseph Welsh Jr.

NEW YORK ACS MOURNS THE PASSING OF FRANK H. CLARKE

contributed by M. K. Kaloustian

Frank H. Clarke, 95, died January 15 in Califon, New Jersey.

Frank was a modern Renaissance man - chemist, X-ray crystallographer, artist, inventor, programmer, author, raconteur and historian.

He obtained his B.S. and M.S. degrees in chemistry from the University of New Brunswick, Canada. Under Prof. G. Stork's doctoral mentorship at Harvard University, Frank completed the total synthesis of cedrene and cedrol (*J. Am. Chem. Soc.*, **1955**, 77, 1072-3). During his postdoctoral studies at Columbia University, he established the correct structures of α -halocodides and studied their S_N2' reactions (*J. Am. Chem. Soc.* **1956**, 78, 4619-24). Subsequently, he became Senior Research Scientist at Schering, Director of Medicinal Research at Geigy, and Distinguished Senior Research Fellow at Ciba-Geigy.

He authored "Calculator Programming for Chemistry and the Life Sciences," "Optimization and Nonsmooth Analysis," "Methods of Dynamic and Nonsmooth Optimization," "How Modern Medicines are Discovered," "Molecular Graphics on the Apple Microcomputer and IBM PC." He edited IUPAC's "Strategy of Drug Research," and served as editor-in chief of "Annual reports of Medicinal Chemistry" (vol. 11). He also chaired the Organic Division of the New York Academy of Sciences.

At ChemClarke Inc., Califon, he invented the "Clarke Titrator" – an automated potentiometric instrument for the measurement of pK_a values of potential drugs (*J. Pharm. Sci.* **1995**, 84, 53-54). He also invented the "Molecular Model Assembly" – a set of skeletal-space-filling molecular models (*J. Chem. Ed.* **1977**, 54, 230-235) for the visualization of large biomolecules and active sites of enzymes.

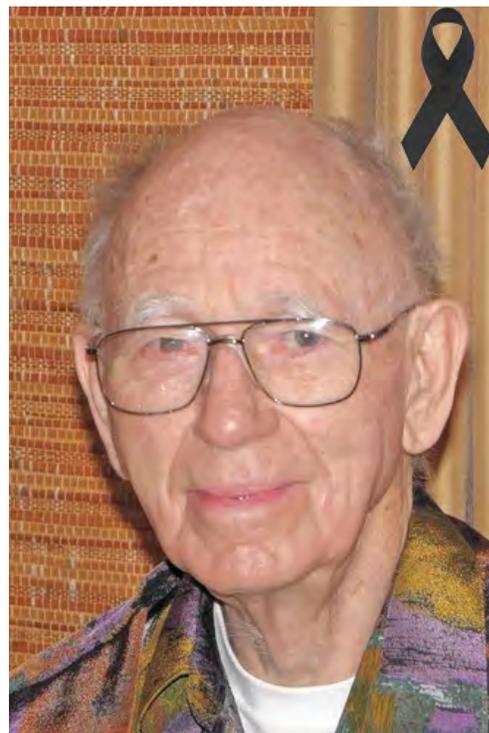
As an artist he filled his home with his masterful, colorful and joyful paintings and drawings.

Frank had an unforgettable hearty laughter. He was the perfect example of a wonderful, kind, modest and sweet human being. He was Ginny's devoted husband for nearly 7 decades, a superb Dad and a loving grandfather.

Most recent title: Distinguished Senior Research Fellow at Ciba-Geigy.

Education: BS, MS, chemistry, University of New Brunswick; PhD, organic chemistry, Harvard University; postdoctoral, Columbia University.

Survivors: wife, Ginny; daughter, Susan; daughter, Sarah and son-in-law Prof. Omri Ben-Shahar; grandchildren, Ziv, Maya, Tom and Talia.



OPPORTUNITIES

GRANT OPPORTUNITIES

GLOBAL INNOVATION GRANT

Up to \$5,000 may be requested to support ACS units for internationally collaborative and innovative activities/events.

DUE APRIL 9, 2023

[Learn more](#)

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](#)



AWARDS

WOMEN CHEMISTS COMMITTEE OVERCOMING CHALLENGES AWARD

Recognizes an individual undergraduate for her efforts in overcoming hardship to achieve success in chemistry

DUE APRIL 1, 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 SCHOLARSHIPS

ACS HACH POST-BACCALAUREATE TEACHER SCHOLARSHIP

Provides up to \$6,000 in financial support for recent graduates and graduate students with an interest in becoming chemistry teachers.

DUE May 1, 2023

[Learn more](#)

ACS HACH SECOND-CAREER TEACHER SCHOLARSHIP

Provides up to \$6,000 in financial support for chemistry professionals to obtain their masters degree in education or teacher certification in chemistry.

DUE MAY 1, 2023

[Learn more](#)

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](#)



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DE Shaw Graduate Fellowship

[Due April 17](#)

Priscilla Carney Jones Scholarship

[Due May 1](#)

Student Chapter Awards

[Due May 31](#)

For Graduate Students & Postdocs

DE Shaw Graduate Fellowship

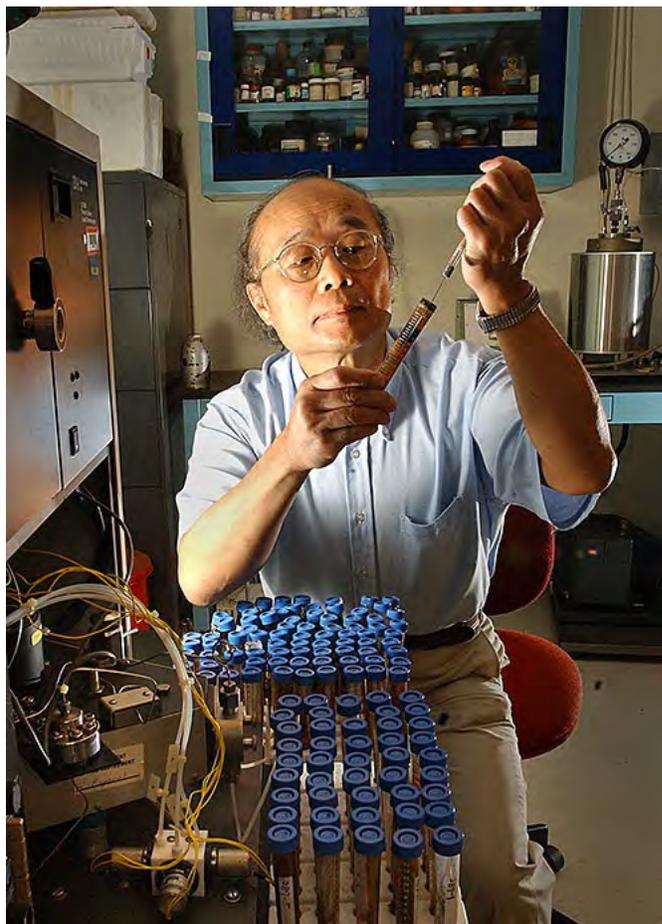
[Due April 17](#)

ACS Bridge Conference

[Due May 31](#)

Dr. Mow Shiah Lin Scholarship

[Due June 7](#)



Dr. Mow Shiah Lin

BRIDGE CAREER CONFERENCE

Applications now OPEN!



8 - 10
September



New Orleans,
Louisiana



www.ACS.org/BridgeConference



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](#)

FOR WOMEN AND NON-BINARY COMPUTATIONAL CHEMISTS



Erin Davis
Senior Vice President
Schrödinger



Gabriela Charlot
DEI Specialist
Schrödinger



Karen Akinsanya
President of R&D
Schrödinger



Pat Lorton
Chief Technology Officer
Schrödinger



Ramy Farid
CEO
Schrödinger

Schrödinger is hosting a two-day symposium on **May 23-24, 2023** in support of women and non-binary computational scientists. The event includes an overview of research and development projects at Schrödinger, an interactive molecular modeling workshop led by our education team, an employee panel with some of our female scientists and software developers, and resume workshop sessions. This event features the speakers shown at right is open to PhD students and postdocs conducting computational research in STEM fields.

[Apply here by April 15](#)

POSTDOC TO FACULTY WORKSHOP

Postdoctoral scholars interested in an academic career in the chemical sciences are invited to apply for this ACS workshop being held in Chicago, IL from July 28-30, 2023.

[Learn more](#)

ACS FALL MEETING: ABSTRACTS DUE

The abstract submission deadline for the 2023 Fall [ACS Meeting & Exposition](#) is **April 4, 2023**. This hybrid meeting is being held in San Francisco on August 13-17. Make sure to get your abstract submitted in time.

[Submit here](#)

JOB BOARD

Starting your career or looking for the next challenge? Review these and other postings at the New York ACS [Job Board](#). Email your job postings to jobs@NewYorkACS.org for inclusion.

Graduate Chemist – Philadelphia Water Department

[Apply here](#)

Manager, QC Chemistry - BeiGene

[Apply here](#)

Director, Analytical Chemistry – Taiho Oncology

[Apply here](#)

Senior Scientist, Computational Chemistry - Merck

[Apply here](#)

QC Chemist I – American Regent

[Apply here](#)

Associate Director, QC Chemistry and Characterization – American Regent

[Apply here](#)

Assistant Professor, Environmental Chemistry – Kingsborough Community College

[Apply here](#)

Assistant Professor, Chemistry – Hostos Community College

[Apply here](#)

Assistant/Associate Professor, Organic/Medicinal Chemistry – Kean University

[Apply here](#)

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with Heinz Plaumann

Thursday, April 6 • 12 pm ET

Next month: [Careers in Industry](#), May 4th