



PROFESSOR STEPHEN L. BUCHWALD
MIT | Keynote Address
*"Palladium-Catalyzed Carbon-Heteroatom
Bond-Forming Reactions for the
Functionalization of Molecules Big and Small"*



Dr. Jingjun Yin
Executive Director, Merck PR&D
*"A Personal Account of C-N Cross
Coupling Reactions at Merck"*



Prof. Tianning Diao
NYU
*"Nickel-Mediated Radical
Pathways and Applications in
C-Glycosylation"*



Prof. David MacMillan
Princeton University
*"New Reactions of Value to
Chemists and Biologists"*



Dr. Seble Wagaw
Senior Director, AbbVie PR&D
*"The Development of Enabling
Chemical Technologies for
Pharmaceutical Manufacturing"*



Prof. Marisa Kozlowski
University of Pennsylvania
*"Oxygen Driven Processes to
Construct Molecules and to
Recycle Polymeric Organic
Materials"*

ACS NORTH JERSEY SECTION AWARD FOR CREATIVITY IN MOLECULAR DESIGN AND SYNTHESIS 2021

November 18, 2021
9:00 AM – 3:30 PM EST

FREE VIRTUAL SYMPOSIUM

Register here:

**SCAN
ME!**



Poster session featuring local
students & postdocs from:

**Seton Hall • Princeton • UPenn
William Paterson • Columbia
NYU • Lafayette • Stockton
NJIT • Rutgers**

For a detailed schedule please visit our site:
<https://www.njacs.org/organic-topical-group>

Questions? → Susan_Zultanski@merck.com

See page 5



ACS Local Section
New York



ACS Local Section
North Jersey

NOVEMBER 2021

Vol. 102 • No. 9

ISSN0019-6924

www.theindicator.org

THIS MONTH IN CHEMICAL HISTORY

See also page 15

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

In my recent columns I have been examining a series of works that I consider Great Books in Chemistry. I have covered the period from Ancient Greece through the 19th. Century and have solicited ideas from my readers about nominations for Great Books in Chemistry in the 20th. Century. So far there have been only 2 nominations, but I live in hope. Meanwhile I will make my own choices. By the way this series will not be chronological and, until I receive your suggestions, will draw heavily on books in my own collection.

My first choice is "VALENCE and The Structure of Atoms and Molecules" by Gilbert Newton Lewis, published in the ACS monograph series in 1923. Lewis received his Ph.D. from Harvard, spent time in Europe and Asia, and was recruited to help build the Chemistry Department at U.C. Berkeley in 1912. He spent his career there, eventually becoming Dean of the College of Chemistry. His work in chemistry covered a wide range: thermodynamics including a seminal text that may be covered in this series; isotope separation; acid-base theory – we all know about Lewis acids and bases; the photon, so named by Lewis; and, of course, the subject matter of this

Great Book. Although he helped teach many Nobel prize winners (Urey, Giauque, Seaborg, Libby, and Calvin) Lewis never won a Nobel Prize.

The Preface to this book begins with these words: " I take it that a monograph of this sort belongs to the ephemeral literature of science." He was wrong! This monograph is a classic of science. Its chapters proceed from the atomic theory and the Periodic Law to the chemist's picture of the atom including Lewis' own octet theory. Most of the rest of the book covers the union of atoms, that he calls the modern dualistic theory echoing Berzelius' dualistic theory of the early 19th. Century. Lewis' new theory of valence is a key concept applied to molecular structure; to covalent bonds including multiple bonds. He discusses exceptions to the octet rule and develops a magnetochemical theory of chemical affinity. And all in about 170 pages.

Lewis had come a long way in 1923 from the initial sketches that he made in 1908 of a primitive version of the octet theory. To this day, a century later, chemists the world over work with and discuss Lewis structures, and Lewis acids and bases.



G.N. Lewis

THE INDICATOR**Editor**

DR. BRIAN GIBNEY
brg33@newyorkacs.org

Associate Editor

DR. KATHLEEN GILBERT
gilbert@njit.edu

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

VACANT

Section Web Masters

NY Section – DR. BRIAN R. GIBNEY

postmaster@newyorkacs.org

Noj Section – PAUL TUKEY

ptukey@njacs.org

NEW YORK SECTION <https://newyorkacs.org>

Chair, DR. RITA K. UPMACIS

Dept. of Chemistry, Pace University
 One Pace Plaza, New York, NY 10038
 212-346-1621 • Rupmacis@pace.edu

Chair-Elect, DR. KATHLEEN E. KRISTIAN

Chemistry and Biochemistry Dept., Iona College
 715 North Avenue, New Rochelle, NY 10801
 914-633-2341 • kkristian@iona.edu

Secretary, DR. DANIEL AMARANTE

Dept. of Chemistry, Stony Brook University
 100 Nicholls 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

NORTH JERSEY SECTION <https://www.njacs.org>

Chair, DR. MIRLINDA BIBA

Principal Scientist, Merck & Co., Inc.
 126 E Lincoln Ave., Rahway, NJ 07065
 732-594-9415 • mbiba@njacs.org

Chair-Elect, DR. QI GAO

Senior Scientist, Merck & Co., Inc
 2015 Galloping Hill Rd, Kenilworth, NJ, 07033
 908-740-2940 • Qi.gao1@merck.com

Secretary, BETTYANN HOWSON

49 Pippins Way, Morris Township, NJ 07960
 973-822-2575 • chemphun@gmail.com

Section Office

49 Pippins Way, Morris Township, NJ 07960
 973-822-2575 • chemphun@gmail.com

THE Indicator

<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.

CONTENTS

| | |
|-------------------------------------|----|
| November Calendar | 4 |
| Advertisers' Index | 4 |
| North Jersey Section Meetings | 5 |
| NJACS Organic Topical Group Meeting | 5 |
| New York Section Meetings | 6 |
| NYACS Biochemical Topical Group | 6 |
| NYACS Long Island Subsection | 6 |
| Westchester Chemical Society | 7 |
| Project SEED | 9 |
| Meeting Reports | 12 |
| Call for Nominations | 15 |
| News from our Partners | 16 |
| Eastern Analytical Symposium | 17 |
| Job Board | 18 |

EDITORIAL DEADLINES

| | |
|---------------|-------------------|
| December 2021 | November 16, 2021 |
| January 2022 | December 16, 2021 |
| February 2022 | January 16, 2022 |
| March 2022 | February 16, 2022 |
| April 2022 | March 16, 2022 |
| May 2022 | April 16, 2022 |

The Indicator (ISSN0019-6924) 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 American Chemical Society 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 at

<https://www.acs.org/editmyprofile>.

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

November Calendar

NEW YORK SECTION

Thursday, November 4, 2021

Long Island Subsection

See page 6

Tuesday, November 9, 2021

Biochemical Topical Group

See page 6

Wednesday, November 10, 2021

Westchester Chemical Society

See page 7

Friday, November 19, 2021

Board of Directors Meeting

SAVE THE DATE

Wednesday, December 16, 2021

Westchester Chemical Society

See page 8

Saturday, January 29, 2022

New York ACS Sectionwide Conference

Ad Index

| | |
|---------------------------|----|
| Eastern Scientific..... | 14 |
| Micron..... | 15 |
| Robertson - Microlit..... | 13 |

Advertising in The Indicator

Reach over 6,200 American Chemical Society members in the New York metropolitan area while building brand awareness among a focused group of professionals. Click here for additional information, including [rates](#) and [order form](#). For questions, please contact the [Advertising Manager](#).

NORTH JERSEY SECTION

Monday, November 15, 2021

North Jersey Executive Committee Meeting

See page 5

Thursday, November 18, 2021

Organic Topical Group

See page 5

December 13, 2021

North Jersey Executive Committee Meeting

See page 5

CHEMLUMINARY AWARDEE

23rd Annual
ChemLuminary
 Awards



ACS Local Section

New York

ChemLuminary Awardee

Outstanding Performance Award –
 Large Size Category

Congratulations to all the volunteers of the New York ACS whose hard work and dedication to chemistry, chemists and the greater community were recognized as the 23rd Annual ChemLuminary Awardee for Outstanding Performance by a Large Section.

NORTH JERSEY SECTION MEETINGS

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

2021 NORTH JERSEY EXECUTIVE COMMITTEE MEETINGS

Section officers, councilors, committee chairs, topical group chairs, and section event organizers meet regularly at the Executive Committee Meetings to discuss topics of importance to running the section and representing the membership. The team is scheduling monthly virtual meetings on Monday evenings at 7 – 9 PM (EST). See the table at right for the 2021 meeting dates.

All members are welcome to attend these meetings and become more involved in section activities. For any additional information, please contact Mirlinda Biba (NJACS 2021 Chair) at mbiba@njacs.org.

2021 ACS North Jersey Local Section Executive Committee Meetings Schedule (all meetings are virtual)

| Month | Meeting Date Time : 7:00 – 9:00 PM EST |
|----------|---|
| November | Monday, November 15, 2021 |
| December | Monday, December 13, 2021 |

NORTH JERSEY ORGANIC TOPICAL GROUP

The North Jersey Section ACS' Organic Topical Group will present

**Prof. Stephen L. Buchwald -
The Massachusetts Institute of
Technology**
with the
**2021 Award for Creativity
in Molecular Design**

on **Thursday, November 18, 2021**. A full-day symposium in his honor include talks by luminaries including Dr. Jingjun Yin (Merck), Prof. Tianning Diao (NYU), Nobel Laureate Prof. David MacMillan (Princeton University), Dr. Seble Wagaw (AbbVie) and Prof. Marisa Kozlowski. The symposium will be augmented with a poster session featuring students/postdocs from the University of Pennsylvania, Rutgers, Stockton, Princeton, William Patterson, Seton Hall, NYU, Columbia, Lafayette and NJIT. This full-day virtual symposium is FREE and open to all.

Date: November 18, 2021
Time: 9:00AM – 3:30PM
Cost: Complementary



PROFESSOR STEPHEN L. BUCHWALD
MIT | Keynote Address
"Palladium-Catalyzed Carbon-Heteroatom Bond-Forming Reactions for the Functionalization of Molecules Big and Small"



Dr. Jingjun Yin
Executive Director, Merck PR&D
"A Personal Account of C-N Cross Coupling Reactions at Merck"



Prof. Tianning Diao
NYU
"Nickel-Mediated Radical Pathways and Applications in C-Glycosylation"



Prof. David MacMillan
Princeton University
"New Reactions of Value to Chemists and Biologists"



Dr. Seble Wagaw
Senior Director, AbbVie PR&D
"The Development of Enabling Chemical Technologies for Pharmaceutical Manufacturing"



Prof. Marisa Kozlowski
University of Pennsylvania
"Oxygen Driven Processes to Construct Molecules and to Recycle Polymeric Organic Materials"

ACS NORTH JERSEY SECTION
AWARD FOR CREATIVITY IN MOLECULAR DESIGN AND SYNTHESIS
2021

November 18, 2021
9:00 AM – 3:30 PM EST

FREE VIRTUAL SYMPOSIUM

Register here:

SCAN ME! 

Poster session featuring local students & postdocs from:

*Seton Hall • Princeton • UPenn
William Paterson • Columbia
NYU • Lafayette • Stockton
NJIT • Rutgers*

For a detailed schedule please visit our site:
<https://www.njacs.org/organic-topical-group>

Questions? → Susan_Zultanski@merck.com

[Register for Zoom link](#)

NEW YORK SECTION MEETINGS

BIOCHEMICAL TOPICAL GROUP

Covalent Modification: Chemical Biology and Therapeutic Applications

Covalent target modulation is reemerging as a promising strategy to identify novel therapeutic mechanisms and to drug “tough” targets. Technological advance in proteomics have opened the door to a wider range of targetable residues and set the stage for rational design of covalent modifiers. For example, the development of the KRAS G12C covalent inhibitor has heralded a new paradigm for these agents. This symposium will convene a diverse group of academic and industry scientists from the fields of medicinal chemistry, chemical biology, proteomics and pharmacology to discuss the latest research in the design of covalent libraries and new warheads, addressing intrinsic reactivity of ligands and their relationship to promiscuousness, deconvolution of hits emerging from phenotypic screens, warhead PK tolerance and identification of novel targets in human disease context to name a few. This symposium will empower attendees to think boldly about covalent inhibitors for intractable targets and build confidence in initiating successful covalent screening campaigns, further the ground-breaking work of the speakers and gain confidence in clinical translation of covalent molecules.

Date: Tuesday, November 9, 2021

Time: 10:00 AM to 5:20 via webcast

[Registration link](#)

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

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

LONG ISLAND SUBSECTION

Coral Reef Conservation and Governance: Applying Science in a Changing Climate



Speaker: Dr. Harriet L. Nash
Deputy Director
NOAA Coral Reef Conservation Program

Abstract: Coral reef ecosystems make up less than 0.1% of the earth’s surface, yet over 500 million people rely on coral reefs for food, income, protection, and more ecosystem services. The National Oceanic and Atmospheric Administration’s Coral Reef Conservation Program (CRCP) is charged with preserving, sustaining, and restoring coral reef ecosystems through science-based management and conservation support. Climate change is a primary threat to coral reefs, and CRCP supports scientific research and monitoring to provide products and tools that enhance resilience-based management approach in response to widespread effects from climate change. This seminar will address some of the challenges climate change poses for coral reef ecosystems, related scientific advances in coral reef conservation, and governance through the lens of national conservation policy.

Date: Thursday, November 4, 2021

Time: 6:00 PM via [Zoom](#)

Meeting ID: 918 8300 1145

Passcode: 9cQf7ma3

[Flyer](#)

WESTCHESTER CHEMICAL SOCIETY**SPECIAL SEMINAR*****Engineering Fluorinated Thermo-Responsive Assembled Protein (F-TRAP) for Theranostic Applications in Glioblastoma Multiforme***

Speaker: Aparajita Bhattacharya, M.Res.
Ph.D. Candidate, SUNY Downstate
Health Sciences University and
NYU Tandon School of
Engineering

Abstract: Gliomas account for roughly 27% of all brain tumors and there is an urgent need to develop new therapeutic modalities. A glioblastoma multiforme (GBM) prognosis signifies a survival time of 14-16 months with only 5% of patients surviving more than 5 years.¹ A significant challenge for traditional GBM drug delivery is the inability to: a) treat tumor cells with cytotoxic drugs due to their poor solubility and lack of blood brain barrier (BBB) permeation; b) specifically target tumor cells while avoiding normal tissue with such cytotoxic agents, c) stimulate drug release; and d) monitor GBM status and therapy non-invasively² Theranostic agents are being developed for their ability to diagnose disease and improve therapeutic delivery and can address these requirements because treatments specific to GBM do not currently exist³ While considerable efforts have been made in developing protein-based systems as drug-delivery carriers or as diagnostic agents⁴, we are investigating a fundamental new insight that is helping us develop a single protein-based system combining drug delivery capabilities with the ability to cross the BBB and remain at cancer site due to the enhanced permeation and retention (EPR) effect. This biomaterial also incorporates functional groups detectable via magnetic resonance (MR) spectroscopy and imaging as well as near-infrared fluorescence (NIR) to enable visualization during chemotherapy.



The protein-based theranostic agent we have engineered is called fluorinated thermo-responsive assembled protein (F-TRAP) that bears a non-canonical fluorinated amino acid (trifluoroleucine or TFL), can self-assemble into micellar structures, and encapsulate hydrophobic drugs.

Circular dichroism and dynamic light scattering have been performed to observe F-TRAP's secondary structure and micelle formation respectively. Additionally, ¹⁹F magnetic resonance imaging (MRI) has been carried out to visualize F-TRAP⁵ and near infra-red fluorescence imaging (NIRF) has been utilized to determine its pharmacokinetic properties in a glioblastoma (GBM) mouse model. Results indicate that F-TRAP has an α -helical secondary structure and forms micelles 30 nm in size. F-TRAP shows favorable pharmacokinetic data with a half-life of 123 minutes and high plasma retention. Importantly, animal data also reveals the ability of F-TRAP to cross the BBB and to be imaged inside the brain.

WESTCHESTER CHEMICAL SOCIETY **(con't)**

Bio: Appy Bhattacharya is a doctoral candidate in the Department of Chemical and Biomolecular Engineering at NYU Tandon School of Engineering.

Appy received her Bachelor's degree in Molecular and Cellular Biology at University of Wisconsin-Green Bay, Wisconsin and her Master of Research (MRes) at University of Birmingham, UK. She is currently a graduate student at SUNY Downstate Health Sciences University and is pursuing her doctoral thesis work at Dr. Jin Kim Montclare's lab at NYU Tandon School of Engineering. She is working on developing and characterization of nanobiomaterials for applications in cancer drug delivery and magnetic resonance imaging (MRI) in glioblastoma multiforme. Broadly, the Montclare lab focuses on engineering of proteins for biocatalytic, therapeutic drug and gene delivery and biomaterial applications.

In addition, Appy is a member of the New York Academy of Sciences (NYAS) and through its Scientist in Residence (SiR) program, she does outreach work at local high schools. Appy actively mentors high school and undergraduate students in her current lab and enjoys it thoroughly. She is also a member of AAAS (American Association for Advancement of Science). Besides, she was selected as a Science Alliance Leadership Training (SALT) fellow through NYAS for 2020-21, which trained her further in her leadership skills. Lastly, through the pandemic, she has virtually presented posters and given talks on her thesis work at multiple conferences as well.

Date: Wednesday, November 10, 2021

Time: 7:00 PM via [Zoom](#)

[Flyer](#)

Meeting ID: 513 306 0713

Passcode: 595923

One tap mobile

+13126266799,,5133060713# US (Chicago)

+16465588656,,5133060713# US (New York)

Dial by your location

+1 312 626 6799 US (Chicago)

+1 646 558 8656 US (New York)

Next Westchester Chemical Society Meeting

***Recent Advancements on Intelligence Analysis
Using Chemistry Knowledge to Combat
against Modern-Day Drug Crime***

Presented by

Kulendran Anushan

Date: Wednesday, December 16, 2021

Time: 7:00 PM via Zoom

Cost: Complementary

[More info](#)

WESTCHESTER CHEMICAL SOCIETY DISTINGUISHED SCIENTIST AWARD CALL FOR NOMINATIONS

The Westchester Chemical Society is accepting nominations for the "WCS [Distinguished Scientist Award 2022](#)". Scientists who live or work in Westchester or the Bronx qualify. The awardee is expected to attend the Awards Dinner (April/May time-frame) and to present aspects of his or her work. Self-nominations are acceptable. Nominations are not carried over from previous years. New and possibly updated nominations should be submitted. Please send a cover letter stating why your nominee should receive the award along with the nominee's resume **by January 15, 2022** to

[Dr. Paul Dillon](#) or [Dr. Peter Corfield](#)

N.B. the corrected deadline

PROJECT SEED: NORTH JERSEY ACS THE OLD AND “NEW” NORMAL

Like nearly all summer programs for youth in the United States beginning in 2020, the Project SEED Program looked very different from its usual. For those not aware, Project SEED is a national ACS program started in 1968 for low-income high school students to gain hands-on research experience, exposure to academic and medical settings, while being paid a stipend. Stipends range from about \$1500 (year 1 participants) to \$3000 (year 2 participants).

During the summers of 2020 and 2021, Project SEED still happened, though in a virtual setting. That meant the primary experience of hands-on research was not accomplished but, as you read on, you will see that equally valuable skills were nurtured. Instead of focusing on one type of research, students heard presentations by scientists around the world touching many areas of research. They engaged in direct conversations with these scientists and then selected a favorite area to focus on for a final presentation. There were sessions on writing professional emails, making your college personal statement unique, how to apply for financial aid, and the importance of academic integrity among others. Students were also allowed to access ACS resources on careers. Stipends were reduced for these two virtual summer programs.

This past summer approximately 400 high school students from Puerto Rico and the continental US attended five weeks of sessions. New Jersey had a total of 51 students, several of whom had participated in 2020 as well. Two adults from North Jersey section volunteered as cabin managers and some graduate students from New Jersey universities were paid as cabin leaders who worked closely with groups of ten to 12 students to assist with their assignments.



Of special note for the North Jersey Section is that Bernice Owusu from Irvington High School was selected as the Project SEED Joseph D. Loconti Scholarship recipient in 2021. Her award, ranging \$2500 - \$5000, is renewable for four years in college. While a SEED I student the summer of 2019, Bernice did research in the Department of Chemical and Environmental Science of NJIT. Dr. Alexei Khalizov was her mentor along with graduate students Ogochukwu Y. Enekwizu, Ali Hasani and Divjyot Singh. Her research topic was “Morphology & Optical Properties of Soot Nanoparticles”. Bernice participated in the Project SEED virtual camp during 2020. Bernice is a freshman at Muhlenberg College in Allentown, Pennsylvania, where she intends to major in biochemistry. She hopes to continue for a Ph.D. in biochemistry and focus her studies on genetics and genetic related disorders.

PROJECT SEED: NEW YORK ACS

Due to the pandemic, in 2020, ACS cancelled all in-person Project SEED and conducted a very successful virtual Summer Camp. In 2021, National ACS continued to conduct a virtual Summer Camp and the NY section had 37 participants. National also piloted a research component. They accepted 20 projects nationwide. The New York Section put in 7 applications and was successful in capturing 2 of the 20 spots selected by National to participate in the pilot experiment. Daymieri Narvaez, photo at right, a rising senior from Jose Marti STEM Academy did research under the mentorship of Dr. Gerard Parkin from Columbia University. Her research was on the **Analysis of the Variation of Metal-Halogen Bond lengths and the Misidentification of a Zinc Bromide Compound.**



The pilot experiment was so successful that ACS decided to continue it during the Summer of 2022. The virtual Summer Camp will also continue in order to accommodate a larger number of students who have difficulty getting to a research laboratory.

James Pelaez, photo below, a rising junior at Jose Marti STEM Academy did research under the mentorship of Jessica Freeze from Yale University. His research project was titled **Competition Common Between Aquatic Chemical Species For Catalytic Oxidation Reaction.**



Both students did a phenomenal job and presented the results of their research at the National American Chemical Society Meeting. They will also share their findings at the Annual New York Sectionwide Conference that will take place in January.

Nadia Makar, the coordinator of the NY Section for Project SEED decided to have a research component for those students who are interested in competing in science fairs like the International Science and Engineering Science Fair (ISEF). An extra 8 students who participated in the Summer Camp decided to also do research with mentors from Stevens Institute of Technology, New Jersey Institute of technology, Rutgers Medical School, Nassau County Community College and Jose Marti STEM Academy Faculty members. Dr. Agarwal mentored two students, Micki Zheng and Harshni Patel. They had such great results that they are in the process of publishing their results on Covid 19.

Despite the challenges of the pandemic, the NY Section Project SEED is thriving. Thank you to all the mentors for preparing the next generation of chemists in particular and scientists in general. Thank you to the NY Section Executive Board and all members for their continued support of Project SEED. You are investing in the future of our nation and the world

YOUR ROLE IN PROJECT SEED GOING FORWARD

Project SEED (Summer Experiences for the Economically Disadvantaged) is a paid summer internship program for **high school students**. SEED students work in real laboratories, with real scientists serving as their mentors. Students learn about careers in chemistry and receive mentoring in college preparation and professional development.



If you are a **high school science teacher**, inform, identify and support eligible students.

If you are a **researcher**, be a mentor and recruit other mentors.

If you are a **supporter** who puts activation energy into the nouns 'DIVERSITY, EQUITY, OPPORTUNITY, email the coordinators.

[Miriam Gulotta](#) (North Jersey ACS)
[Nadia Makar](#) (New York ACS)



ACS SCHOLARS PROGRAM CALL FOR APPLICATIONS



The ACS Scholars Program awards renewable scholarships to **undergraduate students from historically underrepresented groups** in the chemical sciences, majoring in chemistry-related disciplines, and intending to pursue chemistry-related careers. Selected recipients are awarded up to \$5,000* per academic year. To date, over 3,500 students have received funding from the ACS Scholars Program.

[Applications will open by November 1, 2021](#)
Deadline is March 1, 2022

2022 ELECTION

- Chair-Elect
- Secretary
- Councilor
- Alt. Councilor
- Director at Large

For terms starting
January 2023

**RECOMMEND A COLLEAGUE or
SELF-NOMINATE**

By email to: [Kathleen Kristian](#), 2021 Chair-Elect

 MEETING REPORTS

WESTCHESTER CHEMICAL SOCIETY

On Wednesday, October 6, 2021, the Westchester Chemical Society (WCS) held a remote (Zoom) meeting.

**Finding Origins of Life in Ancient
Biological Electric Wiring**

*Dept. of Biochemistry and Microbiology
Dept. of Genetics, Rutgers University
Institute for Advanced Study, TU Munich
October 7th, 2021*

RUTGERS

Yana Bromberg, Ph. D., Professor, Department of Biochemistry and Microbiology, and Adjunct Professor, Department of Genetics, both at Rutgers University; Hans Fischer Fellow, Institute for Advanced Study, Technical University of Munich, and Vice President, Board of Directors of the International Society for Computational Biology spoke on: "Finding Origins of Life in Ancient Biological Electric Wiring." The talk was directed towards the origins of life on our planet, particularly how the structures and functions of proteins lend clues to this. There was considerable focus on how many different metallic ions are incorporated into proteins, particularly how they interact with protein structures. She also discussed the importance of electron transfer in life's origins. Most metals, common in the oceans have important roles to play except for copper, which "poisons" many Proteins and is actively excluded from cells. Much of the work presented was highly mathematical, involving networking, and cluster analyses



Above are screen shots (all courtesy of Paul Dillon) of our speaker, Yana Bromberg, Ph.D., Dr. Dillon (our co-chair and program director), our co-chair Rolande Hodel, Ph.D., our recording secretary, Kay Whiten, M.S., our treasurer and education secretary, Peter Corfield, Ph. D., and our assistant program director, Jason Poland, M.S.

Dr. Bromberg is a graduate of The Brooklyn Technical High School (BTHS), a New York City high school specializing in science and engineering education. It had been male only until 1970. Dr. Bromberg was one of the women BTHS graduates featured in the Fall 2020 issue of Tech Times, the publication of the BTHS alumni association, dedicated to 50 years of (highly accomplished) women at Tech. Dr. Bromberg is still active in BTHS affairs. She received her Bachelor degrees in Biology and Computer Sciences from the State University of New York at Stony Brook and a Ph.D. in Biomedical Informatics from Columbia University, New York. She is known for her seminal work on a machine learning-based method for screening for

WESTCHESTER CHEMICAL SOCIETY

(con't)

effects of genetic variation (SNAP). This work has led to Dr. Bromberg's current interests in the analyses of human genomes and associated microbial metagenomes for disease predisposition. Broadly, research in her lab is focused on the molecular/functional annotation of genes, genomes, and metagenomes in the context of specific environments and diseases.

The lab also studies evolution of life's electron transfer reactions in Earth's history and as potentially applicable to other planets – a topic that she will discuss in her talk. Her work has been recognized by numerous awards, including the NSF CAREER award, the Rutgers Board of Trustees Research fellowship for Scholarly Excellence, the PhRMA foundation young investigator research starter award, and the Hans-Fischer award for outstanding early career scientists. The work has also been funded by various agencies including the NSF, NIH, NASA, and a number of private foundations.

Recording available courtesy of Rolande Hodel, Ph.D., on [Zoom](#) (passcode: nc*+tj7n).



Where speed and accuracy are elemental

| | |
|--|--|
| <p>Elemental CHN, S, X analysis</p> <p>Metals by ICP-OES, ICP-MS, USP<233></p> <p>FTIR, UV/VIS spectroscopy, Optical Rotation</p> <p>GC-MS/FID, Residual Solvents, Headspace</p> | <p>Ion Chromatography</p> <p>KF Aquametry, Titrimetry</p> <p>DSC, TGA, melting point</p> <p>HPLC</p> |
|--|--|

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

SEMINAR SPEAKERS WANTED

The New York Section wants 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!

METROWOMEN CHEMISTS' COMMITTEE

On Wednesday, September 22, 2021 our WCS Board Member, Sr. Mary Virginia Orna gave a joint MetroWomen Chemists' and Pace University Chemistry seminar via Zoom.



RESILIENCE AS A WAY OF LIFE

Mary Virginia Orna
maryvirginiaorna@gmail.com
 ACS National Meeting, Atlanta, GA, August 22-26, 2021

As described below, Dr. Orna continues to have an eclectic and extensive career in chemistry, ranging from Professor Emerita at The College of New Rochelle to entrepreneur. Her talk was entitled "**Out of Lemons, Lemonade: Resilience as a Way of Life**" and, clearly, dealt with resilience, a lesson we all should have learned from the disruptions caused by the COVID-19 pandemic. Her talk was developed in response to the ACS theme for the Atlanta meeting on Resilience.



Dr. Orna, shown above, presented a paper that was originally sponsored by the ACS Women Chemists Committee for a symposium at the ACS National Meeting (Atlanta, August 2021) on the topic as it applied especially to women. The ACS symposium was co-organized by Mary Virginia Orna, Kelley Caflin and Lorena Tribe. Attendees included Profs. Rita Upmacis and Eric Chang of Pace University, WCS Co-Chair Paul Dillon, Ph.D. and Toby Rossman, Ph.D., of the Hudson Valley Science Cafés.



Biography: Mary Virginia Orna, Ph.D., is Professor Emerita of Chemistry, College of New Rochelle, New York. Her academic specialties are in the areas of color chemistry and archaeological chemistry. Her more recent books include *The Chemical History of Color* (2013), *Science History: A Traveler's Guide* (2014), *The Lost Elements: The Periodic Table's Shadow Side* (2015), *Sputnik to Smartphones: A Half-Century of Chemistry Education* (2015), *Carl Auer von Welsbach: Chemist, Inventor, Entrepreneur* (2017), *Chemistry's Role in Food Production and Sustainability: Past and Present* (2019) and *Archaeological Chemistry: A Multidisciplinary Analysis of the Past* (2020). She has thirteen other authored, co-authored or edited books on chemical education and the history of chemistry to her credit. She is also the recipient of numerous chemical education and service awards, the latest being the American Chemical Society 2021 HIST Award "for her original research in the area of color and pigment chemistry." In 1989, she was designated the New York State Professor of the Year, and in 1994 she served as a Fulbright Fellow in Israel. Her hobby is constructing crossword puzzles; she has contributed many of these to the New York Times. She is a religious of the Ursulines of the Roman Union. She has long been a member of The Westchester Chemical Society's Board of Directors. Upon retirement from the College of New Rochelle, she founded, and is president/CEO of a company, ChemSource, Inc.

THIS MONTH IN CHEMICAL HISTORY NEEDS YOU!**I need your suggestions!**

My recent columns in the series "This Month in Chemical History" have explored Great Books in Chemistry through the 19th. century I plan to start a new series on the same subject covering the 20th. century. Please send your suggestions to me, Harold Goldwhite, at hgoldwh@calstatela.edu. And thank you.



CALL FOR NOMINATIONS

ACS Fellows

The [American Chemical Society Fellows Program](#) recognizes ACS members for outstanding achievements in and contributions to science, the profession, and the Society. Both the North Jersey ACS and the New York ACS are seeking candidates to nominate for ACS Fellow honors. Please email the respective Section representative for more info.



[North Jersey ACS](#)
[New York ACS](#)

DUE January 1, 2022

COMMITTEE ON THE HISTORY OF THE NEW YORK LOCAL SECTION

Over the past twenty-three years the New York Section has participated in the designation of seven National Historic Chemical Landmarks and four New York Section Historic Chemical Landmarks. A brief description of these National and local section landmarks may be found on the NY Section [website](#). These landmark programs recognize achievements in the chemical sciences and related areas, in order to enhance public appreciation for the contributions of the chemical sciences to modern life.

Please consider making a nomination for an historic chemical landmark. The Committee on the History of the NY Section will consider all nominations. In addition to a particular achievement, an historic library, building or association may be worthy of this distinction. Please send your nomination, with supporting documentation, to the Committee Chair, [Dr. Neil Jespersen](#).



Eastern Scientific
www.easternsci.com
781-826-3456

Vacuum Pump Problems?

Eastern Scientific specializes in the repair and precision rebuilding of all makes of mechanical vacuum pumps.

Free pick-up & delivery
Restrictions apply



Submissions for the December issue of The Indicator are due on November 16th.
<http://www.theindicator.org/>

NEWS FROM OUR PARTNERS




Solving material problems with evolving solutions since 1966

| | |
|----------------|-----------------|
| Thermal | Defects |
| Polymers | Castings |
| Chemicals | Corrosion |
| Metal Phases | Quality Check |
| Contaminations | Product Failure |
| SEM - EDS | DSC - TGA |
| AUGER | ESCA |
| FTIR | XRD |

Come visit Us at <https://micronanalytical.com>
 302-998-1184 Wilmington DE
micronanalytical@compuserve.com



The 53rd Meeting of MAALACT, the Middle Atlantic Association of Liberal Arts Chemistry Teachers, to be held **November 5 - 6, 2021** at **Pace University** in Manhattan, NY. The meeting will have both IN-PERSON and VIRTUAL tracks of speakers.

MAALACT provides opportunities for chemistry educators to share their ideas on pedagogy, classroom experiences, and chemical education. Friday evening's session will consist of an in-person happy hour/reception at Pace University (NYC Campus) followed by a HyFlex plenary session. Saturday's events will include symposia and round table discussions with a luncheon and a closing virtual plenary session.

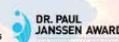
[Flyer Register here.](#)

mRNA Technology:

The 2021 Dr. Paul Janssen Award Symposium

Friday, November 19, 2021
 9:00 AM - 12:20 PM EST

Presented By



“

mRNA has an enormous amount of potential future benefits, including many vaccines for difficult diseases like HIV, influenza, malaria, TB and many others.

”



Drew Weissman, M.D., Ph.D.



Katalin Karikó, Ph.D.

nyas.org/Janssen2021

EASTERN ANALYTICAL SYMPOSIUM

HONORING BILL SUITS, LONG-TIME NJACS SUPER VOLUNTEER AND MENTOR AT THE EAS – TUESDAY, NOVEMBER 16, 2021

Bill Suits always had mission to help others through career guidance. To that end, the NJACS has organized an employment workshop as a memorial to Bill to be held at the Eastern Analytical Symposium, a premier scientific conference devoted to Analytical Chemistry. Information is below in the blue box. The workshop will begin with some words about Bill and his contributions to the community, followed by introduction of the workshop instructor, and the workshop.



[Eastern Analytical Symposium](#)

Location: Crowne Plaza Conference Center
900 Scudders Mill Rd,
Plainsboro Township, NJ 08536

BEATING THE APPLICANT TRACKING SYSTEM

Tuesday, November 16, 11:45am – 1:15pm

Lynne Williams, Ed.D. Candidate, Executive Director |
Chief Connector of the Great Careers Group & BENG

In-person at the Crowne Plaza Conference Center

As a job seeker, are you wondering why you are not getting any response to your online submissions? Uncover why human eyes may never see the resumes you submit online and discover what you need to do to optimize your resume to beat the dreaded ATS. Have your current resume available to mark up during the workshop.

The content of this presentation was published in chapter 8 of the book published by the ATD (Association of Talent Development) called Find Your Fit: A Practical Guide to Landing the Job You Love. Dick Bolles, author of What Color Is Your Parachute wrote the forward in this book and 15 other career coaches around the country also contributed chapters.

SPECIAL LECTURES AT EAS

KEYNOTE LECTURE

Mars Rover Perseverance Chemical Imaging with SUPERCAM Probe

Dr. Roger Wiens, Los Alamos National Laboratory
Monday, November 15, 4:00 PM

The Detection and Identification of Microplastics

Bridget O'Donnell, HORIBA Scientific.

The Unknown Toxicity of Microplastics

Phoebe Stapleton, Rutgers University
Tuesday, November 16, 8:00 AM

Advances in Vaccine Development to Fight against a Global Pandemic

Wednesday, November 17, 11:30AM

[Full program](#)

The ACS offers FREE career counseling via [virtual office hours](#) (12 to 1 pm every Thursday) in which you can engage in mock interviews, have your resume reviewed, learn how to improve your LinkedIn profile, and speak with a Career Consultant for general counseling.

This weeks topic: **How to Ace a Virtual Interview**

Date: November 4, 2021
Time: Noon ET

[Register here](#)



ACS Career Consultant

Virtual Office Hours

How to Ace a Virtual Interview
Thursday, Nov. 4 | 12 pm ET

 ACS Career Navigator
Chemistry for Life®



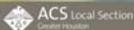
Dr. Allison A. Campbell

EXPERIENCES IN CHEMISTRY AND SCIENCE ADVOCACY

Thursday, November 18th
6:30 - 8:00 pm
Via Zoom

Former Associate Laboratory Director for Coastal and Marine Sciences at PNNL (Retired)

RSVP to receive meeting link:
<https://acsghs.wildapricot.org/event-4491507>



Curious about what it is like to work in a national laboratory or to advocate for science? Hear what former ACS President Alison Campbell, PhD, experienced during her storied career. Brought to you by the Greater Houston ACS.

Date: November 18, 2021
Time: 6:30 PM CT

[Register here](#)

JOB BOARD

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

Analytical Chemist – Robertson – Microlit Laboratories

[Apply here](#)

Scientist, Analytical Science and Technology – Century Therapeutics, Inc.

[Apply here](#)

Director, Research & Development – Integra Biosciences

[Apply here](#)

**Head of R&D – C16 Biosciences &
Scientist/Engineer, Downstream Purification – C16 Biosciences**

[More info](#)

Lecturer in Organic Chemistry at Brooklyn College

[Apply here](#)