

October 17 -23, 2021

NATIONAL  
CHEMISTRY  
WEEK



**FAST** OR **SLOW**  
Chemistry Makes It Go!

NATIONAL CHEMISTRY WEEK 2021

*See pages 5 & 11*



ACS Local Section  
New York



ACS Local Section  
North Jersey

OCTOBER 2021

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## THIS MONTH IN CHEMICAL HISTORY

Harold Goldwhite, California State University, Los Angeles • [hgoldwh@calstatela.edu](mailto:hgoldwh@calstatela.edu)

This is my final column in the “Great Books in Chemistry” series covering ancient times through the middle of the 19<sup>th</sup>. Century. Your responses to my request for suggestions for a new series covering the 20<sup>th</sup>. Century has so far been disappointing. Two submissions from one reader! I hope to get a few more suggestions from some of you otherwise I will have to make my own choices.

So back to the 19<sup>th</sup>. Century. The book is “Experimental Researches in Electricity” by Michael Faraday. Faraday is one of my heroes of science. If you wonder why please read a biography of Michael Faraday (there is a short one in my book “A Chemical Chrestomathy” available on line). Born into very humble circumstances he taught himself chemistry and physics and rose to become an outstanding scientist. He may be remembered mostly for his discoveries in current electricity including the inventions of the electric generator, the electric motor, and the transformer among others, but he began his scientific career as a chemist, and it is his work in electrochemistry that forms a substantial part of this month’s Great Book.



Michael Faraday

The “Experimental Researches” is a one volume compilation of the three volumes Faraday published under this title, and each volume is a compilation of the individual papers that he published in “Philosophical Transactions”, the journal of the Royal Society. The papers span the period 1839 to 1847. I will focus my examination on the work in electrochemistry from the middle of that period.

Faraday set electrochemistry on a firm scientific foundation. He established the equivalence in electrochemical effects between electricity generated by a “static” electrical machine, such as a Wimshurst machine, and by a Voltaic battery. He determined the basic law of electrochemistry: the amount of electrochemical product depends on the current passed and the elapsed time; and is independent of potential difference, or voltage. Most significantly for further theoretical developments he showed that electrochemical and chemical equivalents are identical, suggesting that chemical change has an electrical origin.

Together with William Whewell he devised the nomenclature of electrochemistry. The terms ion, electrode, electrolyte, anode, cathode, anion, cation etc. are all Faraday and Whewell coinings. And now I will challenge my readers again (as I do my students when I teach a course on History of Chemistry). What is the etymology of the an- and cat- prefixes for these terms?

Faraday made many other contributions to chemistry that are not in this book and so are “outside scope”. To mention a few: the first syntheses of benzene and some chlorinated alkenes; the first production of liquid ammonia and sulfur dioxide; and the observation that air becomes a better conductor of electricity as its pressure is reduced (the last two with Humphry Davy).

I look forward to hearing from you.

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# 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.

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**EDITORIAL DEADLINES**

November 2021	October 16, 2021
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

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 the [Editor](#).

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## October Calendar

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### NEW YORK SECTION

#### Wednesday October 6, 2021

Westchester Chemical Society  
See page 7

#### Tuesday, October 12, 2021

Biochemical Topical Group  
See page 8

#### Thursday, October 21, 2021

Hudson-Bergen Subsection  
See page 6

#### Sunday, October 24, 2021

National Chemistry Week Celebration  
See page 5

*also*

#### Friday, November 19, 2021

Board of Directors Meeting

### NORTH JERSEY SECTION

#### Monday, October 18, 2021

North Jersey Executive Committee  
See page 9

#### Monday, October 18, 2021

NMR Topical Group  
See page 12

#### Saturday, October 23, 2021

ChemExpo!  
See page 11

*also*

#### November 15 and December 13, 2021

North Jersey Executive Meeting  
See page 5

### CHEMLUMINARY AWARD CEREMONY



The 23<sup>rd</sup> Annual ChemLuminary Awards will be presented at a virtual celebration on October 21, 2021 from 4:00 - 5:00 PM ET that features a keynote address by [Mary K. Engelman](#), 2021 Volunteer Service to the American Chemical Society awardee.

The North Jersey and New York Local Sections are finalists for the following ChemLuminary Awards.

- Best High School Program – North Jersey
- Outstanding Public Outreach Event Organized by a Student Group – New York
- Outstanding Performance Award – Large Size Category – New York

[Register here to attend this virtual event](#)

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### 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](#).

Click here for additional information, including [rates](#) and [order form](#). For questions, please contact the [Advertising Manager](#).

## NEW YORK SECTION MEETINGS

### NATIONAL CHEMISTRY WEEK 2021

#### A Virtual Celebration

The New York ACS will celebrate National Chemistry Week virtually this year. Three events are planned to highlight the theme of 'Fast or Slow' Chemistry Makes It Go!. Download Celebrating Chemistry (at right) which contains NCW 2021 themed articles, games and activities. Download the New York ACS NCW flyer to share as well.

The **Live Virtual Event** will feature chemistry demos from local colleges/universities and businesses. Registration is FREE and open to all. If you want to present a demo, please register your group's demo by October 8, 2021.

[Registration link](#)

The New York ACS will host a **chemistry knowledge challenge** for students. Students will compete in their own age-group / category in 15-30 min. challenges using the Kahoot.it app. Winners of the Kahoot games will be recognized in each categories / age-groups.

[Registration link](#)

The NY ACS is also hosting an **illustrated poem contest** for K-12 students. Students are invited to write and illustrate a poem using this year's NCW theme, "Fast or Slow ... Chemistry Makes it Go!" The local winner(s) will be forwarded to the national competition for a chance to be featured on the ACS website and to win prizes. Download the [entry form](#) and [email](#) your submission by October 21, 2021.

#### Download Celebrating Chemistry ([English](#) / [Spanish](#))



**Call for General Admission/Volunteers/Coordinators**

Help the New York Section of the American Chemical Society Celebrate National Chemistry Week 2021

<b>1. Virtual Chemistry Event</b>	When: October 24 Time: 11:00 am – 4:00 pm <a href="#">Click to register</a>	<a href="#">Click Here to Register</a>
Presenters from local universities, colleges, high schools, chemical companies, business centers, and nonprofit organizations are invited to present online demonstrations, celebrating the 2021 NCW yearly theme, "Fast or Slow; Chemistry Makes It Go". <b>Tickets are available for General Admission, Coordinators, Volunteers &amp; Demonstrators</b> Registration starts September 10 <sup>th</sup> . For Coordinators, volunteers, & Demonstrators Registration ends October 8 <sup>th</sup> 2021		
<b>2. Chemistry Makes it Go – Kahoot.it!</b>	When: October 24 Time: 11:00 am – 4:00 pm Link: To be announced Prizes: \$25.00 Gift Cards	
Students are invited to compete in a 15–30-minute online Kahoot game that tests their chemistry knowledge. Winners will be recognized in several categories/age-groups. <b>Registration starts September 10<sup>th</sup> and ends October 8<sup>th</sup> 2021</b>	<b>3. Digital Illustrated Poem Contest</b> Deadline: October 21 Prizes: \$25.00 Gift Card Contact: <a href="mailto:ewasserman602z@gmail.com">ewasserman602z@gmail.com</a>	

The Local Section of the American Chemical Society (ACS) is sponsoring an illustrated poem contest for students in Kindergarten through 12th grade.  
**Submit entries with entry forms to: [Erin Wasserman, ewasserman602z@gmail.com](mailto:Erin.Wasserman@pepsico.com)**  
 Winners of the Poem Contest will advance to the National Illustrated Poem Contest for a chance to be featured on the ACS website and to win prizes!

For more information, contact  
 Joe Wiener at [joseph.wiener@pepsico.com](mailto:joseph.wiener@pepsico.com) or Paul Sideris at [psideris@qcc.cuny.edu](mailto:psideris@qcc.cuny.edu).  
 In Celebration of National Chemistry Week 2021

**HUDSON-BERGEN CHEMICAL SOCIETY*****In celebration of National Chemistry Week*****Mechanisms of protein internalization and degradation at the lysosomes through the ESCRT pathway**

Speaker: Dr. Sudeep Banjade  
Weill Institute for Cell and  
Molecular Biology, Cornell  
University

**Abstract:** Cells constantly remodel and recycle their components to maintain homeostasis. Among the various mechanisms of this kind of cellular quality control, the multivesicular pathway (MVB) is one of them. Cells use the MVB pathway to transport membrane proteins to the lysosome for degradation and recycling. The ESCRT (endosomal sorting complexes required for transport) machinery is a family of proteins involved in the formation of multivesicular bodies (MVBs).

In addition, the ESCRT proteins are also involved in several other biological pathways beside the formation of MVBs, which include cytokinesis, virus budding, membrane repair and so on. Therefore, the ESCRT complexes work at several locations in the cell to maintain cellular homeostasis. In this talk I will discuss my recent work on understanding some of the physicochemical principles behind the assembly of the ESCRT machinery at membranes. I will also explain how multivalent interactions between one of the ESCRT components (ESCRT-0) and its substrate induces liquid-liquid phase separation (biomolecular condensation) of the components, and how this property may define the initiation of the formation of ESCRT assembly at membranes. The talk will also discuss how multivalent interactions in this system helps efficient ESCRT function in yeast organelles.



**Bio:** Dr. Banjade, above, is a Postdoctoral Fellow at the Weill Institute for Cell and Molecular Biology, Cornell University, Ithaca, NY. His research interests include cellular quality control and cellular compartmentalization. He obtained his bachelor's degree at Fairleigh Dickinson University, where he was a Fairleigh S. Dickinson Scholar and an Honors student. He obtained his PhD in Molecular Biophysics at UT Southwestern Medical Center at the Department of Biophysics. His graduate work earned him the Kaluza Award from American Society of Cell Biology (ASCB). His postdoctoral work is supported by Damon Runyon Cancer Research Foundation.

**Date:** Thursday, October 21, 2021  
**Time:** 5:30 PM via [Zoom](#)  
**Cost:** Complementary  
(reservations required)

RSVP to [Dr. Mihaela Leonida](#) or [Dr. Ish Kumar](#)  
by **October 14, 2021**

**WESTCHESTER CHEMICAL SOCIETY****SPECIAL SEMINAR*****Finding Origins of Life in Ancient Biological Electric Wiring***

Speaker: Prof. Yana Bromberg, Ph.D.  
 Professor, Department of  
 Biochemistry and  
 Microbiology, Rutgers  
 University  
 Adjunct Professor, Department  
 of Genetics, Rutgers  
 University  
 Hans Fischer Fellow, Institute  
 for Advanced Study,  
 Technical University of  
 Munich  
 Vice President, Board of  
 Directors of the  
 International Society for  
 Computational Biology

**Abstract:** How did life appear on our planet? Alexander Oparin's 1924 theory of abiotic evolution of carbon-based molecules in a primordial soup suggests a means to the end. However, the evolutionary path beyond formation of individual molecules remains one of the most profoundly unanswered questions in biology. Although the first self-replicating biological molecules were possibly the catalytic RNA fragments, *i.e.* ribozymes, propagating these ribozymes requires energy. Biologically catalyzed redox reactions, *i.e.* proton coupled electron transfer, drive the energy requirements of all life on Earth. This observation implies that redox reactions must have been among the first (if not *the* first) functionalities acquired by early life. Hence, understanding the evolution of oxidoreductases, *i.e.* the enzymes responsible for the catalysis of redox reactions, potentially can elucidate the origin of life.



We aimed to explore the patterns of evolution of oxidoreductases. We found that the peptide structures that bind transition metals, ubiquitous in redox, have similar topology across the full diversity of existing proteins. Moreover, similarity between these structures reflects the environmental (read: Archaean Ocean) availability of key transition metals over geological time – a fossil record of sorts. It also strongly suggests that metal binding had a small number of common origins. We also observed that metal-binding structures central to our network of structural similarities came primarily from oxidoreductases, further confirming the idea that ancestral peptides facilitated electron transfer reactions. Finally, our results suggest that the earliest, biologically-functional peptides were likely available prior to the assembly of the first fully functional protein domains over 3.8 billion years ago.

The work that will be described in this session was performed under the auspices of the ENIGMA (Evolution of Nanomachines In Geospheres and Microbial Ancestors) project which was detailed by [Tools of Science in a short YouTube video](#).

**Date:** Wednesday, October 6, 2021  
**Time:** 7:00 PM via Zoom  
**Cost:** Complementary

RSVP by text or email to [Rolande Hodel](#), [Peter Corfield](#), or [Paul Dillon](#) for the Zoom link

## WESTCHESTER CHEMICAL SOCIETY

**Bio:** Dr. Yana Bromberg 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 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 the Bromberg 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 today. Dr. Bromberg is frequently invited to talk about her research in conferences all over the world and has, to-date, co-authored over 80 peer reviewed scientific articles. 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.

Next Westchester Chemical Society Meeting

### ***Engineering Fluorinated Thermo-Responsive Assembly Protein (F-TRAP) for Theranostic Applications in Glioblastoma Multiforme***

*Presented by*

**Aparajita Bhattacharyal, M.Res.**

**Date:** Wednesday, November 10, 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 31, 2022** to

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

## BIOCHEMICAL TOPICAL GROUP

### ***Pulmonary Hypertension: Beyond Vasodilators***

This full-day symposium co-hosted by the New York Academy of Sciences explores new therapies for pulmonary hypertension beyond vasodilators acting by novel anti-proliferative, antifibrotic, or anti-inflammatory mechanisms to modify the natural history of disease. This virtual symposium convenes basic science researchers, clinicians, and drug developers to discuss latest advances in the development of novel therapeutics that can overcome the limitations of current therapy for pulmonary hypertension. This event also features a poster session and short-talks.

**Tuesday, October 12, 2021**  
**Time:** 10:30 AM – 5:30 PM  
 Virtual via Webcast

[More info](#)



## 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](mailto: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
October	Monday, October 18, 2021
November	Monday, November 15, 2021
December	Monday, December 13, 2021

### NORTH JERSEY SECTION ELECTIONS – VOTING CLOSES ON OCTOBER 19, 2021

The North Jersey Section ACS 2022 election will take place until **October 19, 2021**. Ballot were sent out by email from [Vote-Now.com](http://Vote-Now.com). All current North Jersey ACS members should have received ballots in mid-September. As a reminder, here is our candidate slate for the 2022 offices of Chair-elect and Treasurer, as well as the multiple Councilor/Alternate Councilor positions available.

#### Chair-elect:

Justyna Sikorska

#### Treasurer:

Miriam Gulotta  
Luciano Mueller

#### Councilor/Alternate Councilor

Lynda Box  
Miriam Gulotta  
Diane Krone  
Robert Menger  
Michael Peddicord  
Monica Sekharan  
Yalan Xing

### ACS ELECTIONS – VOTING CLOSES ON OCTOBER 19, 2021

While you are voting on the North Jersey ACS leadership, don't forget to vote in the ACS leadership election. Get informed about the ACS President-Elect Candidates & ask your questions during the FREE Interactive webinar.

[Reserve your spot now.](#)

The banner features the ACS logo (Chemistry for Life) and the ACS Committee of Younger Chemists logo. It includes the text 'Catalyze the Vote!' in large yellow letters, '2022 ACS President-Elect Candidates' below it, and 'FREE Webinar | Wed, October 6 at 2pm ET' at the bottom. On the right side, there is an illustration of several hands in different colors (blue, green, yellow, red) holding up a ballot box. The ACS Webinars logo is in the bottom right corner.

***ANNOUNCING THE 2021 BAEKELAND AWARD***

2021 Leo Hendrik Baekeland Award goes to [Prof. Prashant K. Jain](#) from the University of Illinois at Urbana-Champaign for his contribution to the field of materials science. Dr. Jain's research has made impressive contributions to our understanding, on an atomic scale, of light-matter interactions, chemical transformation in nature and technology, and the inner workings of metal catalysts and photocatalysts.

The Leo Hendrick Baekeland Award is presented biannually by the North Jersey Section of the American Chemical Society. The first award was made in May 1945. Its purpose is to commemorate the technical and industrial achievements of Leo Hendrick Baekeland and to encourage younger chemists to emulate his example. The Award is given in recognition of accomplishment in pure or industrial chemistry, as characterized by the initiative, creativeness, leadership, and perseverance of the individual and indicated by published or unpublished evidence.

The 2021 Baekeland Award Symposium will be held early next year. Please stay tuned for all the updates and details.

## ChemExpo 2021

The North Jersey ACS invites you to join them in celebrating National Chemistry Week 2021 at the [Liberty Science Center](#). On **Saturday, October 23, 2021**, join us from **10:30AM - 3:00PM** and participate in hands-on activities and demonstrations geared towards students from middle-school to college.

Featuring:

- Hands-on science activities and demonstrations geared towards all levels of student from middle-school to college as well as all family members
- Contests for the best demonstration/hands-on activity by a college student team AND by a high school team – multiple prizes awarded for each category!



## Illustrated Poem Contest

As part of the National Chemistry Week celebration, the North Jersey ACS is also hosting an [Illustrated Poem Contest!](#) for K-12 students. Students write and illustrate a poem using this year's NCW theme, "Fast or Slow ... Chemistry Makes it Go!"

Each school may submit three winners in each grade category: K-2, 3-5, 6-8 or 9-12 to the North Jersey ACS. Download the [entry form](#) here and submit electronically by **October 22, 2021**. Winners will be advanced to the National Illustrated Poem Contest for a chance to be featured on the ACS website and to win prizes.

Email [Bettyann Howson](#) with any questions.



## ORGANIC TOPICAL GROUP

The Organic Topical Group presents

*2021 Award for Creativity in Molecular Design and Synthesis Symposium*

honoring Prof. Stephen L. Buchwald of the Massachusetts Institute of Technology on **November 18, 2021**.

<p>ACS North Jersey Organic Topical Group presents:</p> <p><b>2021 AWARD FOR CREATIVITY IN MOLECULAR DESIGN AND SYNTHESIS</b></p> <p><i>Symposium &amp; Award Ceremony</i></p>	<p><b>CALL FOR ABSTRACTS!</b></p> <p>Local graduate students, undergraduate students and post-docs in organic chemistry are encouraged to submit an abstract to be considered for a poster session, to be held during the symposium's coffee breaks. This presents an opportunity to share science and network with the speakers, local academics &amp; industry leaders.</p> <p><b>Abstract Guidelines:</b> &lt; 300 words Please also indicate name, PI, institution, &amp; graduate level.</p> <p><b>Abstract Deadline: Sept. 1<sup>st</sup>, 2021</b></p> <p>Email to: <a href="mailto:Susan_Zultanski@merck.com">Susan_Zultanski@merck.com</a></p> <p>Subject line: NJACS poster abstract</p> <p>Acceptance notification: Sept. 15<sup>th</sup>, 2021</p>									
<p><b>THE PALACE AT SOMERSET PARK</b> 333 Davidson Ave., Somerset, NJ</p> <p><b>November 18, 2021</b> 9:00 AM – 5:00 PM</p>	<p><b>SPEAKERS:</b></p> <table border="0"> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td>Professor Stephen L. Buchwald (MIT) <i>2021 Award Recipient</i></td> <td>Prof. David MacMillan Princeton University</td> <td>Dr. Seble Wagaw Senior Director AbbVie PR&amp;D</td> </tr> <tr> <td></td> <td></td> <td>Dr. Jingjun Yin Executive Director Merck PR&amp;D</td> </tr> </table>				Professor Stephen L. Buchwald (MIT) <i>2021 Award Recipient</i>	Prof. David MacMillan Princeton University	Dr. Seble Wagaw Senior Director AbbVie PR&D			Dr. Jingjun Yin Executive Director Merck PR&D
Professor Stephen L. Buchwald (MIT) <i>2021 Award Recipient</i>	Prof. David MacMillan Princeton University	Dr. Seble Wagaw Senior Director AbbVie PR&D								
		Dr. Jingjun Yin Executive Director Merck PR&D								

**NMR TOPICAL GROUP**

The North Jersey ACS NMR Topical Group will hold its 2021 Virtual NMR Symposium on Monday, **October 18<sup>th</sup>** from 8:00AM ET to 6:30PM ET.

[Click to download flyer](#)




**North Jersey ACS NMR Topical Group**  
*presents*  
**2021 Virtual NMR Symposium**

**October 18<sup>th</sup>, 2021**

More information available on our website: <http://www.njacs.org/nmr-spectroscopy-topical-group>  
Link to the webinar: [Click here to join the meeting](#)  
The Symposium is FREE of charge to all attendees

\*\*\*\*\*  
*Time Zone Conversion: EDT is UTC -4*

<p><i>Session 1 (8:00 – 10:00am EDT)</i></p> <p><b>Christian Griesinger</b> Max Planck Institute</p> <p><b>Matthias Ernst</b> ETH Zurich</p> <p><i>Session 2 (10:15 – 12:05pm EDT)</i></p> <p><b>Lewis Kay</b> University of Toronto</p> <p><b>Ann McDermott</b> Columbia University</p>	<p><i>Session 3 (1:00 – 2:40pm EDT)</i></p> <p><b>Nicholas Whiting</b> Rowan University</p> <p><b>Qi Zhang</b> University of North Carolina</p> <p><i>Session 4 (3:00 – 4:50pm EDT)</i></p> <p><b>Andrew Nieuwkoop</b> Rutgers University</p> <p><b>David Rovnyak</b> Bucknell University</p>
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*Evening Keynote session (5:25– 6:15 pm EDT)*

**Gerhard Wagner**  
Harvard University

We acknowledge the generous support of our sponsors:























**Program**

*Session 1 (8:00 – 10:00am EDT)*  
8:10 – 9:00am - Christian Griesinger, Max Planck Institute  
*TBA*  
9:05 – 9:55am Matthias Ernst, ETH Zurich  
*Residual Dipolar Line Width in Proton MAS Solid-State NMR*  
9:55 – 10:15am – Break

*Session 2 (10:15 – 12:05pm EDT)*  
10:20 – 11:10am - Lewis Kay, University of Toronto  
*Developing the NMR toolkit to study protein molecules in the phase separated state*  
11:15 – 12:05pm - Ann McDermott, Columbia University  
*Signaling in Biological Systems – Insights from NMR*

**12:05 – 1:00 pm - Lunch Break**

*Session 3 (1:00 – 2:40pm EDT)*  
1:05 – 1:45pm - Nicholas Whiting, Rowan University  
*Advances in Hyperpolarized Magnetic Resonance*  
1:50 – 2:40pm - Qi Zhang, University of North Carolina at Chapel Hill  
*Unveiling the "Invisible" Regulatory States in RNA*  
2:40-3:00pm – Break

*Session 4 (3:00 – 4:50pm EDT)*  
3:05 – 3:55pm - Andrew Nieuwkoop, Rutgers University  
*Using NMR and Molecular Dynamics to Understand Protein Lipid Interactions*  
4:00 – 4:50pm - David Rovnyak, Bucknell University  
*The metabolome in the freezer: promises and pitfalls of mining metabolic knowledge in standard-of-care biobanked sera, and other unconventional NMR metabolomics*  
4:50-5:10pm – Break

**Evening Keynote (5:10 – 6:30pm EDT)**  
5:25 – 6:15pm – Gerhard Wagner, Harvard University  
*From NMR studies of translation initiation factors to understanding and targeting cancer*  
6:20-6:30pm – closing remarks by Jon Williams, Co-Chair of the NJACS NMR Topical Group  
Register on the website here: <http://www.njacs.org/nmr-spectroscopy-topical-group>

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## ***BUILDING YOUR MOST COMPETITIVE GRADUATE SCHOOL APPLICATION: TIPS FROM THE ADMISSIONS COMMITTEE***

Once you decide that you want to pursue an advanced degree in chemistry, the ACS has a variety of resource to help you build your most competitive application. ACS members can access free professional development webinars including those on graduate study in chemistry. Below are two that we suggest as the most useful in building your application. The first helps in deciding which type of program is best for you. The second provides some tips on how to build your most competitive application.

[Strategies for Applying to Graduate School](#)

[Tips for Applying to Graduate School in Chemistry](#)

Most applications will require transcripts, a personal statement, and letters of reference letter, preferably from research mentors who can speak to your potential as an independent scientist. The most competitive applications present a consistent picture of you as an academically-prepared, research-ready graduate student that can explain why they are interested in the specific program to which they have submitted their application.

## ***RECOMMENDATION LETTERS***

The best recommendation letters come from scientists who know you well in the context of a research laboratory. They are able to provide insight into your potential as a future independent scientist - information that a transcript doesn't provide. Provide letter writers with your resume/CV and an spreadsheet of programs with deadlines and instructions on how to submit their letters.

*Top Tip: Ask letter writers if they are willing to write you a **positive** letter of recommendation.*

## ***THE PERSONAL STATEMENT***

The personal statement is your chance to speak to the committee directly. They are evaluating whether you fit into their program, your motivation and the probability that you earn the degree and go on to an illustrious career. Review their websites and read the abstracts of their faculty's papers so that you can explain your interest in their program and their faculty's research. Discuss any research/industrial experience that you have and how it has informed your decision to pursue graduate study. Indicate if you presented the work (poster), wrote a thesis or co-authored a paper. Objectively review your transcripts and then provide an explanation for any weak grades and any PASS/FAIL or CREDIT/NO CREDIT grades. In addition, indicate any laboratories that you took online.

*Top Tip: Ask a letter writer to provide constructive criticism of your personal statement.*

## ***THE GRE***

Some programs will require that you submit scores from either the general or chemistry subject Graduate Record Examinations (GREs), while other programs may recommend, but not require them. Plan to take the general GRE and perhaps the chemistry subject test if you plan to apply to a program that requires them. Even if a program doesn't require the GRE, if you do well, then send in the scores to bolster your application. Remember that the general GRE is taken by students from all disciplines (art history, political science) and therefore doesn't have trigonometry or calculus questions.

*Top Tip: Make sure to refresh your geometry skills, since you likely haven't studied it recently.*



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Cancer Center

ADVANCED SCIENCE  
RESEARCH CENTER  
THE GRADUATE CENTER  
CITY UNIVERSITY OF NEW YORK



## Nanoscience Approaches to Cancer

October 8, 2021  
10:00AM – 2:00PM via Zoom

[Click here to Register](#)

**Biomaterials at the Interface of Tissue Engineering & Cancer Immunology**  
[Matthew T. Wolf, Ph.D.](#)

National Cancer Institute

**DNA-Based Nanostructures for Chemical and Biological Analysis**

[Deveena Samanta, Ph.D.](#)

The University of Texas at Austin

**Exploiting the Fluorous Effect to Develop Adaptive Theranostic Devices in Oncology**

[Scott H. Medina, Ph.D.](#)

The Pennsylvania State University

**Changing the shape of nanomedicines to enhance cancer immunotherapy**

[Darrell J. Irvine, Ph.D.](#)

The Massachusetts Institute of Technology

**Targeting p27Kip1 in Cancer**

[Stacy Blain, Ph.D.](#)

SUNY Downstate Medical Center

Concarlo Holdings LLC

**An Optical Nanosensor Platform for Cancer Detection and Monitoring**

[Ryan Williams, Ph.D.](#)

The City College of New York

**Tunable composite nanocarriers for multi-modal imaging & theranostic applications**

[Nathalie May Pinkerton, Ph.D.](#)

New York University – Tandon School of Engineering

**Understanding and harnessing cell-material interactions in biomaterials**

[E. Thomas Pashuck, Ph.D.](#)

Lehigh University

## ABSTRACT SUBMISSION DEADLINE OCTOBER 11, 2021



The ACS National Spring Meeting will take place **March 20-24, 2022**, in **San Diego, California**. The meeting will be held in-person and virtual. Make sure to submit your Abstract in time.

[Abstract submission deadline is October 11, 2021](#)

### FREE SYMPOSIUM

The Brooklyn College Cancer Center and the CUNY Advanced Science Research Center are excited to offer a FREE symposium entitled “Nanoscience Approaches to Cancer”. Experts in industry, government labs and academic institutions will present their most recent advances in using nanoscience to battle cancer in all its forms. The topics range from the diagnosis, to the imaging and the treatment of cancer.

**Date: OCTOBER 8, 2021**

Time: 10:00AM – 2:00PM via Zoom

[Download flyer](#)  
[Register here](#)



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## CHEM CLASH – THE INTERACTIVE GAME SHOW

The ACS is sponsoring an interactive game show in celebration of National Chemistry Week. Compete virtually against friends, coworkers, student chapters and local sections using your chemistry knowledge across 5 rounds of science trivia.



**Date: Tuesday, October 19, 2021**

Time: 6:30PM

[Register your team of at least three members for FREE by October 18<sup>th</sup>](#)

## 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](mailto: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!



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## Call for Nominations

### OUTSTANDING COLLEGE CHEMISTRY TEACHING AWARDS

The New York Section is seeking nominations for the following three Outstanding College Teaching Awards awards whose purpose is to recognize, encourage and stimulate high-quality teaching and research:

[Outstanding Two-Year College Chemistry Teaching Award](#)

[Outstanding Four-Year Undergraduate College and University Chemistry Faculty Teaching Award](#)

[Outstanding Four-Year University with Graduate School Chemistry Faculty Teaching Award](#)

**Nominations are due October 15, 2021.** Candidates need not be members of the ACS. Awardees will be recognized with a major award plaque at the Sectionwide Conference in January 2022. Unsuccessful nominations remain active for three years and updating is encouraged. For more information about the award along with a list of former award recipients, please visit the [website](#).

**Students and faculty at two year colleges across the country** to participate in a virtual career development program. Join us for an exciting session that will help you make your next move, reach your career goals, and take advantage of the latest ACS Resources. The event is FREE and open to all students and faculty in the sciences, not just chemistry!

**Date: October 15, 2021**

**Time: 12:30PM-3:30PM ET**

[Register here](#)




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## Grant Opportunities

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### ACS PETROLEUM RESEARCH FUND

Proposals for fundamental research in the petroleum field will be accepted starting on September 20, 2021.

**DUE OCTOBER 15, 2021**

[Learn more](#)

### SCIENCE CAFÉ MINIGRANTS

Science cafés provide a relaxed, open venue for nonscientists and scientists to discuss current topics. By hosting a science café you can help promote scientific literacy within your local community and invigorate your local section about questions of the day with a scientific underpinning.

**DUE OCTOBER 15, 2021**

[Learn more](#)

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## Councilor's Caucus

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The Council of the American Chemical Society met virtually on August 25, 2021 to conduct the business of the Society. The North Jersey and New York Councilors discussed and voted on a variety of issues and resolutions. The Councilor Talking Points can be downloaded [here](#).

### 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](#).

**The Indicator is posted  
to the web 1<sup>ST</sup> of the  
month at**

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



## NEWS FROM OUR PARTNERS

### SHORT COURSES

The Eastern Analytical Symposium offers a range of short courses designed to help the practicing chemist develop new skills and keep current with best practices. The courses range from Basic Mass Spectrometry to Intellectual Property Fundamentals for Scientists to R Programming for Analytical Chemistry. Course will be offered in person November 14-17, 2021 at EAS. Register by October 15, 2021 for reduced rates.



[More info online](#)



### A COLORFUL COMEBACK

The future of beauty is bright, bold, and sparkly as we enter a new era filled with vibrant creativity. The seasons ahead use color and dazzling shimmer to uplift the global mood.

Join Colors & Effects® on October 28, 2021 at 11:00AM to unlock tips and tricks to creating formulas and shades for the latest beauty movements.

[More info online](#)

## OFFERINGS BY OTHER LOCAL SECTIONS

**October 1, 2021**

**How Flavoenzymes Can Light Our Way to Sustainable Energy, Without Breaking the Laws of Thermodynamics**  
presented by Herty Medalist Prof. Anne-Francis Miller at the Georgia Local Sections' Herty Undergraduate Research Symposium

[More info online](#)

**October 15, 2021**

**Improving Gender Equity in the Chemical Sciences**

presented by the Chicago Section. Chicago ACS Chair-Elect Mark Cesa will discuss his work on the International Science Council's Gap Project.

[More info online](#)

## CAREER PATHS: ACADEMIC WORKFORCE DEVELOPMENT



This [New York Academy of Sciences](#) webinar is focused on developing programs to support early career researchers in STEM. The panel will discuss how to create programs and opportunities to help diverse STEM professionals succeed professionally and create an inclusive culture that makes STEM accessible to all.

[More info online](#)



## **ACS CAREERS**

Are you looking for a new job, applying for graduate school or internships, or transitioning in your career? Do you want to seek advice on how to navigate the next stage of your career, improve your resume or perhaps work on your networking skills? 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. If you prefer a more personalized environment, peruse the bios of the [Career Counselors](#). Once you've selected a Counselor, based on their career, skills and/or experience, reach out to [careers@acs.org](mailto:careers@acs.org) to arrange for a 1:1 meeting!

Also note the other career-related services that ACS provides: employment opportunities can be found through [C&EN Jobs](#), online courses are available for your [professional development](#) (additional fees may apply), and ACS hosts [Career Days](#) throughout the year!

## **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](mailto:jobs@NewYorkACS.org) for inclusion.

**Lecturer in Organic Chemistry at Brooklyn College**

[Apply here](#)

**Tenure-track Assistant Professor of Chemistry (Organic & Physical) at Iona College**

[More info](#)

**Adjunct Instructor (General Chemistry) at The Cooper Union**

[More info](#)

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