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Indicator

http://www.theindicator.org/

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

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EDITORIAL DEADLINES

October 2022	September 16, 2022
November 2022	October 16, 2022
December 2022	November 16, 2022
January 2023	December 16, 2022
February 2023	January 16, 2023

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

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

September Calendar

NEW YORK SECTION

Friday, September 9, 2022

Younger Chemists Committee See page 13

Thursday, September 15, 2022

Long Island Subsection See page 12

Monday, September 19, 2022

Board of Directors Meeting See page 12

SAVE THE DATES

Thursday, October 20, 2022

Hudson-Bergen Subsection see page 14

Saturday, November 19, 2022

Frances S. Sterrett Environmental Symposium *See page 15*

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NORTH JERSEY SECTION

Monday, September 19, 2022

North Jersey Executive Committee Meeting See page 9

Thursday, September 15, 2022

Abstract Deadline for 2022 Creativity in Molecular Design & Synthesis Symposium *See page 10*

SAVE THE DATES

Monday, October 24, 2022

NJACS NMR Topical Group See page 9

Tuesday, November 15, 2022

2022 Award for Creativity in Molecular Design & Synthesis Symposium See page 10



DR. KAREN I. GOLDBERG SELECTED AS THE 2023 WILLIAM H. NICHOLS MEDALIST

The New York Section of the American Chemical Society is pleased to announce that the Nichols Award Jury has chosen Professor Karen Goldberg to be the William H. Nichols Medalist for 2023. Professor Goldberg is the inaugural Director of the Vagelos Institute for Energy Science and Technology at the University of Pennsylvania (Penn) and a Vagelos Professor in Energy Research and Chemistry. She is being honored for her pioneering work in organometallic reaction mechanisms. The Nichols Medal Award will be presented at the Nichols Award Dinner that follows the Distinguished Symposium in her honor.

Prof. Goldberg earned her A.B. as a chemistry major from Barnard College and her Ph.D. in chemistry from the University of California, Berkeley. Following postdoctoral study at The Ohio State University, she joined the faculty at Illinois State University, a primarily undergraduate institution in 1989. In 1995, she moved



to the University of Washington (UW) in Seattle and in 2010, became the Nicole A. Boand Endowed Professor in Chemistry at UW. From 2007-2017, Professor Goldberg also served as Director of the first NSF Phase II Center for Chemical Innovation, the Center for Enabling New Technologies through Catalysis (CENTC), a collaborative effort between 18 principal investigators and their students at 14 institutions across North America. In 2017, she moved to her current position at Penn.

Professor Goldberg was elected as a Fellow of the American Association for the Advancement of Science (AAAS) in 2012, to the American Academy of Arts and Sciences in 2017 and to the National Academy of Sciences (NAS) in 2018. In 2016, she received the American Chemical Society (ACS) Award for Organometallic Chemistry. She has served as Chair for the Chemistry Section of the AAAS (2017) and currently serves as Councilor for the ACS Division of Inorganic Chemistry. She also serves as a member of the Board on Chemical Sciences and Technology at NAS, as a member of the International Advisory Committee of the International Solvay Institutes, and on the Scientific Advisory Boards of two NSF research centers. More than 70 graduate students and postdoctoral research associates and over 70 undergraduate students have trained in her laboratories.

Professor Goldberg is best known for her work developing mechanistic understanding of fundamental organometallic reactions and for application of that knowledge to the creation and optimization of new catalytic systems.

Further details about the Nichols Symposium for 2023, entitled:

Catalysis for a Sustainable Future

will be featured in upcoming editions of the Indicator and on the New York ACS website.

NORTH JERSEY ACS'S STEVEN SILVERMAN HONORED FELLOW OF ACS

Dr Steven M. Silverman, previous Chair of NJ-ACS Organic Chemistry Topical Group, has been elected a 2022 Fellow of the American Chemical Society (ACS), to recognize his outstanding achievements in and contributions to science, the profession, and ACS.

Dr. Silverman is an outstanding scientist with a strong track record of leadership both in pharmaceutical industry and in the ACS community. He has demonstrated considerable impact across multiple therapeutic areas through delivering innovative chemistry and leadership of multiple project teams. At Bristol-Myers Squibb, Steve focused largely in latestage development with significant contributions to development of BMS-663068, currently in late-stage clinical trials as the novel HIV attachment inhibitor Fostemsavir. At Merck, Dr. Silverman led efforts to develop novel methods in



bioconjugation, leading the development of protein conjugates of high complexity through the development of new techniques, including an efficient solution to phosphoramidate prodrug formation reported in <u>Organic Letters</u>.

In addition to his industrial accomplishments, Dr. Silverman has demonstrated a deep commitment to the American Chemical Society. As treasurer and subsequently chair and past-chair of the Organic Topical Group of ACS North Jersey Section, Steven helped to deliver multiple high-quality symposia to scientists in New Jersey and Pennsylvania including three instances of the Award for Creativity in Molecular Design and Synthesis. He has also served the local section as an alternate councilor since his election in 2017. At the national ACS level, Dr. Silverman has taken on multiple leadership roles in the Division of Organic Chemistry, most significant of which are his current dual roles as both Program Chair and Symposium Planning Committee Chair. In this capacity, he has worked with organizers to deliver over forty high quality organized symposia in addition to a complement of over thirty contributed symposia at national meetings.

Dr. Silverman he has served on multiple committees to enhance the reputation of the division. He helped to initiate and now co-chairs the highly visible DOC virtual symposia and has served on multiple award committees, including the Young Investigators and Summer Undergraduate Research Fellows, all the time showcasing his commitment to diversity and inclusion. He has shown repeatedly his commitment to the ACS by stepping up to perform tasks ranging from communications to organizing social events at each national meeting for the Divisions of Organic and Medicinal Chemistry.

Dr. Silverman's work is characterized by high levels of intellectual rigor, organization, effective collaboration, dedication, and passion. Steve has been the recipient of multiple awards, including recognition of his commitment to Diversity and Inclusion in hiring and Merck awards related to his leadership of project teams. Dr. Silverman also demonstrates enthusiasm for fostering interactions between industrial and academic researchers with his outreach to universities, as seen in his organization of the annual Merck-Stanford lecture, active research collaborations, and co-chairing recruiting efforts within Merck Process Research and Development.

NEW YORK ACS'S ALISON HYSLOP HONORED FELLOW OF ACS

Associate Dean Alison Hyslop, Ph.D., of St. John's University has been named an American Chemical Society Fellow for her contributions to the science/profession of chemistry and her service to the American Chemical Society.

Dr. Hyslop is being recognized for her long-standing contributions to inclusive excellence in chemistry education at multiple levels across multiple institutions. She mentored thirty high-school, has over undergraduate and master's degree students in her research laboratory. She initiated the STEM Faculty Learning Communities at St. John's University to improve introductory STEM courses. Alison followed on that success with the STEM Scholars Program that has supported ~70 students who have earned bachelor degrees in Biology, Chemistry, Mathematics and



Physics. Dr. Hyslop further expanded her impact in inclusive excellence via the NSF-funded (STEM)² Network, a multi-institutional/multi-disciplinary effort to make it easier for students to enter and stay in STEM career pathways. Working with colleagues in Biology at St. John's, Adelphi & Hofstra Universities and Nassau & Queensborough Community Colleges, she is spearheading innovations to reform curricula and improve student success. She also pioneered the industrial outreach master's degree program for chemical technicians employed at Estée Lauder.

Dr. Hyslop is also being recognized for her impact as an ACS volunteer at the local, regional and national levels. She served the New York ACS in roles ranging from co-Chair of the Undergraduate Research Symposium (2005 – 2010) to serving as Section Chair in 2016 for its 125th Anniversary. As Chair of the Educational Activities Committee (2011-present), Alison oversees the organization of Chemagination (co-Chair 2016-2018), Chemists Celebrate Earth Week, National Chemistry Week, Project SEED and the Nichols Foundation High School Chemistry Teacher Award. She also co-organized a series of distance learning webinars in response to COVID-19 and was a key contributor to the NYACS's first Diversity, Equity, Inclusion and Respect efforts.

At the regional level, Dr. Hyslop served as General co-Chair of the Middle Atlantic Regional Meetings in 2020 and 2023. At the national level, Dr. Hyslop's service has been decidedly member-centric. She has served on the Admission Committee and the Member Affairs Committee where she championed changed to the membership dues categories to make ACS membership more inclusive to a wider array of STEM professionals.

Merck
Computational & Structural Chemistry
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S Computational & Structural Chemistry

Wednesday September 7, 2022 12:00-2:30 PM EDT



For general questions or to send questions to the panelists in advance, please contact us at: jill.chrencik@merck.com

Registration Link

CHEMLUMINARY AWARDS FOR NORTH JERSEY ACS & NEW YORK ACS



Pictured (L-R): NJACS's Amjad Ali, Mirlinda Biba, Sandra Keyser, Miriam Gulotta & Diane Krone

Both the North Jersey and New York local sections were honored at the 24th Annual ChemLuminary Awards held during the Fall ACS Meeting & Exposition in Chicago.

The North Jersey ACS earned the following four ChemLuminary Awards:

- Outstanding US National Chemistry Olympiad
- Outstanding High School Student Program Award (pictured above)
- Outstanding Local Section Industry Event
 Outstanding Performance by a Local Section Large Size category

 24th Annual

The New York ACS earned two ChemLuminary Awards, as follows:

- Outstanding Virtual Event for CCEW or NCW
- Best Program or Activity Stimulating Member Involvement (pictured below)



Pictured (L-R): W. Matthew Reichert (LSAC Chair), NYACS's Rita Upmacis, Brian Gibney, Alison Hyslop & ACS President-Elect Judith Giordan

PROFESSOR MARLON MORENO AWARDED NEW YORK ACS'S OUTSTANDING SERVICE AWARD FOR 2022

Professor Marlon Moreno, of Queensborough Community College – The City University of New York, has been selected to receive the New York Section's 2022 Outstanding Service Award. Marlon is being honored for his selfless service to the New York Section over the last decade. The Outstanding Service Award will be presented at the Sectionwide meeting in January 2023.

Marlon Moreno has quietly and unassumingly served the New York Section of the American Chemical Society in a number of roles over the years. Marlon is best known as a stalwart of the Long Island Subsection, having served as its Chair in 2014, and contributing to its successful Chemistry Challenge and the upcoming Frances S. Sterrett Environmental



Chemistry Symposium. Aside from his work with the Long Island Subsection, Marlon has served the New York ACS as a Director-at-Large (2015), Chair of the Information Technology Committee (2016-2022) and Secretary of MARM2016 Planning Committee. In addition, Marlon was instrumental in forming the Student Member Chapter at Queensborough Community College.

NEW YORK ACS MEMBERS HONORED AT MARM 2022

Two New York ACS members were honored at the 2022 Middle Atlantic Regional Meeting Awards dinner on June 6th. Mrs. Nadia Makar (left photo) of Jose Marti STEM Academy received the 2022 Stanley C. Israel Regional Award for Advancing Diversity in the Chemical Sciences from the ACS Committee on Minority Affairs. She is recognized for her impact on the lives of economically disadvantages students over the past three decades as Coordinator of the New York ACS Project SEED Program (*see page 19*). Mr. Frank Romano (right photo) of Agilent Technologies received the E. Ann Nalley Regional Award for Volunteer Service to the American Chemical Society. Frank is one of the most versatile volunteers in the region, having served as an officer for the New York ACS, The Indicator, the Middle Atlantic Region of the ACS, and the Eastern Analytical Symposium.





NORTH JERSEY SECTION MEETINGS

https://www.njacs.org/

2022 NORTH JERSEY EXECUTIVE COMMITTEE MEETINGS

2022 North Jersey ACS Chair Qi Gao and the Executive Council welcome you to our monthly NJACS meetings. All meetings will be held virtually until further notice. 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.

The format for each meeting will be announced in preceding month's issue of The Indicator. For any additional information including a link to virtual meetings and RSVP deadline for in-person meetings, please <u>click here to email our Communications Chair</u>.

September 19 October 17

November 14 December 12

NORTH JERSEY OFFICER ELECTIONS

The North Jersey ACS 2023 election will take place online from the **middle of September through the middle of October**. Balloting will be electronic and managed by **Vote-Now.com**. Ballots will be sent to all current North Jersey ACS members via the email address that they registered with ACS.

We are still seeking candidates for the positions of Chair Elect (one) and Councilor (three). Please <u>email our Secretary</u> the name of a NJACS member who would interested in running.

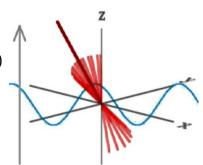


NORTH JERSEY NMR TOPICAL GROUP

The NJACS NMR Topical Group is proud to present its Annual NMR Symposium to be held on **October 24th, 2022** from **1-8 PM ET**! We are returning to an in-person event this year and we invite you to join us at the Frick Chemistry Laboratory Auditorium at Princeton University for the afternoon seminars and evening keynote address, followed by a light dinner in the Frick Chemistry Atrium.

This year's seminars will include presentations from:

<u>Hari Arthanari</u> (Dana-Farber Cancer Institute / Harvard Medical School)
<u>Kevin Gardner</u> (CUNY Advanced Science Research Center / CCNY)
<u>Tatyana Polenova</u> (University of Delaware)
<u>Frank Delaglio</u> (NIST / University of Maryland)
<u>Lauren Marbella</u> (Columbia University)



And will feature a Keynote session presented by Mei Hong (MIT)!

Please stay tuned to our <u>Website</u>, <u>LinkedIn</u>, and <u>Twitter</u> in the coming weeks for further details and to register. We look forward to seeing you all in person!

ACS NORTH JERSEY ORGANIC TOPICAL GROUP PRESENTS:

2022 AWARD FOR CREATIVITY IN MOLECULAR DESIGN & SYNTHESIS SYMPOSIUM & AWARD CEREMONY

Speakers:



PROF. CAROLYN R. BERTOZZI
STANFORD
2022 AWARD RECIPIENT



PROF. CHRISTINA WOO
HARVARD



PROF. ELLEN SLETTEN



DR. LISA MARCAURELLE



DR. WUYANG



PROF. MOHAMMAD SAYEDSAYAMDOST
PRINCETON

CALL FOR ABSTRACTS

Local graduate students, undergraduate students and post-docs in 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 & industry leaders.

Abstract Guidelines: < 300 words
Please also indicate name, PI, institution, 8
graduate level.

Abstract Deadline: September 15, 2022

Email to: yalanxing218@gmail.com

Subject line: NJACS poster abstract

Acceptance notification: October 1, 2022

NOVEMBER 15, 2022 | 9:00 AM - 5:00 PM EST

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NEW YORK SECTION MEETINGS

BOARD MEETING DATES FOR 2022

The dates for the remaining 2022 Board Meetings of the ACS New York Section are given below:

Monday, September 19, 2022 (hybrid) Monday, November 21, 2022 (hybrid)

The meetings are open to all – everybody is welcome, 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.

All 2022 Board Meetings will be held as hybrid meetings from the Iona College campus (directions). Prof. Kathleen Kristian will Chair all meetings. The meetings will start at exactly 6:30 PM.

Please note that there will also be a virtual meeting of the Finance Committee on Thursday, **November 10, 2022**.

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



LONG ISLAND SUBSECTION

Liquid Fire or Greek Fire: How this Incendiary Weapon Prevented the Fall of Constantinople During the 7th Century AD



Speaker: Dr. Paris Svoronos

Professor Emeritus

Queensborough Community

College

Date: Thursday, September 15, 2022

Place: Via Zoom Time: 6:00 PM

Registration is free

Abstract: The emerging Arab califate during the 7th century AD aimed at extending its conquest of Europe via two routes. The first one was defeating the Byzantine Empire by overcoming Constantinople around 672 AD. The second one involved taking over Northern Africa, crossing Gibraltar, overcoming Spain and moving towards the Italian peninsula. Their first route failed due to the devastating effect the liquid (Greek) fire had on the superior fleet of the Arabs. The exact composition of this incendiary weapon is still not exactly known many suggestions have although postulated. These many proposals and the reactions involved will be discussed.



YOUNGER CHEMISTS COMMITTEE (YCC) PRESENTS

"HOPPY" HOUR NETWORKING EVENT

at Ebbs Brewing
Includes Brewing Tour, Beer Tasting and
Snacks

DATE/TIME: FRIDAY, SEPTEMBER 9, 2022 @4PM

Location: Ebbs Brewery Co, Citi Field Taproom Cost: \$10 for age 21+

(when you sign up by September 5th, \$25 after September 5th)

Event is free for those under 21; non-alcoholic drinks/cocktails available

Free event parking at Citi Field Lot G



NEW YORK ACS ELECTION RESULTS

The results of the New York ACS 2022 elections were certified at the Board Meeting of June 6, 2022. The Board of Directors extends a most sincere thank you to all the candidates and expresses its appreciation for their time and efforts on our behalf. The officers elected, and their terms of service are given below:

Chair-Elect for 2023

Dr. Ping Furlan

Secretary for 2023-2024 Dr. Daniel Amarante

Director-at-Large for 2023

Dr. Maria Contel Dr. Ronald D'Amelia Mr. Joseph Wiener

Councilors for 2023-2025

Dr. Alison Hyslop Dr. Neil Jespersen

Dr. Joseph Serafin

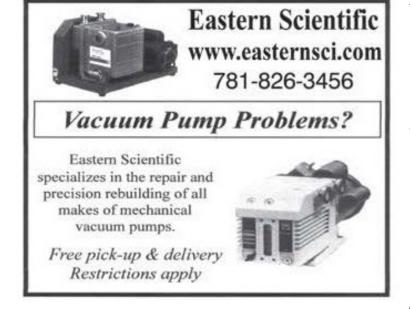
Alternate Councilors for 2023-2025

Dr. Eric Chang Dr. Nadja Grobe Dr. Ruben Savizky

Alternate Councilors for 2023-2024

Dr. Yosra Badiei Dr. Kathleen Kristian

Congratulations to all!



HUDSON-BERGEN SUBSECTION

A Green Chemistry Approach to the Development of Novel Antibacterial Agents

In celebration of National Chemistry Week





Speakers:

Dr. Margaret E. Kerr (above)

Dr. Maura C. Pavao

Worchester State University

Date: Place:

Thursday, October 20, 2022 Via Zoom from Fairleigh

Dickinson University

Time: 5:30 PM

RSVP by October 13, 2022

to <u>Dr. Mihaela Leonida</u> or <u>Mr. Thomas Drwiega</u>

Abstract: The present talk introduces the synthesis of antibacterial and antifungal complexes accomplished using method. Microwave synthesis is considered to be an effective and environmentally friendly system, particularly with the synthesis of imines. These can be synthesized either using water as a solvent or in a "solvent-free" environment. Imines and Zn(II) coordinated imines have been synthesized, creating a library of complexes to study. These complexes have been evaluated against various bacteria to determine their antibacterial activity using minimum inhibitory concentration analysis. Bacteria tested include Staphylococcus Streptococcus pyogenes, Klebsiella aureus, pneumoniae and Escherichia coli.

American Chemical Society – New York Section, Long Island Subsection 2022 Frances S. Sterrett Environmental Chemistry Symposium

Saturday, November 19, 2022; 10:00 AM – 12:00 PM; on Zoom http://newyorkacs.online/sterrett/

The Frances S. Sterrett Environmental Chemistry Symposium is dedicated to presenting the public with up-to-date, factual scientific information on environmental topics. The symposium is organized by members of the Long Island Subsection of the American Chemical Society (LIACS) and cosponsored by the New York Section of the American Chemical Society (NYACS).

Agenda

10:00 Welcome Remarks

Dr. Paris Svoronos, Symposium Chairperson Dr. Kathleen Kristian, 2022 ACS-NY Chairperson Dr. Qi Wang, 2022 ACS-LI Chairperson

10:05 Dr. Dimitrios Katehis

Wastewater Resource Recovery in the Circular Economy

10:30 Dr. Ping Y. Furlan

Magnetically Recoverable and Reusable Nanocomposites for Water Treatments

10:55 Dr. Charles E. Taylor

Chemistry of Decarbonizing Combustion and Propulsion Systems

11:20 Dr. Kevin Kolack

Moving an Introductory Environmental Chemistry Course Online Using the American Chemical Society's "Chemistry in Context"

11:35 Dr. Laura Schramm

Current Trends in Environmental Chemistry Education at an Urban Comprehensive Private University

11:50 Closing Remarks

Dr. Mary Virginia Orna, 2023 ACS-NY Chair-Elect Dr. Terrence Black, 2023 ACS-LI Chair-Elect

Speakers



Dr. Dimitrios Katehis

Executive Director of Operations Bureau of Wastewater Treatment, NYC Department of Environmental Protection



Dr. Ping Y. Furlan

Professor United States Merchant Marine Academy



Dr. Charles E. Taylor

Retired Supervisory Scientist National Energy Technology Laboratory



Dr. Kevin Kolack

Lecturer CUNY Queensborough Community College



Dr. Laura Schramm

Director of Environmental Studies
St. John's University



Registration (free): using the link <u>2022 LIACS-ECY</u> **Contact:** Dr. Paris Svoronos – Symposium Chairperson

Congratulations to the winners of our 2022 medals and awards

28 individuals and teams recognised for their outstanding contributions to science.





Postdoc Appreciation Week

19th - 23rd September 2022



MEETING REPORTS

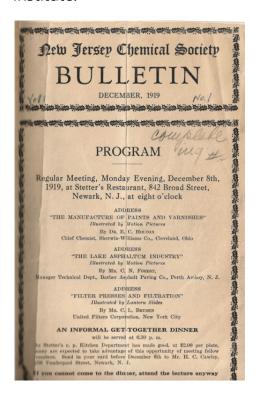
The Indicator Volumes Donated to Science History Institute

Contributed by Dr. John B. Sharkey

On August 9, 2022, representatives of the ACS New York Section visited the Science History Institute (SHI) in Philadelphia to donate an important part of its archives to the Institute. A complete set of bound copies of *The Indicator*, and its predecessor, the New Jersey Chemical Society Bulletin, from 1919 to 2002, will now have a home in environmentally safe facilities at the SHI. Representatives included Dr. Jespersen, Chair of the Committee on the History of the NY Section; Jespersen, long-time administrator of the NY Section, now retired, Dr. Mary Virginia



Orna, Chair-Elect of the NY Section, and Dr. John Sharkey, archivist and historian (from L-R in the image above). The donation was received by Dr. Gabriela Zoller, senior technical services librarian at the SHI. It was Dr. Jespersen who coordinated the this donation to the SHI. This is not the first archival donation the section has made. SHI also houses the Minutes of the section's early historic meetings from 1891 through the 1920s. I say historic because the Minutes of the section closely reflect the early history of the American Chemical Society itself. The New York Section, chartered in 1891, was the second local section, after Rhode island, to be chartered by the ACS. In more recent years, years, many other documents from the section were transferred to the Chemical Heritage Foundation, now called the Science History Institute.



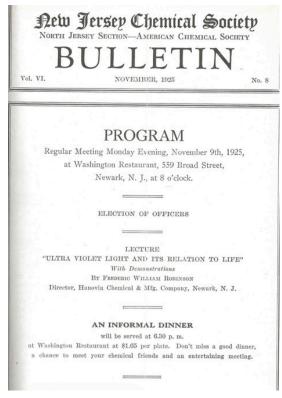
The history of *The indicator* is in and of itself it relates the history of the fascinating, as development chemistry in academe and industry in the New York - New Jersey area over the past century. The Indicator also relates the history of two of the largest sections of the ACS, the New York and the North Jersey Sections. In the early years, membership in the NY Section included those members within a 50 mile radius of New York City Hall. The most dramatic change in membership occurred in July 1925, when the North Jersey Section was chartered by the ACS. In the 1920s, the chemical industry was expanding rapidly in this area of the country, especially in New Jersey. members in New Jersey, finding travel to NY inconvenient, started to meet locally, and formed the New Jersey Chemical Society. In December 1919, the group started publishing the New Jersey Chemical Society Bulletin (volume 1, issue 1 shown at left).

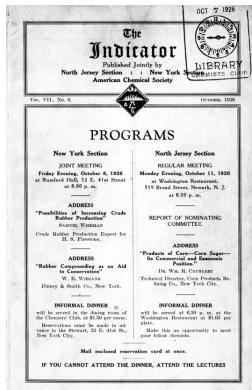
Since the New Jersey Chemical Society was not a local section of the ACS, it operated within the territory of the NY Section. A somewhat embarrassing moment may have initiated the application of the group to form a local section. In November of 1924, Leo Baekland addressed the New Jersey Chemical Society "Misdirected Efforts in Chemical Research." editorial in the *Bulletin* reported "When Dr. Baekeland" came to make his splendid address at our November meeting, he was under the impression up to the last minute that he was addressing a local section of the ACS of which he is president." The editorial continued with a call to form a local section, with a membership of 900. This required a waiver of jurisdiction from the NY Section, over the territory of the proposed NI Section, which it did, without dissent. The November 1925 Bulletin indicated that the Society was now the North Jersey Section of the ACS, but retained the name New Jersey Chemical Society.

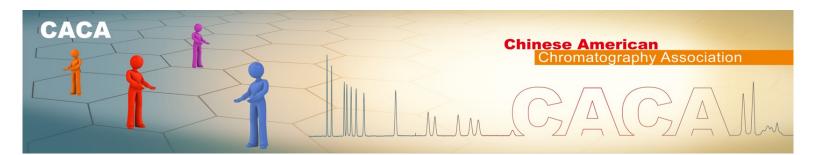
In 1926, the North Jersey and New York local sections joined forces with the publication of *The Indicator*. The editorial in the first issue of *The Indicator* related that this name was chosen to remind chemists

"occasionally to lift their eyes from their concentrated attention on theoretical matters, and take a few interested glances at the human problems in their environment."

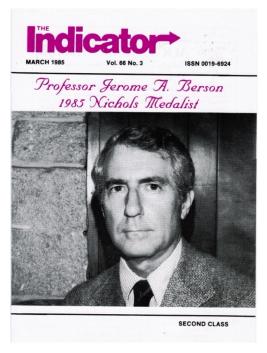
At right is a copy of the first issue of *The Indicator*, Vol. VII, No. 6, October 1926. The journal was now published jointly by the North jersey and New York Sections, an effort that continues to this day. Note that this issue was from the Chemists Club Library. The Chemists' Club was in beautiful building which still stands at 52 East 41st Street in Manhattan. NY Section meetings were held in the Club in Rumford Hall, and a dinner cost \$1.50.







The format of *The Indicator* has changed very little over the years. The cover has been modernized to keep up with the times. Shown below is a cover from March 1985, with a photo of Nichols Medalist Jerome A. Berson. A major change took place in 2003, when *The Indicator* went digital, no doubt due to rising postal rates. The online version is now in full color. Also shown is the cover of Volume 103, No. 6, June 2022, featuring some proud graduates.





As you know, a publication like *The Indicator* is a major effort of many dedicated individuals, but especially the editors. In my time, I remember Malcom Sturchio and Lilian Sello, editors for many years. *The Indicator* is now in the capable hands of editor Dr. Brian Gibney and associate editor Dr. Kathleen Gilbert. Let us also remember the section administrators, who were responsible for binding the issues and storing them in a safe place; Helen Condon at Manhattan College, and Marilyn Jespersen at St. John's University, recently retired after 30+ years of service. I look forward to celebrating the 100th anniversary of *The Indicator* in 2026.

The Indicator is YOUR newsletter: Please Contribute!

The success of The Indicator depends on contributions from the North Jersey ACS & New York ACS membership. As you can see from the article above, The Indicator is a historical document. It chronicles the activities, members and successes of both local sections.

Please let us know if you are organizing an event so that we can help get the word out using The Indicator, the section websites, and social media channels. After an event, send us a short article with photos to memorialize the activity. If you have a perspective that you would like to share with your fellow members like the one on page 21, please let us know.



PROJECT SEED 2022

The New York ACS had a very successful Project SEED (Science Experience for Economically Disadvantaged) program in 2022. Students did research at several local universities including Columbia University, Nassau County Community College, New Jersey City University, Stevens Institute of Technology, Montclair Seton Hall University, University, Rutgers University, Hudson County Community College, Jose Marti STEM Academy, Rutgers Medical School and the New Jersey Institute of Technology. Students participated in both SEED I and SEED II and some attended the ACS Summer Camp.



Krystinna Arevalo

Many thanks to all the professors who allowed Project SEED students to spend the summer doing research in their laboratories. Your generosity and kindness are very much appreciated. By opening the doors of your labs and volunteering your time you are providing bright young students from inner cities with opportunities to acquire skills that will help them to be prepared for careers in the STEM fields.

Special thanks to the mentors, Dr. Gerard Parkin, Dr. Aaron Moment, Dr.Rakhi Agarwal, Dr. Abhisheck Sharma, Dr. Hongjun Wang, Dr. Reed Carroll, Dr. Bumjung Kim, Dr. Wayne Eby, Dr. Yang Deng, Dr. Kevin Olsen, Dr. Santanu Sharma, Dr. Michele Pavanello, Dr. Karina Schafer, Dr. Ginshan Gao, Dr. Yufeng Wei, Dr. Zao Mangqiang, Dr. Edward Bonder, Dr. Fei Zang, Dr. Johannes Weickenmeier,

Dr. Joseph Badillo, Dr. Steve Levison. Dr. Mina Armani, Ms. Mervy Michael and Ms. Jennifer Donnelly. You are changing lives, one student at a time. You are preparing the next generation of scientists. The world is indebted to you for your generosity and kindness.

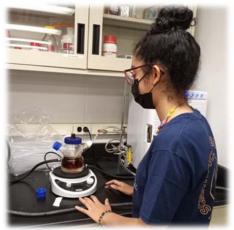


Diego Arias

Mrs. Nadia Makar who has been the coordinator of the New York Section Project SEED for the past three decades is very proud of all past participants. The majority of them have become leaders in their fields and in some cases, they are now mentoring current Project SEED students. They have all become successful productive citizens and contribute to their communities in particular and the world at large in general. Special thanks to the ACS New York Section and all the members for their support of Project SEED. Your commitment to the program made one of the most productive in the nation.



PROJECT SEED 2022 (continued)







Yara Aguilar

Steffani Rajapacksha

James Pelaez



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!

COMMITTEE ON THE HISTORY OF THE NEW YORK LOCAL SECTION

The New York Section has participated in the designation of seven National Historic Chemical Landmarks and four New York Section Historic Chemical Landmarks, as detailed on its <u>website</u>. 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 a historic chemical landmark - be it an achievement, a building or association. Send your nomination, with supporting documentation, to Dr. Neil Jespersen, Chair, Committee on the History of the NY Section.

FINDING YOUR IKIGAL

Brian Carter, Leader of Strategic Partnerships @ Khan Academy

I was recently introduced to the concept of Ikigai (ee-kee-gahy), which means "reason for being" in Japanese. My friend and I were talking about careers and work-life balance, and she mentioned the concept and then sent me this <u>Forbes article</u> from 2018. My entire life I have strived to find the right balance, between doing something I felt passionate about, while also earning a living. The concept of Ikigai helped to provide focus to what I had always been searching for.

Ikigai is a fairly simple concept. You will be happiest in life when you find a balance between the following four things: what you are good at, what you enjoy doing, what you can be paid to do, and what the world needs.

When I look back on the different jobs I have had,
I find that I was happiest when I was able to balance my passions and interests
with what the world needs and people are willing to pay me to do.

I pursued a PhD in chemistry, because I really enjoyed learning and solving challenging problems and found I was good at it, particularly as it applies to math and science. I began my career teaching high school chemistry at public schools, because I knew the world needed great teachers and I really enjoyed sharing my passion for chemistry with my students; however, it was nearly impossible to support myself, much less a family in New York City on a teachers' salary. Clearly, my Ikigai was unbalanced.

As I continued in my career, I also realized that not only did the world need chemistry teachers, but those needs went beyond the 80 to 100 students I taught each year. Thus, I applied for, and felt honored to receive, an ACS Congressional Fellowship, which placed me in Washington, DC working for Senator Clinton on issues related to improving education in the U.S.

If I would have known the concept of Ikigai then, I would have understood that while I really enjoyed my time on the Hill, I did not derive as much fulfillment from this work, because it did not utilize my knowledge as a PhD scientist. While I was good at the job and certainly was making a difference in the world, I realized that I wanted a job that was more directly related to science and math education and not just education in general, since this is what I most enjoy.

I next joined several of my Clinton colleagues at the U.S. Department of State, where I used my PhD to reduce the likelihood of rogue states and terrorist organizations from obtaining and using biological weapons. This was much more aligned with my PhD and the pay as a federal employee could support a family, but going back to the concept of Ikigai, I did not enjoy the science security work as much as I did the science education work. While the job was very interesting and meaningful, I wouldn't say I was completely fulfilled and satisfied with my career at this point.

Therefore, I switched from security to science diplomacy within the U.S. Department of State. This was a perfect fit for me. I could use my PhD in science to understand and build collaborations with other countries, while seeing the fruits of these joint research projects improve the lives of millions of people both within the U.S. and in countries around the world.

FINDING YOUR IKIGAI (continued)

My personal life took me away from Washington, DC, and I accepted a job consulting for nonprofits. Consulting, even for nonprofits, was certainly a plus for my finances. However, if I had known and been able to apply the concept of Ikigai, I would have realized that this specific consulting job was not the best fit for me. I was happiest working for science- and education-based nonprofits, and did not derive as much joy or meaning when I was working for other nonprofits, even though the work I was doing for them was making a real difference in the world.

I left consulting because I was offered a position at a new family foundation developing their strategy to change how students experience STEM education. Again this was a perfect combination for me. I could use my knowledge and experience in science and education to do something I really enjoy (solving complex problems related to educational access and opportunities), while increasing students' skills and confidence in science and math.

I returned to the classroom a few years ago, because I was seeking that joy that only comes from being in the classroom and seeing your students' faces light up when they understand a difficult concept, solve a challenging problem, or correctly predict something in the laboratory that at first pass seems counterintuitive. While not familiar with the concept of Ikigai at that time, I did know financially I would not be able to do this in New York City; so, choose to relocate to Atlanta, GA, where the cost of living is substantially less than New York City.

The last three years in the classroom teaching high school chemistry, AP Physics 1, and a new science policy elective I designed have been some of the most professional and personally challenging years of my life due to the pandemic, but they have also been some of the most rewarding of my career. I was able to do what I love teaching high school science, while using my skills as a PhD chemist who has done a lot of science policy. I was able to support my students through the pandemic, while also instilling in them a love of science and confidence in their own science abilities. I am grateful to each and every one of my students, because they helped me get through this pandemic, every bit as much as I helped them.

To rebalance my desire to have a larger impact than only the students I was directly teaching, I recently accepted a new role leading strategic partnerships for Khan Academy, which is an online learning platform that has been around for nearly 15 years with the mission of providing a free, world-class education to anyone, anywhere. Through our work we impact more than 140 million registered users, and I couldn't be happier as I strive to increase the impact Khan has through our strategic partners.

I wish I had learned about the concept of Ikigai sooner in my career, but even if you have never heard of it, I hope that you will use the simple concept to guide future career decisions in your own life. I know I have been happiest when I am doing what I'm good at, but also enjoy, while getting paid a fair wage to do something the world really needs. I sincerely wish the same for you as well.



CALL FOR NOMINATIONS

CALL FOR NOMINATIONS: OUTSTANDING COLLEGE CHEMISTRY TEACHING AWARDS

The New York Section is seeking nominations for the following three 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, 2022. Candidates need not be members of the ACS. Awardees will be recognized with a major award plaque at the Sectionwide Conference in January 2023. Prior nominations remain active for three years and updating is encouraged.



Grant Opportunities

ACS PETROLEUM RESEARCH FUND

Proposals for fundamental research in the petroleum field will be accepted starting on September 19, 2022.

DUE OCTOBER 14, 2022

Learn more

SCIENCE CAFÉ MINIGRANTS

\$500 to facilitate discussions of current topics between scientists and non-scientists in a relaxed, open venue.

DUE OCTOBER 15, 2022

Learn more

GLOBAL INNOVATION IMPERATIVES GRANT

Up to \$20,000 for multi-day forum/conference that contributes to the resolution of global sustainability issues.

DUE NOVEMBER 1, 2022

<u>Learn more</u>

LOCAL SECTION DIVERSITY, EQUITY, INCUSION AND RESPECT (DEIR) GRANT

Up to \$3,000 to foster inclusiveness and participation within local sections, and to support interactions with other local sections, divisions, committees and other professional associations or community groups.

DUE NOVEMBER 12, 2022

Learn more

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

http://www.theindicator.org/

THIS MONTH IN CHEMICAL HISTORY

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

I did warn you, in my last column, that you could look forward to an examination of some physical organic chemistry texts in the series on "Great Books of Chemistry in the Twentieth Century" and I present the first of these in this column. It is "Physical Organic Chemistry: Reaction Rates, Equilibria, and Mechanisms" by Louis P. Hammett, Professor of Chemistry at Columbia University, published by Mc-Graw-Hill in 1940. Hammett (1894 - 1987) was educated at Columbia and was a pioneer investigator in physical organic chemistry. He also worked on superacids and devised a function to quantify their acidity known as the Hammett function. But he is best known for the Hammett equation relating rates and equilibria in organic reactions; a function that is explored in depth in his text. His many awards and recognitions included the Priestley Medal of the ACS; the William H. Nichols Medal; the Willard Gibbs Award; the National Medal of Science; and the Barnard Medal.



Land Momento

Now to the text. My copy is the Fifth Impression of the First Edition, indicating its appeal to chemists of the 1940s. I quote from the Preface: "in the last two decades on the borderline between physical chemistry and organic chemistry....there has grown up a body of fact, generalization, and theory that may properly be called "physical organic chemistry.....the study by quantitative methods of the mechanism of reactions and of the related problem of the effect of structure and environment on reactivity".

Hammett's "Physical Organic Chemistry" is not a tome; after all the subject, while not in its infancy, was still in its childhood. It measures just under 400 small pages. The first two chapters discuss quantum views of structures of non-electrolytes and electrolytes. They sketch, rather than explore in depth, such topics as atomic structures, valence bond theory, and Pauling's resonance theory. At that time hydrogen-bonding was a challenge to current theories.

Chapter III, on equilibrium and energy of reaction, explores the significance of Boltzmann's equations in understanding the connection between these parameters. Chapter IV, on reaction rates and mechanisms, seems to me to be one central part of this text, and develops the basis of what later became known as the Hammett equation – perhaps you encountered this in your organic chemistry courses. Another key to Hammett's original thinking is in Chapter VII, 'The Effect of Structure on Reactivity" that explores quantitative relationships between systems of reactions, looking, for example, at correlations between hydrolysis rates of esters and the ionization constants of their respective acids. This chapter includes the explicit statement of Hammett's equation.

Hammett ranges far and wide in his exploration of organic reactions and includes displacement reactions and their stereochemistry; enolization; carbonium ions; carbonyl additions; and atomic, radical, and redox reactions. I believe that this 80-year-old classic text, surely one of the great books of chemistry in the 20th century, still has something to teach chemists of the 21st century.

OPPORTUNITIES

For High School Students & Teachers

Ciba Travel Award in Green Chemistry

Due October 9

ChemClub Community Activity Grant

Due November 1

James Bryant Conant Award in High School Chemistry

Due November 1

For Undergraduates

Joseph Breen Memorial Fellowship

Due October 9

Ciba Travel Award in Green Chemistry

Due October 9

For Graduate Students / Postdocs

Arnold O. Beckman Postdoctoral Fellowship

Letter of Intent due September 6

Joseph Breen Memorial Fellowship

Due October 9

Ciba Travel Award in Green Chemistry

Due October 9

National Research Council Research Associateship Program

Due November 1

Truman Fellowship - Sandia National Laboratory

<u>Due November 1</u>

For Professionals

Jonathan L. Sessler Fellowship for Emerging Leaders in Bioinorganic and Medicinal Inorganic Chemistry

Due September 15

2023 Alan T. Waterman Award

Due September 16

Joseph Breen Memorial Fellowship

Due October 9

Young Industrial Polymer Scientist Award

Due October 21

ACS Division of Analytical Chemistry Younger Chemists Conference Travel Grants

Due November 1

The Dreyfus Prize in the Chemical Sciences

Due December 1





EAS Registration now open

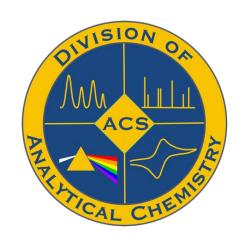
Poster abstracts due September 5, 2022



Abstracts due October 17, 2022

NEWS FROM OUR PARTNERS

The <u>Analytical Division</u> is the third largest division of the American Chemical Society. It organizes programming at the spring and fall ACS meetings, <u>Pittcon</u>, the <u>SciX conference</u> and the <u>Eastern Analytical Symposium</u> (EAS). The ANYL Division website provides a variety of information and member services, including the <u>Analytical Sciences Digital Library</u>. The division has a wide range of outreach programs including student travel grants and regional meeting support. Its award program includes undergraduate, graduate and professional awards. This member oriented and directed group works for you! We welcome new members. Please join and/or volunteer to help on one or more activities.



Younger Chemists Travel Grants
<u>Due November 1, 2022</u>

JOB BOARD

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

Lecturer, Chemistry - Monmouth University

Apply here

Assistant Professor, Organic Chemistry - Iona College

Apply here

Assistant Professor, Biochemistry (broadly defined) - Fordham University

Apply here

Industry Assistant Professor, Chemistry - NYU Tandon School of Engineering

Apply here

Assistant Professor, Chemistry - Princeton University

Apply here

Assistant Professor, Physical or Biophysical Chemistry – Hobart William Smith Colleges
Apply here

Special Agent, STEM Background - Federal Bureau of Investigation

Principal Scientist, Analytical Chemist – Pall Corporation

Apply here

Senior Scientist, Materials Science – Merck & Co., Inc.

Senior Principal Scientist Toxicology – Sanofi

Apply here

Apply here