



May 2025 Volume 110, No. 5

75



Teaching and Student Awards Luncheon

HIGHLIGHTS

Comments From the Chair

News Atoms 77

Scholastic Achievement Award Winners 80

Directory of Services 86

ADVANCE NOTICE

JUNE MEETING

Tuesday, June 17, 2025

50-, 60-, 70-Year Member Appreciation Luncheon 12:00 PM

William Penn Inn 1017 Dekalb Pike, Gwynedd, PA 19436

Additional details to be shared on our website, https://www.phillyacs.org/,
And in the June issue of the Catalyst

ACS Philadelphia Section

Founded April 15, 1899

STAFF

EDITOR-IN-CHIEF

Robin S. Davis

EDITORS

News Atoms: Alan Warren Proof Editors: Anthony Addison

> Georgia Arbuckle-Keil Kendra Luther Corrie Kuniyoshi Marge Matthews Alan Warren

ADVERTISING MANAGER

Victor Tortorelli

COMMUNICATIONS COMMITTEE

Chair: Lee Hoffman
Anthony W. Addison
Georgia Arbuckle-Keil
Matthew Bodek
Robin S. Davis
Greglynn Gibbs
Corrie Kuniyoshi
Marge Matthews
Rebecca Mort
Victor Tortorelli

Alan Warren

CONTENTS

75
77
. 77
. 77
78
. 79
80
81
. 82
84
. 85
. 86

Published monthly except July, August and December by the Philadelphia Section of the American Chemical Society. All views expressed are those of the editors and contributors and do not necessarily represent the official position of the Philadelphia Section of the American Chemical Society. Editorial matters should be sent to the attention of the Editor-in-Chief c/o the Philadelphia Section ACS, Department of Chemistry, University of Pennsylvania, 231 South 34th Street, Philadelphia, PA 19104-6323 or PhilaACS@gmail.com.

Advertising: Victor Tortorelli, vtortorelli@ursinus.edu

Comments
From
the
Chair



Dear Philadelphia ACS Members,

April was a vibrant month for our Section, filled with events that celebrated excellence, fostered inclusivity, and advanced scientific discourse. Our strength lies in our ability to support one another through both achievements and challenges, driving the field forward together. As

we navigate challenges facing our chemical community, I'm excited to share highlights and our efforts to support our members.

Our Teaching and Scholastic Achievement Awards 2025 ceremony was a highlight, recognizing outstanding contributions to chemical education and scholarship. The Scholastic Achievement Award, presented annually to top-ranking seniors majoring in chemistry or chemical engineering at ACS-approved departments or Student Affiliate Chapters in our region, honored exceptional students for their academic excellence. The Award for Excellence in Undergraduate Teaching in Chemical Science celebrated an educator who inspires and innovates in undergraduate education. This year's winner is Dr. Jeff Ashley of Thomas Jefferson University, recognized for his dedication to fostering scientific curiosity and advancing chemistry education.

Additionally, two K-12 teaching awards recognized outstanding educators for their dedication to inspiring young learners:

- Chantelle Smith, Julia R. Masterman Laboratory and Demonstration School (K-8)
- Amy S. Alvarez, Conestoga High School (9-12)

Their commitment to excellence in science education is shaping the next generation of chemists, and we applaud their remarkable contributions.

A special highlight of the evening was Tyraine D. Ragsdale of Grand Hank, who shared his journey from being a research chemist at Johnson & Johnson to becoming a STEM educator and advocate. He spoke passionately about the Grand Hank STEM Center for Inner City Youth, located near La Salle University, and his mission to expand access to science education through initiatives like the Grand Hank STEM Road Show Tour. His message reinforced the importance of representation, perseverance, and mentorship in shaping the future of STEM.

Congratulations to our 2025 recipients for their remarkable achievements!

The ACS Natural Polymer Convergent Chemist Community (ACS-NP-CCC) Webinar Series continues to provide a platform for cutting-edge scientific discussions. In the April ACS-NP-CCC meeting, more than 20 members joined the session featuring Kinjal Joshi, Research Scientist, Product Development, Personal Care R&D at The Dow Chemical Company. Her presentation on natural hair fixatives as an alternative to PVP replacement showcased the groundbreaking MaizeCareTM Clarity Polymer, a biodegradable hair fixative recognized with R&D 100 and BIG Sustainability Awards. The webinar sparked an engaging conversation, including a dynamic Q&A session, where attendees explored formulation design, sustainability challenges, and commercialization strategies for greener solutions in personal care.

Looking ahead, our NP-CCC May Webinar featured Prof. Eleftheria Roumeli from the University of Washington. Her talk, *An Integrated Biopolymer Framework for Sustainable Materials: From Seaweed-Derived Adhesives to Algal Biomatter Plastics*, highlighted groundbreaking approaches to sustainable materials, reinforcing our commitment to green chemistry and sustainability.

The Minority Committee's "Meet and Eat" event, chaired by Greglynn Walton-Gibbs, provided a valuable forum for career discussions and resume reviews, helping members navigate transitions in the field. A particularly meaningful conversation emerged around developing non-profit organizations to support homeless communities, with Louis Taylor leading a brainstorming session to explore impactful solutions. This exchange highlighted the importance of leveraging chemistry and community engagement to create lasting change.

To further support career development, we are collaborating with the Chemical Consultants Network (CCN) to provide guidance and networking opportunities for chemists seeking new directions in their careers. CCN, supported by the ACS and AIChE, connects professionals with consulting resources, career development support, and technical expertise. Our partnerships with CCN, our Section's Career Services Committee, and the ACS Committee on Economic and Professional Affairs (CEPA) will deliver a networking event in June to empower chemists in a dynamic job market.

Meanwhile, the 50-, 60- and 70-year Appreciation event to recognize our senior members will be held on Tuesday, June 17, 2025. Members are also invited to attend the 37th Annual Symposium-2025 by the Chinese American Chemical Society East Chapter on June 7th focusing on the theme *Embracing a Changing Landscape: AI, Supply Chains, and Regulatory Shifts in Chemistry and Medicine.*

Additionally, we look forward to MARM 2025, taking place in May, where ACS members from across the region will gather to exchange ideas, present research, and explore innovations in chemistry. This meeting remains a cornerstone event for collaboration and scientific advancement in the Mid-Atlantic region.

Let's continue to support one another, celebrate our successes, and tackle challenges with unity. I encourage you to engage with our efforts, share your insights, and collaborate with us in building a stronger, more connected chemical community.

Thank you for your engagement with the Philadelphia ACS. Please share your ideas or concerns—I'm here to serve our community.

Warm regards,

Wei Gao

Chair, Philadelphia Local Section of American Chemical Society



NEWS ATOMS—Alan Warren

Christopher B. Murray, professor of chemistry and materials science and engineering at the University of Pennsylvania, was elected a 2024 Fellow of the American Association for the advancement of Science (AAAS).

The American Institute of Chemical Engineers named Ravi Radhakrishnan, professor of chemical and bioengineering and chair of the department of Bioengineering at Penn, an AIChE Fellow.

DEATHS

Tung-ho Chen, retired physical chemist, July 13, 2024 at 94. Born in Taiwan and educated there and in the United States, he worked as a senior research chemist at the US Army's Picatinny Arsenal for 36 years. He focused on the detection of plastic explosives in relation to airline safety.

Sol Howard Goodgal, retired biochemist, September 10, 2024 at 103. He taught microbiology at Penn's school of medicine for 30 years. Goodgal researched applications of RNA and DNA on infectious diseases.

Mark L. Bernstein, February 17, 2025 at 75. No other details available.

John Alan "Jack" Murphy, retired chemist, March 4th at 81. He was a polymer chemist and worked on foam applications used in NASA rockets.

OPPORTUNITIES TO VOLUNTEER

Younger Chemists Committee Program and Event Planning Volunteers: The Younger Chemists Committee (YCC) is a committee of the Philadelphia Local Section focusing on the needs of undergraduate, graduate, post doc, and early career chemists under 35 years old. The committee is looking for volunteers to help with program planning this year! This is an excellent opportunity for students and early career chemists to assume leadership roles and network with likeminded scientists within the ACS community. The estimated time commitment would be less than 1 hour per week.

All interested individuals can reach out to Isaac Choie at: yongsuk.isaac@temple.edu

ACS CAREER CONSULTANTS

Would you like to speak to a local ACS Career Consultant? The Philadelphia Section career consultants can provide one-on-one career advice, resume reviews, or mock interviews. Please send an email request to acsphillycareerservices@gmail.com to set up an appointment.





Convergent Chemistry Community On

Transformative Natural Polymers

for the 21st Century Materials

ACS Transformative Natural Polymers CCC (ACS-NP-CCC) Webinar Series



An Integrated Biopolymer Framework for Sustainable
Materials: From Seaweed Derived Adhesives to Algal Biomatter Plastics

Eleftheria Roumeli, PhD

Assistant Professor of Materials Science & Engineering, University of Washington

DATE & TIME: Thursday June 5th, 2:00 PM ET

Location: Zoom, click here or scan the QR code to register

Abstract: The need to replace fossil-derived polymers drives the development of fully biobased, truly biodegradable alternatives. We show that minimally processed biomatter—from microalgae, cyanobacteria, or macroalgae—can be heat-and-pressure processed into (1) formaldehyde-free wood adhesives whose flexural strength, moisture resistance, and flame retardancy rise with binder content, and (2) rigid, compostable plastics matching polystyrene and PLA in mechanical performance. To uncover self-bonding mechanisms, we assemble bottom-up model composites by blending purified carbohydrates, proteins, and lipids in native ratios, then apply identical compression-molding to isolate each macromolecule's contribution to network formation. Our integrated experimental—computational framework delivers design principles for tunable biomatter-derived adhesives and plastics—no chemical modification required.

Biography: Eleftheria Roumeli is an Assistant Professor of Materials Science & Engineering at the University of Washington, where her group pioneers sustainable biopolymer-based materials—ranging from bioplastics and biocomposites to green construction resins—by linking molecular structure, processing, mechanics, and life-cycle impact. She completed postdoctoral fellowships at Caltech and ETH Zurich after earning her B.S. and Ph.D. in Physics from Aristotle University of Thessaloniki. Her work has been honored with the 2024 ACS PMSE Early Investigator Award, 2024 BioResources Early Career Investigator Award, Kavli Frontiers of Science Fellowship (2024), NAS Young Observer (2023), and three consecutive UW MSE Faculty of the Year awards (2022–2024).

Co-Hosts:

The Philadelphia Local Section of ACS

ACS technical Divisions of POLY, PMSE, AGFD, ENVR and CARB

ACS GCI Natural Polymer Consortium

Chinese American Chemical Society







CALL FOR APPLICATIONS 2025 ACS PHILADELPHIA SECTION STUDENT TRAVEL AWARD FOR IN-PERSON RESEARCH PRESENTATION AT A SCIENTIFIC CONFERENCE

Notice is hereby given that the ACS Philadelphia Section invites students to apply for the 2025 ACS Philadelphia Section Student Travel Award. This award is open to both graduate and undergraduate students who will be presenting in-person, either through a poster or an oral presentation at a scientific conference.

The ACS Philadelphia Section encourages both graduate and undergraduate students to present their research at conferences including but not limited to the National and Regional ACS Meetings. Conferences are a fantastic opportunity to showcase research, network with professionals in a specific field, and gain valuable experience. This award will provide supplemental funding for the awardee to present their research at a conference of their choosing.

PLEASE NOTE! Applications for Fall of 2025 will be accepted until August 1, 2025.

Application requirements:

- 1) Application letter
- 2) Abstract of the research to be presented at the conference
- 3) Reference letter from a professor

How to Apply:

Submit all application requirements by **August 1** to the Chair of the Awards Committee at PhilaACS@gmail.com with the subject "Student Travel Award."

ACS Philadelphia Section
Department of Chemistry
University of Pennsylvania
Philadelphia, PA 19104-6323
e-mail PhilaACS@gmail.com

The Award Recipient will be contacted by email 2 weeks after the deadline.





2025 ACS PHILADELPHIA SECTION STUDENT SCHOLASTIC ACHIEVEMENT AWARDEES

Scholastic Achievement Award Winners

Maximilian Bagileo

Arjun Bothra

Katherine Calderone

Nicole M. Dallara

Christopher Gamboa

Stella Kahn

Stephen Kwas

Christopher Lawrence

Alec Mallari, Biochemistry

Kelsi Membrino

Alannah Miller

Nuha Mohammed

Kenzi Neighbors

An Nguyen, Biochemistry

Patricia Olsen

Wesley Rauenzahn

Anthony Ruggiero

Dominic Watson

Kempton Wilcox

Sarah Zhang

Eastern University

Haverford College

West Chester University

Arcadia University

Temple University

La Salle University

Swarthmore College

St. Joseph's University

St. Joseph's University

Villanova University

Ursinus University

Bryn Mawr College

Drexel University

Temple University

Thomas Jefferson University

West Chester University

Widener University

Rutgers University-Camden

Delaware Valley University

University of Pennsylvania



2025 ACS PHILADELPHIA SECTION TEACHING SCHOLASTIC ACHIEVEMENT AWARDEES

Award for Excellence in Undergraduate Teaching

Dr. Jeffrey Ashley Thomas Jefferson University

Award for Excellence in Pre-College Teaching Grades 9-12

Amy S. Alvarez Conestoga High School

Award for Excellence in Pre-College Teaching Grades K-8

Chantelle Smith Julia R. Masterman Laboratory and

Demonstration School

53rd MARM - May 28-31, 2025 Seton Hall University, S. Orange NJ. https://marm2025.com



768th ACS Philadelphia Section Board of Directors Meeting

Thursday, 03-13-2025 Teleconference Meeting

Present: David J. Cichowicz, Deborah H. Cook, Kathleen Shaginaw, Victor Tortorelli, Sharon Haynie, Ann Valentine, Wei Gao, Andrew Devany, Christine McInnis, Anne DeMasi, Ivona Sasimovich-Macor, Amy Brown, Melissa Cichowicz, Andres Vazquez-Lopez, Matt Irwin

Excused: C. Bentzley, David Salas-de la Cruz

Absent: Judith Currano, Isabella Goodenough, Steven Fleming

Other Attendees: Michael Castaldi, James Murray, Jess Myers, Brisa Hurlocker, Wei Wang

The 768th Board Meeting of the Philadelphia Section, ACS, was called to order at 07:00 PM and Wei Gao read the ACS Code of Conduct.

I. Roll Call

Roll was taken, a quorum was present, and the meeting began at 7:00 PM.

II. Approval of Meeting Minutes

The approval of previous month's meeting minutes was delayed until March. (Tortorelli, D. Cichowicz) – A DeMasi abstain, all others approve.

III. Officers' Reports:

 Chair – Wei Gao – shared 2025 goals; in past month; identify award, support nominations; Stanley Israel; E. Emmet Reid Award; Wei asked how we can increase Fellows nominations; Matt Irwin agreed to support Fellows nomination. Wei asked for volunteers. Increase support for Communications Committee. Noted that Catalyst production went smoothly. Asked where we can share data. Consider the ACS Network. LSAC mentioned that the Network is not an option. We have enough storage on our Google account. Lee Hoffmann confirmed access. Will use this moving forward to share and store documents. We have 22 new followers on our LinkedIn page. Impressions/report numbers are lagging. Wei asked Board members to participate and share across our respective organizations. Wei is waiting for the Communication Committee to report National Social Media guidelines. She met with the branding team who advised on logos and uniformity. Lunar New Year celebration was mentioned in Chair's message in Catalyst. Wei received a question about Delaware Valley xxxxxx; V. Tortorelli shared how Topical Groups are managed in a one-on-one meeting with Wei. She pointed out that some Topical Groups are not very active. We need an exit strategy for these groups. Wei learned that there is an existing point system we might use to weigh activity. Twenty attendees attended the Jun Wang webinar. Wei is working on establishing a Bylaw Committee. She mentioned the need to increase activity in the Senior Chemists Committee. Wei also reported on upcoming events for April. Wei also promoted the National Committee Preference Form. She asked Board members to share which committees they serve on. Please send them to Wei with Matt Irwin on copy.

- Immediate Past Matt Irwin no report; interested into assisting with social media landscape.
- Chair-Elect Andrew Devany Andrew reported that Teaching and Scholastic Achievement Awards will take place at 11 nominations for undergraduate awards. (get slides from Andrew). D. Cook and M. Irwin commented that we have awarded honorariums for keynote speakers in the past. On the Travel Award, we have 1K in the budget. YCC has been contacted but I have not had any feedback. Abstracts for Fall are due March 31st. M. Irwin mentioned sharing on LinkedIn. V. Tortorelli explained how the Travel Award is managed. C. McInnis mentioned that we don't receive a lot of submissions due to the singular \$500 limit. D. Cichowicz mentioned that there is an expectation for the recipient to report their meeting experience to the Board. D. Cook mentioned that it might also be shared with the student chapters. C. McInnis mentioned an "experiment" to adjust the expectation of reporting. A. Devany mentioned a potential speaker for September, a ticketed event. He also mentioned MARM 2025 is upcoming.
- Secretary Anne DeMasi no report
- Treasurer Ivona Macor report was shared with the Board on March 1st. She mentioned that we have received a third of our local section dues. W. Wang mentioned that allotment comes in one payment, likely later this month. I. Sacor will update the report to reflect the dues. Program budget is line 1710 contains \$2500. V. Tortorelli mentioned transfer from previous year needs to be populated. (Motion to approve; D. Cichowicz seconded. I. Sacor abstained All others in favor).
- Chair of Council Affairs Deborah Cook Pre-Council meeting took place this week. We will have a full slate of Councilors present; both in-person and hybrid. Councilors reviewed; how would I. Macor like us to submit receipts. W. Wang will assist I. Sacor and D. Cook will send a list of those attending in person. All Councilors have submitted credential cards.

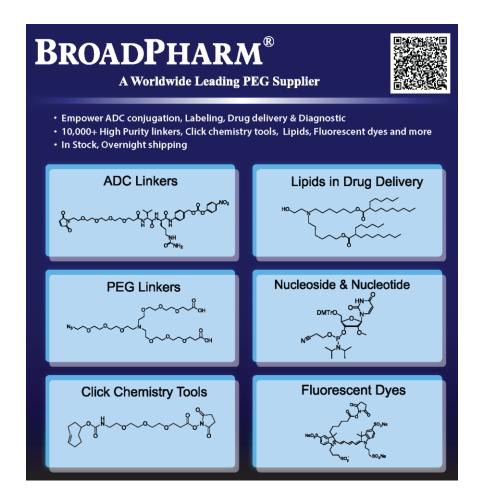
IV. Committee Reports

- Senior Chemists Michael Castaldi Science History Museum event tentative date is October
 4th.
- WCC Jess Myers and Brisa Hurlocker (Co-chairs of WCC, professors at Villanova) plan to
 host a Women's History Month Happy Hour; Looking to re-invigorate PAGES which will take
 place at Villanova on October 4th. Ann Valentine also supports the program and provided some
 valuable feedback on what to consider in the planning. A. DeMasi provided a historical perspective on the program which was initially the result of an NSF grant.
- V. Motion to adjourn (D. Cichowicz) Second (V. Tortorelli)
- VI. Additional Comments and Updates

Next meeting, Thursday, 4/17/2025, 7:00 PM

The meeting was adjourned at 8:07 PM

All in favor





The Committee on Minority Affairs is seeking members. If you would like to join, please contact cma.philaacs@gmail.com to learn more.



CHEMICAL CONSULTANTS NETWORK MEETING MAY 14, 2025

STEREOCHEMICAL DISCRIMINATION OF A COVALENT, WERNER HELICASE INHIBITOR SERIES

Dennis Murphy PhD, Principal Investigator at GSK

DATE & TIME: Wednesday May 14, 2025, 6:30 PM

Click here to register

Location: Online via Zoom! (Registration required, see below)

Abstract: The presentation will cover a drug discovery project, illustrating the utility of in-depth analysis of the structure and corresponding behavior of molecules that are early in the optimization phase. The Werner helicase is a synthetic lethality target for MicroSatellite Instability-High/Mis-Match Repair Deficient (MSI-H/dMMR) cancers, identified through genome-wide screening of genetic dependencies and CRISPR rescue. Its primary function is resolving a wide variety of DNA lesions. In-house screening identified three covalent inhibitors that alkylated cysteine-727. One compound containing a tricyclic core was optimized with a cyclic vinylsulfone warhead, yielding four compounds differing only in the configuration of the two stereogenic centers. Kinetic results were fit to a two-step, irreversible inhibition model. The bimolecular inactivation rate showed a nearly 500-fold potency range for the four compounds. The x-ray structure of the most potent analog was solved and showed a binding pocket for the tricycle and a covalent bond between cys-727 and the warhead. Modeling of the three weaker stereoisomers showed that a hydrogen bond with a nearby arginine and the proximity of the electronegative sulfone likely contributed to the variation in potency. While there were significant differences in the absolute binding and inactivation rates of the four analogs against the apo-enzyme versus the actively unwinding helicase, the rank order of the compounds remained the same

Biography: Dennis Murphy is currently a Principal Investigator at GSK in Discovery Biology. His work is focused on early drug discovery, primarily against enzyme targets. He utilizes enzymology and biophysics to dissect the mechanism of inhibition for lead-optimization. Dennis's undergraduate degree is from Bucknell University with a double major in Biology and Chemistry. He earned his Ph.D. in organic chemistry at the University of Wisconsin and was a post-doctoral fellow at Penn State University. He has spent the majority of his career in pharmaceutical research, but also worked in biocatalysis and enzyme evolution, bioinformatics, nanomaterials, and adjunct teaching, all in the Philadelphia area.

Click here to register to attend the event. This session is FREE.

CONSULTANTS - OPPORTUNITY HERE! PLEASE VISIT http://www.chemconsultants.org/

Are You Getting the Benefits of CCN Membership <u>Join!</u> Most valuable – post your consulting practice information – and have greater visibility! If you'd like to speak with one of our members, come.

- THE CHEMICAL CONSULTANTS NETWORK PROVIDES VALUABLE TOOLS FOR MEMBERS BEYOND THE MEETINGS AND NETWORKING. CHECK OUT OUR:
- <u>Valuable past presentations</u> <u>Consultants' Directory</u> <u>Blogs</u> <u>Resources</u>
- Join! Most valuable post your consulting practice information and have greater visibility!
- If you'd like to speak with one of our members, come to a CCN meeting

DIRECTORY OF SERVICES





Elemental CHN, S, X analysis Metals by ICP-OES, ICP-MS, USP<233> FTIR, UV/VIS spectroscopy, Optical Rotation GC-MS/FID, Residual Solvents, Headspace

SUBPBISE

our editor by calling and saying you appreciate the quality and content of our newsletter.

Our editor works hard to maintain a publication of interest to our membership. Oh, and by the way you could also give credit to our advertisers who financially support us. Ion Chromatography KF Aquametry, Titrimetry DSC, TGA, melting point HPLC

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

Rapid Results

Quality •

Accuracy

Competitive Pricing

CAREER DEVELOPMENT

Being a part of one of our teams can help you develop organiza tional and meeting skills as well as help you to network with people from the largest area companies. Public Relations, such as sending out meeting notices and press releases, can help you to develop a network and help you get noticed!

All committees are looking for new members and several are looking for "take charge" chairs. Some, like the Teller's Committee, involve minimal work—one night per year and pizza provided. Others, like positions on Communications or Social Committees, involve one or two hours per month.

Comittee details can be found at:

www.membership.acs.org/p/philadelphia

or by calling the Philadelphia Section Office (215) 382-1589.

PROMOTE YOUR PRODUCTS AND SERVICES • ADVERTISE IN THE CATALYST

The Catalyst readership is greater Philadelphia's largest source for chemical and biochemical buyers. The Catalyst reaches more than 5,400 readers each month. It has been estimated that these buyers annually purchase more than \$150,000,000,000 of:

- EQUIPMENT
- SUPPLIES
- CONSULTING SERVICES

Placing an advertisement in The Catalyst is the lowest cost method of reaching this select audience.

For further information and other options for promoting your company's products and services visit:

vtortorelli@ursinus.edu

ADVERTISING INDEX

BroadPharm	84
ACS	86
Micron Analytical Services	86
Robertson Microlit Labs	86

Advertising: vtortorelli@ursinus.edu