Lehigh Valley ACS January Section Meeting

Thursday, January 25th, 5:30-8:30pm

Chemical Superpowers with ChatGPT + Wolfram

Collier Hall of Science, Moravian University

Social Hour Menu:  Cheese & Crackers, Fruit Tray, Beverage
Dinner Menu: Grilled Chicken with Bruschetta Topping
Cost: $30 for members, $15 for students.

RSVP: June Thompson 610-861-1425; thompsonj03@moravian.edu by Wednesday, Jan 17

Speaker: Jason Sonnenberg, Wolfram|Alpha

Abstract: ChatGPT from the AI research and deployment company OpenAI upended chemical education and research. For all its remarkable prowess in “textually imitating” human writing, it can’t be expected to do nontrivial computations correctly. Wolfram makes ChatGPT smarter by giving it access to powerful computation, accurate math and curated chemical knowledge through Wolfram|Alpha and Wolfram Language. The resulting collaboration between ChatGPT and Wolfram produced a powerful “chemical assistant” that can aid students, educators, and researchers alike. The transformative potential of this technology in facilitating chemical education and research, as well as empowering educators to create dynamic and engaging learning experiences, will be illustrated.

Speaker Biographical Information: B.A. Eastern Michigan University, Ph. D. Ohio State University.

Share this page on your SM: https://lvacs.org/january-2024-section-meeting
Directions: https://www.moravian.edu/landmarkconference/directions
Parking: Along Main Street in Bethlehem, also Campus Lots B, M, N, O, and X [see map].

MEETING CONTACT: Steve Dunham dunhams2@moravian.edu Post this flyer everywhere!
LVACS Events Calendar

January 2024

Section Meeting (Hybrid)
Thursday, January 25th, 5:30-8:30pm
Moravian University, 1200 Main St., Bethlehem, PA 18018
Chemical Superpowers with ChatGPT + Wolfram
Speaker: Jason Sonnenberg, Wolfram Alpha
Social 5:30 pm / Dinner 6:00 pm: Collier Hall of Science Atrium
Program 7:00 pm: Collier Hall of Science 204 Dana Lecture Hall
Cost: $30 for members, $15 for students.
RSVP: June Thompson 610-861-1425 or thompsonj03@moravian.edu by Wednesday, Jan 17
CONTACT: Stephen Dunham, (dunhams2@moravian.edu)

February 2024

Section Meeting
Thursday, February 15th, 5:30-8:30pm
Lafayette College, 730 High St, Easton, PA 18042
Speaker: Tom English, Evonik Corporation
“Skills you need to learn for your career”
Program details TBA
CONTACT: Mike Bertucci, bertuccm@lafayette.edu

March 2024

Section Meeting
Wednesday, March 27th, 5–9pm
Muhlenberg College, 2400 W Chew St, Allentown, PA 18104
Speaker: Dorothy Phillips, PhD, 2024 ACS President-elect
Program details TBA
co-sponsors: Muhlenberg College WiSTEM
and chemistry and biochemistry clubs
CONTACT: Sherri Young, sheriyoung@muhlenberg.edu

April 2024

Section Meeting and Undergraduate Poster Session
Thursday, April 18th, 4:30-9:00pm
DeSales University, 2755 Station Ave, Center Valley, PA 18034
Speaker and Program details: TBA
CONTACT: Sara Hayik, Sara.Hayik@desales.edu

Stay tuned to www.lvacs.org for all the latest!

ACS Women Chemists Committee/Eli Lilly Travel Award:
Apply by Friday, January 12th!
REMEMBERING NED HEINDEL...

Our November 9th Section Meeting at Lehigh University attracted 50 LVACS members to share their love of chemistry and their recollections of former ACS President and Emeritus Professor of Chemistry, Lehigh University, Ned Heindel, PhD., who died June 27th at age 85. After a social hour and dinner at the Gander Room, we proceeded to Neville Hall for extemporaneous reminiscences of Ned followed by the Inaugural Ned Heindel Memorial Lecture, "Design and Development of Vasopressin V1a Antagonists Derived from a Unique Azetidinone Platform," delivered by two long-time colleagues and collaborators, Neal Simon, Professor of Neuroscience, Lehigh University and Christophe Guillon, Principal Research Scientist, Azevan Pharmaceuticals Inc. We also celebrated yet another of our 2023 student award winners, Tyler Roberts of Lafayette College, winner of the Organic Chemistry Scholarship, henceforth to be known as the Ned Heindel Scholarship in Organic Chemistry. We are all looking forward to future Heindel Lectures, jointly sponsored by LVACS and Lehigh University, about which more information will be forthcoming on www.lvacs.org and in this Newsletter.
REMEMBERING NED HEINDELM...
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Tyler Roberts of Lafayette College, right, winner of the Organic Chemistry Scholarship, being congratulated by Mike Bertucci, Organic Awards Chair.
Philip Elias named LVACS 2024 VOLUNTEER OF THE YEAR

Philip J. Elias, 2023 LVACS Chair-elect, has been named 2024 Volunteer-of-the-Year for the Lehigh Valley Section by ACS and will compete with other local section volunteers for the title of ACS Volunteer-of-the-Year. Philip graduated from Muhlenberg College (‘22) and has been an engaged member of the LVACS since his senior year. He started volunteering at NCW events and was elected as the section Chair-elect for 2023. In 2023, Philip became the section’s NCW and CCEW coordinator, organizing several outreach events at our local ISE partner, Da Vinci Science Center and with the PA Migrant Education Program’s "Lights on After School" event and STEM Saturdays at the Allentown Public Library. Philip also judged at the Lehigh Valley Science Fair and did demonstrations at Science Fairs within the section such as the Southern Lehigh STEAM Expo and Pocono Mountain West Night of Science for middle and high school students. In addition to these outreach activities, Philip organized the September LVACS meeting at Evonik including lab tours and talks (largest attendance for a section meeting in many years). Philip has grown, over the past 3 years, in his role from participating volunteer to leader of events. He developed the entire program for the September Evonik visit, which brought a company new to the section into partnership with us. He also planned our NCW outreach event at Da Vinci Science Center this year, including all arrangements with Da Vinci staff and ordering of supplies. Thanks, Philip! We’re lucky to have you.
Lehigh Valley Section Recognizes the Poetic Side of National Chemistry Week with an Illustrated Poetry Contest!

LVACS once again sponsored a competition challenging our students to write and illustrate a poem on the 2023 NCW theme, “The Healing Power of Chemistry.” Entries were judged by:

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

The eight entries, all from Muhlenberg HS, are shown below. The winning entry was by Gabriella Leon (right).
Your New 2024 LVACS Officers and Councilor

The newly elected LVACS Officers for 2024 are: Chester Crane, chair-elect, Sherman Cox, treasurer, Nigel Sanders, secretary and Matt Sonntag, ACS Councilor. Review their bios as they appeared on the election ballot. Chester, who has served as LVACS Chair previously (2009), earned his B.S. in Chemistry from Muhlenberg College and his PhD from Penn State University and now works at Mussel Polymers in Bethlehem. Sherman has a BS, chemistry, from Yale College and a PhD, inorganic chemistry, from UCSB and oversaw a major improvement in our accounting practices during 2023 and will be beginning his second year as treasurer. Nigel has a BA degree in Chemistry from Reed College and a Ph.D. in Physical Chemistry from Harvard and will be beginning his sixth year as secretary and webmaster (full disclosure: he also edits this newsletter!). Matt is an associate professor of chemistry and biochemistry at Albright College and earned his B.A. in chemistry from Coe College and Ph.D. in physical and analytical chemistry from Northwestern University. As one of our two ACS Councilors, Matt will be representing us on ACS Council at Spring and Fall ACS Meetings. They join Philip Elias, chair, Steve Boyer, past chair, Jeanne Berk, councilor and Ned Corcoran, alternate councilor on your LVACS Executive Committee for 2024. Come out to our meetings in 2024 and meet your LVACS governance team in person!

LVACS Bylaws Committee Requests Your Input!

The current Lehigh Valley ACS Bylaws have been in place since December of 2011 and it is time to review them and bring them up to new ACS standards. An ad hoc bylaws committee has been appointed by the LVACS Executive Committee with members Nigel Sanders, Secretary (as chair), Steven Boyer, Past Chair, and Jeanne Berk, Councilor. The bylaws committee will begin meetings in January to assess the current bylaws and study the changes recommended by ACS and will report progress on a regular basis to the EC. The bylaws committee requests your input on any aspect of local section operation which you feel needs improvement, whether achievable via a bylaws change or Standard Operating Procedures.
Dr. Marie Maynard Daly: Chemistry Pioneer

A National Historic Chemical Landmark

By Mary Virginia Orna [2023 Chair of the ACS New York Local Section]

On Friday, May 19, 2023, at Columbia University, the New York ACS Local Section dedicated its eighth National Historic Chemical Landmark: Marie Maynard Daly, Ph.D. In 1947, Marie Maynard Daly (1921-2003) made history. The Columbia University student from Queens, New York, became the first African American woman to earn a Ph.D. in chemistry in the United States. Daly took just three years to complete her dissertation under the direction of Mary Letitia Caldwell, the sole female professor in Columbia's chemistry department. Their work made valuable contributions toward understanding how enzymes break down food. During Daly’s subsequent career, she published additional important research in biochemistry, the origins of some diseases, and basic biological science. Her work gave experimental support to Chargaff’s Rule – demonstrating that there is a 1:1 molar correspondence between the bases adenine-thymine and cytosine-guanine in DNA – and that RNA is necessary for protein synthesis. The latter finding was cited in James Watson’s 1962 Nobel Prize lecture. The day began by welcoming over 200 attendees, including approximately 70 high school students who attend nearby Thurgood Marshall Academy or who participate in chemical research via ACS's Project SEED. Other members of the audience included local faculty, undergraduates and graduate students, and others who traveled from up and down the East Coast, from Boston to Washington, DC and beyond. During his welcoming address, the Dean of Columbia’s Graduate School of Arts and Sciences, Dr. Carlos Alonso, addressed head-on the difficult road that Marie Daly trod. To paraphrase: Individuals such as Dr. Daly, the first of their group to achieve a given distinction, are recognized by us as “trailblazers” and as “catalysts for change.” Yet, we know for a fact about the enormous human cost, the ceaseless vulnerabilities, sacrifices, and indignities involved with being the first. Dr. Robert Hoyte (SUNY – Old Westbury), organizer, opened a Distinguished Symposium to honor Dr. Daly. Dr. Linda Meade-Tollin (University of Arizona) spoke of Dr. Daly’s remarkable contribution to chemical biology. Dr. Sibrina Collins (Lawrence Technological University) focused on student engagement through storytelling. Dr. Mandë Holford (Hunter College - CUNY) spoke of a new generation of powerful new therapeutic agents. And Dr. Marc Walters (New York University) outlined the family roots and cultural capital that formed the foundation of Dr. Daly’s ultimate success. Insightful reminiscences followed from Dr. Daly’s granddaughter, Carly Rae Reid, and posthumous memorials from a former colleague and co-author, Harvey Wolinsky, of Yeshiva University. The premiere of a short film, “Dr. Marie M. Daly: Chemistry Pioneer,” produced by Dr. Maria Contel, Chair of the NYACS Committee on Minority Affairs, then followed. The film will be widely disseminated. Links to the film with English (https://youtu.be/aUo6b-QKk7I) and Spanish captions (https://www.youtube.com/watch?v=Ut7UXimg1EsU) are here. Following remarks by ACS President-Elect, Mary Carroll* and ACS CEO, Albert Horvath, the last word was had by Jeannette Brown whose book, African American Women Chemists, gave the initial impetus to execute the Landmark more than two years ago. Finally, a facsimile plaque was unveiled; the actual bronze plaque will hang in the entryway of the chemistry building, Havemeyer Hall, to perpetuate Dr. Daly’s remarkable legacy and to ensure that future Columbia chemistry students know and honor her name. A reception followed.

Reprinted from: ACS Senior Chemists Committee Fall 2023 Newsletter, pp 8-9

*“This designation is particularly meaningful at a time when society as a whole is dealing with systemic racism and inequality,” American Chemical Society President-Elect Mary K. Carroll said in a statement announcing the landmark designation, adding that the society “addresses these issues head-on, in its stated goals, as well as its core values. The society embraces and promotes diversity, not only to create a more inclusive environment for the practice of chemistry, but also to provide fair and just outcomes for all to achieve their full potential. And no one exemplifies this more than Dr. Daly.” [https://news.columbia.edu/news/alum-marie-maynard-daly-honored-american-chemical-society]
ACS’ 100th Landmark Honors Bettye Washington Greene

ACS’ National Historic Chemical Landmarks program celebrates achievements in the history of the chemical sciences. On Oct. 27, the Society dedicated its 100th Landmark in recognition of Bettye Washington Greene, the first female Black American Ph.D. chemist hired in the chemical industry. The ceremony took place at Wayne State University in Detroit, where Washington Greene earned her doctorate in chemistry in 1965. The event was paired with the university’s second annual Bettye Washington Greene Memorial Lectureship. Speakers included ACS Immediate Past President Angela Wilson, 2024 ACS President-Elect Dorothy Phillips, and representatives from Wayne State and Dow. Check out the nomination webpage if you’d like to suggest a new Landmark!

ACS President-elect Dorothy Phillips co-authors Langmuir article on Bettye Greene with Sibrina Collins, Lawrence Technological U.**

Excerpt: “Dr. Bettye Greene was the first African American woman with a Ph.D. hired by Dow Chemical in Midland, MI. Bettye and her family moved to Midland, MI in 1965, about 9 years prior to my family; the Phillips arrived in 1974. William and Bettye Greene and their children were the fifth African American family to come to Midland in the period of 1960–1970 (termed the Second Coming). As with many families in Midland, we along with our spouses worked for Dow. The Greene’s and Phillips’ families each had three children, but due to age differences, there were seldom opportunities for our children to get together.

Like Bettye, I joined Dow as a Ph.D. chemist (1974) but in a different research laboratory. Bettye and I knew the dedication that was required to be successful as women chemists of color. Although most Ph.D. scientists joined their Dow research groups as senior research scientists, we were brought in at a lower level and then promoted to senior research chemist. Bettye’s recognition as a polymer research scientist and consultant set the bar high for me and other African American women and scientists, in general, at Dow.”

** Read the full Langmuir article here.
Dorothy will visit the Lehigh Valley on Wednesday, March 27th to address our March Section Meeting at Muhlenberg College.
ACS Chemistry of Materials Special Issue honors
Prof. Elsa Reichmanis of Lehigh University

Elsa Reichmanis, Professor and Carl Robert Anderson Chair in Chemical Engineering, is the 2024 recipient of the Encouraging Women into Careers in the Chemical Sciences Award from the American Chemical Society (ACS). Sponsored by the Camille and Henry Dreyfus Foundation, the award recognizes significant accomplishments by individuals who have stimulated or fostered the interest of women in chemistry. [see Lehigh U. news link]

By Zhenan Bao, Ying Diao, Gang Wang and Chad Risko

Thank You, Elsa! A Virtual Special Issue In Honor of Professor Elsa Reichmanis

Published as part of the Chemistry of Materials virtual special issue "In Honor of Prof. Elsa Reichmanis".

I t is our sincere pleasure to present and dedicate this virtual special collection in Chemistry of Materials to Professor Elsa Reichmanis in honor of her long-time service to the journal and scientific community. Elsa has made tremendous scientific contributions in the design and development of polymer and organic-based materials, fundamental understanding of processes for electronics, photonics, and energy, and pioneering data science approaches for organic materials discovery and development. Notably, these advances have been enabled by Elsa’s focus on characterizing properties at the molecular scale to facilitate materials design and processing protocols that are relevant to the commercialization of new technologies. At the same time, Elsa has served as an inspiring and vocal leader to ensure a more inclusive scientific community. This special collection highlights the science and people that Elsa has impacted during her career.

Elsa received her B.Sc. in Chemistry in 1972 from Syracuse University and her Ph.D. in Organic Chemistry in 1975 from the same institution. After her position as a postdoctoral researcher and receiving the Dr. Chaim Weitzmann Fellow at Syracuse University, Elsa moved to AT&T Bell Laboratories (later Bell Laboratories Lucent Technologies and Alcatel-Lucent) in 1976. At Bell Laboratories, Elsa moved up the ranks from being a Member of Technical Staff in the Organic Chemistry Research and Development Department to Supervisor of the Radiation Sensitive and Applications Group to Head of the Polymer and Organic Materials Research Department through being Director of the Polymer and Organic Materials Research Department, the Materials Research Department, and the Materials for Communications Research Department. In 2008, Elsa transitioned to an academic career when she became Professor of Chemical and Biomolecular Engineering at the Georgia Institute of Technology (Georgia Tech). While at Georgia Tech, Elsa held the Brook Byers Professor of Sustainability and the Pete Stas Chair in Chemical Engineering. In 2020, Elsa moved to the Department of Chemical and Biomolecular Engineering at Lehigh University where she is the Carl Robert Anderson Chair in Chemical Engineering. At the time of this editorial, Elsa has published more than 200 papers in the peer-reviewed literature, has had 28 patents issued, and mentored more than 30 Ph.D. students, five M.Sc. students, and 65 undergraduate researchers. Elsa has received several honors and awards for her research and mentoring, was elected to the National Academy of Engineering in 1998, is a Fellow of American

Association for the Advancement of Science (AAAS), American Chemical Society (ACS), American Institute of Chemical Engineers (AIChE), Materials Research Society (MRS), and the Royal Society of Chemistry, and is a member of the Latvian Academy of Sciences.

While Elsa has maintained this high level of research activity and success, she has been an incredibly active member of the scientific community. Elsa has served as a long-time contributor to Chemistry of Materials. Starting as a member of the Advisory Board in 1995, Elsa became an Associate Editor in 1996 and then moved to the role of Executive Editor in 2017. During this time, Elsa has handled more than 5,500 manuscripts and served as a mentor to many new Associate Editors. We highlight here, though, Elsa’s push to make materials chemistry and science more inclusive and welcoming environment for all researchers. Elsa’s activities in this space have been highlighted by the 1993 Society of Women Engineers Achievement Award, 2013 Distinguished Woman in Chemistry and Chemical Engineering Award from the International Union for Pure and Applied Chemistry (IUPAC), 2018 AIChE Margaret H. Reauouseau Pioneer Award for Lifetime Achievement by a Woman Chemical Engineer, and the 2024 ACS Award for Encouraging Women into Careers in the Chemical Sciences. Elsa has also received the 2010 ACS Division of Polymer Materials Science and Engineering Distinguished Service Award and the 2018 ACS Award in the Chemistry of Materials.

This special collection is an opportunity for friends, colleagues, collaborators, and those inspired by her work to celebrate Elsa’s incredible achievements and mentorship. The papers in the special collection cover topics that span molecular and polymer-based materials for electronic and photonic applications, flexible and stretchable devices, materials processing and structure-function relationships, and materials for energy storage. Thank you, Elsa, for your knowledge and friendship that you have brought to our community.

Published: December 12, 2023

View full article pdf here.

Reichmanis will be honored at the ACS National Awards ceremony on March 19, 2024, in conjunction with ACS Spring 2024, taking place in New Orleans.
LEHIGH VALLEY ACS CAREER PAGE

Check out the Career page on our website lvacs.org/careers for a wealth of information on the services provided by LVACS and ACS to chemists at all stages of their careers. Online courses, 1-on-1 consulting, professional development grants and the ACS Career Navigator™ package are some of the benefits offered to ACS members to assist in planning and executing your career. Greglynn Gibbs, our local section ACS Career Consultant, would be happy to assist any member seeking more information at greglgibbs@gmail.com

ACS Virtual Office Hour – Skydiving into Retirement

Senior Chemists: Thinking about retirement? - are you prepared? ACS is offering a FREE virtual career guidance session, titled ‘Skydiving into Retirement’ Thursday, February 1st 2024 at 12pm EST. Open to ACS members and non-members, this session will be led by ACS Career Consultant Bill Carroll and offers participants personalized career advice and small group networking sessions. This event is free and open to ACS members and non-members, but you must register to save your seat. Register for ‘Skydiving into Retirement,’ and set the stage for your professional success - and pass this email along to friends and colleagues in your network who would be interested!

Da Vinci Science Center STEAM Scholarship Awards Applications due

Student Scholarship Awards: Win a $2,000 scholarship! The Science Center seeks spectacular high school science students in Lehigh and Northampton counties for prestigious student awards. In addition to joining a long list of notable prior winners, each of the honorees shall receive a $2,000 scholarship. Five (5) student scholarships will be awarded. Deadline to apply is Jan. 15, 2024. Learn More & Apply

STEAM Educator Awards: Win a $1,000 cash grant for your classroom! Da Vinci Science Center is looking for three K-12 educators in Lehigh or Northampton county who go above and beyond to engage students in high-quality, innovative STEAM projects that integrate subjects and connect the classroom to the real world. Award recipients will receive a $1,000 cash grant for their school to invest in STEAM education supplies or programs. Three (3) educators will be selected. Nominate an educator today with a quick and easy nomination form! Takes less than 5 minutes! Want to nominate yourself? No problem! Deadline to nominate an educator is Jan. 15, 2024. Learn More & Nominate
ACS Continues to Offer Grants and Awards to Local Sections

Local Section Science Café Mini-Grant
Grants up to $500 are available to assist Local Sections in hosting a Science Café in their community.

Local Section Members Engagement and EnhancementT (LS-MEET) Engaging through Technology (METT) Grant
Funding up to $2,000 is available to assist local sections as they seek to use technology to more fully engage their current membership.

Local Section Sustainability Programming Grant
Grants up to $500 are available on a rolling basis to enable sustainability programming within your local section.

Diversity, Equity, Inclusion and Respect (DEIR) Grants
Grants up to $3,000 are available to local sections to encourage DEIR programming and advance this core value of ACS.

Local Section Innovative Project Grant
The Local Section Innovation Project encourages local sections to conceive of and implement innovative projects. View a list of previously funded projects.

Corporation Associates Local Section Grant
Grants up to $1,000 are available to assist local sections promote industry focused events at the local section level.

Local Section Public Relations Awards
These awards are given to local sections by the Committee on Public Relations and Communications in an effort to recognize outstanding efforts by local sections to promote chemistry to the public.

Have an idea for a Lehigh Valley Section event or activity that might qualify?
See the full listing of Grants and Awards here and then let’s talk about it! webmaster@lvacs.org
OFFICERS

Chair: Philip Elias
philipjelias@gmail.com

Chair Elect: Chester Crane
crane@musselpolymers.com

Immediate Past Chair: Steve Boyer
sboyer11@esu.edu

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ALTERNATE COUNCILOR

The Octagon Newsletter is published by the Lehigh Valley Section of the American Chemical Society to provide information to section members and the public about activities and programs which support the section mission “To elevate the chemical sciences in the Lehigh Valley section for the benefit of our members and our community.” Send all queries to the editor at: nigel53.sanders@gmail.com