

# THE OCTAGON

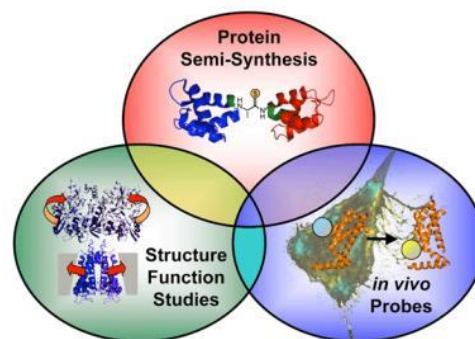
## February Section Meeting

[Lafayette College](#)

730 High St, Easton, PA 18042

**Thursday, February 16<sup>th</sup>; 5:30-8:30 pm**

**Visualizing  $\alpha$ -Synuclein in Neurodegeneration  
From all-atom simulations to in vivo imaging**



**ABSTRACT:** Fibrillar aggregates of the neuronal protein  $\alpha$ -synuclein are a hallmark of Parkinson's disease and related neurodegenerative disorders. However, a causative role for  $\alpha$ -synuclein aggregation in these diseases has not been clearly identified. In order to understand the aggregation process, our laboratory uses a multidisciplinary approach, including computational approaches combining molecular simulations and machine learning models, synthesis of  $\alpha$ -synuclein bearing post-translational modifications and photochemical probes, single molecule biophysics, structural biology, cellular and animal models for microscopy and proteomics, and development of positron emission tomography (PET) probes for clinical imaging. Several projects will be discussed, highlighting the value of a multi-faceted and collaborative approach.

**Speaker:** [James Petersson](#), U. Penn

James Petersson completed his undergraduate education at Dartmouth College and his graduate study under Dennis Dougherty at the California Institute of Technology. After receiving his Ph.D. in 2005, he was an NIH Postdoctoral Fellow at Yale University with Alanna Schepartz. He joined the Department of Chemistry at the University of Pennsylvania in 2008 and the Biochemistry and Molecular Biophysics Graduate Group in the Perelman School of Medicine in 2013. His research has been recognized by several awards, including the Searle Scholar, an NSF CAREER award, and a Sloan Fellowship.



**Program:**

Social Hour: 5:30 pm – 6:00 pm; Dinner: 6:00 pm – 7:00 pm  
Marquis Hall, Clay Ketchum Room

Meeting: 7:00 pm – 8:30 pm  
Acopian Engineering Center, Room 511

[Menu](#)/Cost: \$25 professionals, \$15 students

**RESERVATIONS [by February 10<sup>th</sup>]:**

Deborah Bastinelli, 610-330-5213, [bastined@lafayette.edu](mailto:bastined@lafayette.edu)

**PARKING:** Markle Parking Deck

**DIRECTIONS:** Campus [Map](#)

**CONTACT:** Mike Bertucci, [bertuccm@lafayette.edu](mailto:bertuccm@lafayette.edu)



## LVACS Events Calendar

### February 2023

#### February Section Meeting

#### [Lafayette College](#)

730 High St, Easton, PA 18042

Thursday, February 16th

*Protein aggregation processes*

Speaker: [James Petersson](#), U. Penn

RESERVATIONS [by February 10th]:

Deborah Bastinelli, 610-330-5213, [bastined@lafayette.edu](mailto:bastined@lafayette.edu)



#### Undergrad Career Saturday

Saturday, February 18<sup>th</sup>, 2-3 pm

Speaker: Greglynn Gibbs, ACS Career Consultant

Free! [Register](#)

### March 2023

#### March Section Meeting

#### [Muhlenberg College](#)

2400 Chew Street, Allentown, PA 18104

Thursday, March 23rd

*Developing the Formula for a Rewarding Career in Science*

Speaker: Todd McEvoy, Azzur Labs

Details: TBA

CONTACT: Sherri Young, [sherriyoung@muhlenberg.edu](mailto:sherriyoung@muhlenberg.edu)



### April 2023

#### April Section Meeting and Undergraduate Poster Session

#### [DeSales University](#)

2755 Station Avenue, Center Valley, PA 18034

Wednesday, April 12th

Speaker: Robert Hickey, Penn State U

CONTACT: Sara Hayik, [sara.hayik@desales.edu](mailto:sara.hayik@desales.edu)



## Also In This Issue...

3. Undergrad Career Saturday Webinar February 18<sup>th</sup>, 2-3 pm.

4. Be a Science Fair Judge! Three major competitions coming up.

5-6. January ACS Leadership Development Institute Report.

7. January 19<sup>th</sup> Meeting Report.

8-9. Career Pages: March 23<sup>rd</sup> Meeting features Career talk by Todd McEvoy of Azzur Labs.

10. High School Awards announced.

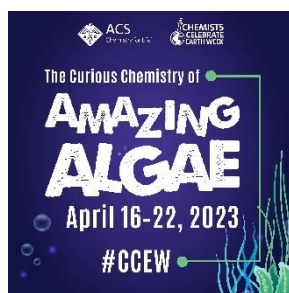
11. ACS Spring and Fall 2023 Meetings.

12. Green Chemistry & Engineering; MARM 2023.

13. SCC Page: The Chemistry of Capsaicin, part 4 of 4.

14. 2023 Executive Committee.

15-26. Appendices: LVACS High School Awards Application Forms.



#### April 16-22: Chemists Celebrate Earth Week

Topic: Algae

Theme: "The Curious Chemistry of Amazing Algae"

Outreach Events TBA

What will you do to Celebrate Planet A in 2023?

Read more about 2023 CCEW [here](#)



**Special Earth Day event:** On Earth Day, **Saturday, April 22nd**, LVACS will be co-sponsoring a special half-day symposium on climate science at Cedar Crest College with plenary speakers Sherine Obare, (UNC-Greensburg and 2022-2023 chair of ACS ENVR Division), Jonas Baltrusaitis (Lehigh University), and Laura McBride (Albright College). CONTACT: Lindsey Welch, [lawelch@cedarcrest.edu](mailto:lawelch@cedarcrest.edu)

Always watch [www.lvacs.org](http://www.lvacs.org) for current meeting and event updates.

Octagon CONTACT: Nigel Sanders, LVACS secretary and newsletter editor, [nigel53.sanders@gmail.com](mailto:nigel53.sanders@gmail.com)




## UNDERGRADS: CAREER SATURDAY FEBRUARY 18TH

# LVACS

# UNDERGRAD

# CAREER SATURDAY



**You** bring the coffee,  
**we'll** bring the  
**answers.**

**SATURDAY, FEBRUARY 18TH @ 2PM**

**REGISTER @**  
[https://www.eventbrite.com/e/  
lvacs-undergrad-career-  
saturday-tickets-526946961547](https://www.eventbrite.com/e/lvacs-undergrad-career-saturday-tickets-526946961547)

Check out "LVACS Undergrad Career Saturday" February 18th from 2-3pm!

Greglynn Gibbs, ACS Career Consultant, helps you with Your Resume and Tells You how to Apply for Internships and the Research Experience for Undergraduates (REU) Program.



<https://www.eventbrite.com/e/lvacs-undergrad-career-saturday-tickets-526946961547>

**LVACS asks for a few hours of your time to encourage our  
Local Student Researchers by being a ...**

## Science Fair Judge

\*\*\*\*\*

### Pennsylvania Junior Academy of Sciences



Information: [Region 3](#)

**Saturday, February 25, 2023**

Northampton Community College  
3835 Green Pond Road  
Bethlehem, PA 18020

Morning session starts 8 am; afternoon session at noon.

*Free breakfast and lunch if you judge both!*

No prior experience necessary!

[Register](#)

(enter: Region 3)

\*\*\*\*\*

### Lehigh Valley Science & Engineering Research Fair

[Information](#)

**Saturday, March 11, 2023**

Lehigh University, Goodman Campus  
Rauch Field House, 123 Goodman Drive  
Bethlehem, PA 18015



[Register](#)

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### Reading-Berks Science Engineering Fair



[Information](#)

**Tuesday, March 14, 2023**

Albright College, Bollman Gymnasium  
Schumo Center for Fitness and Well-Being  
N. 13th St. and Richmond St. Reading, PA

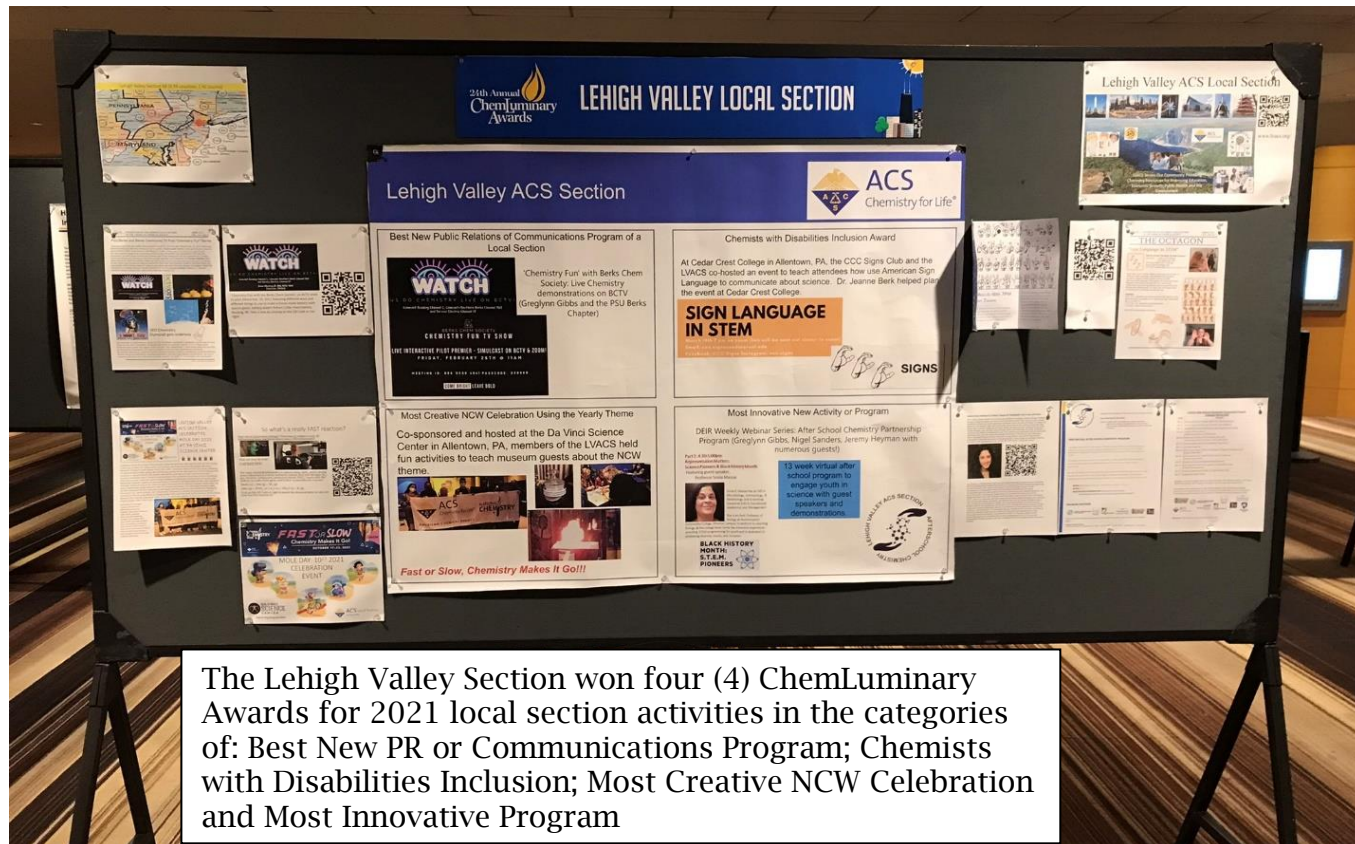
*Judging from 7:45 am to 4:15 pm with breakfast/lunch*

[Register](#)

***The Lehigh Valley Section actively supports Science Fairs and Symposia  
throughout our region: please inform us of other such events.***



## 2023 ACS LEADERSHIP DEVELOPMENT INSTITUTE EMPHASIZES LOCAL SECTION CONTRIBUTIONS



The Lehigh Valley Section won four (4) ChemLuminary Awards for 2021 local section activities in the categories of: Best New PR or Communications Program; Chemists with Disabilities Inclusion; Most Creative NCW Celebration and Most Innovative Program

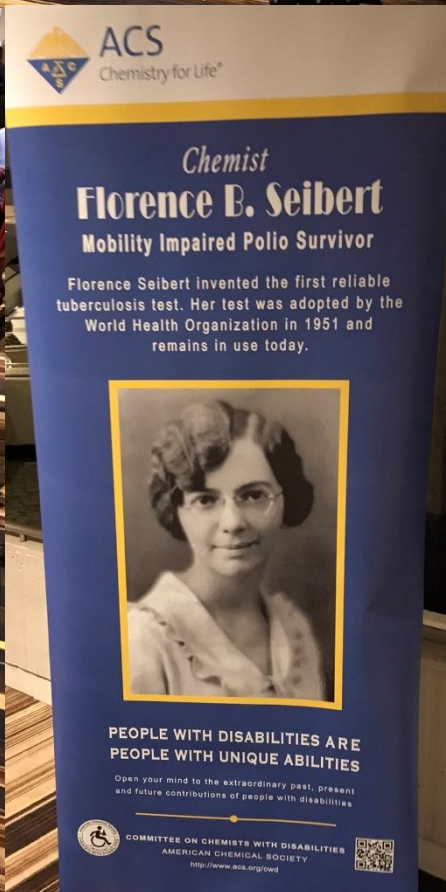
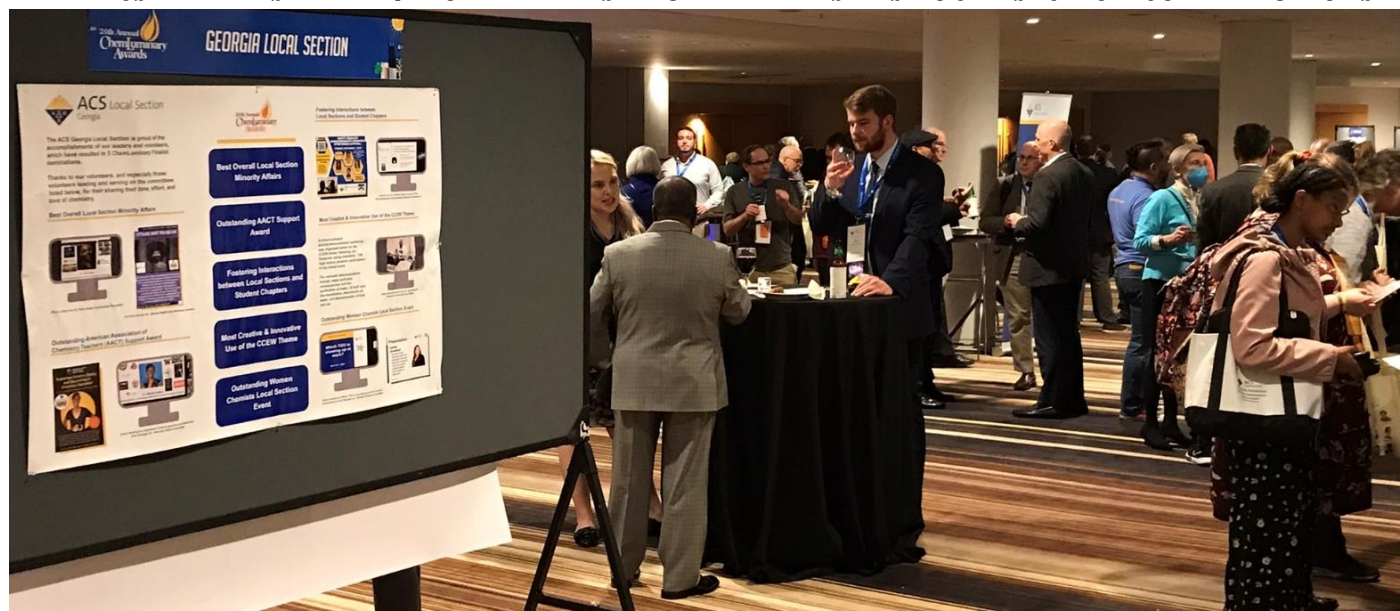


LVACS officers Jeanne Berk (councilor), Philip Elias (Chair-elect) and Nigel Sanders (secretary) attended the Leadership Development Institute in Atlanta January 20-22, 2023. Besides the poster, LVACS was invited to give a 'Share Your Story' presentation during the Local Section training track.





## 2023 ACS LEADERSHIP DEVELOPMENT INSTITUTE EMPHASIZES LOCAL SECTION CONTRIBUTIONS



ACS Leadership Development Institute Attendees Meet ACS Staff during the Resource Fair Reception. In addition to honoring the local sections winning ChemLuminary Awards, the ACS LDI paid special tribute to the contributions of Chemists with Disabilities. Courses offered during the institute included Strategic Planning, Developing Communication Strategies, Engaging and Motivating Volunteers, Collaborating Across Boundaries and Leading without Authority. For more information on the ACS LDI visit: <https://www.acs.org/careers/leadership/leadership-institute.html>



## LVACS January 2023 Meeting Report

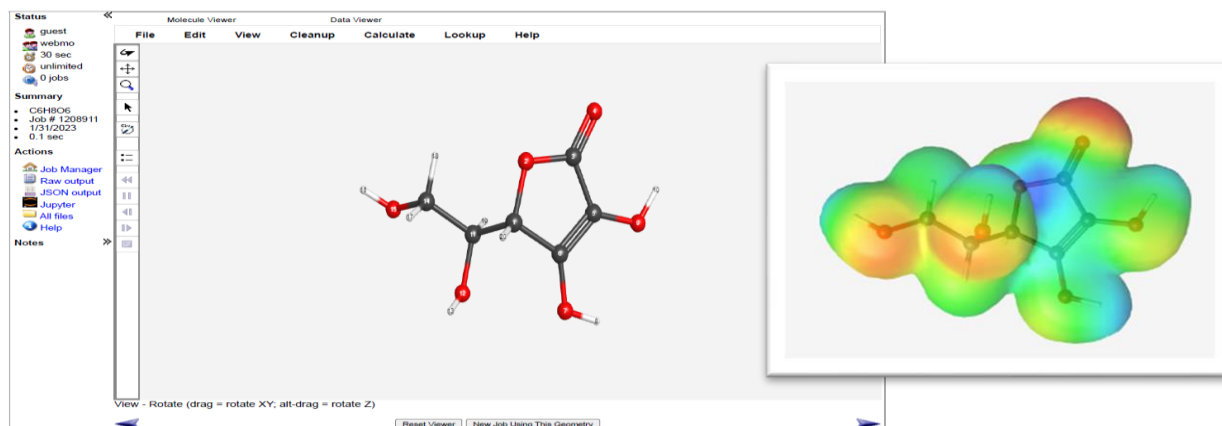


About 25 members came to the workshop “Bringing Computational Chemistry into the Classroom” at Moravian University where Profs. Heidi Hendrickson (Lafayette), Carl Salter (Moravian) and Lorena Tribe (PSU/Berks) demonstrated the concept of using mobile devices to do molecular modeling calculations using web software such as WebMO and Gaussian. One attendee remarked: “The audience found the demo of WebMO quite interesting and engaging. Quite a few were doing the demos on their phones, following along with handouts provided. Most of the interest and focus was on using this as a teaching tool. There were questions about the teaching resources available and how Moravian University implements the program. They bought the software (\$1000 permanent license) and host it on an internal server. However, it is possible to run wholly on-line with no up-front outlay and no cost at all if the calculations are simple enough (<30 sec CPU time). Some attendees were also interested in it as a low-cost way to get calculations done for research purposes, particularly the possibility to use cloud computing resources and not need to buy your own high-powered computer.” Another added: “The January meeting was awesome! I really enjoyed the hands-on nature of the workshop. I had some experience with WebMO before the meeting but didn't know enough to feel comfortable using it in my courses. After the meeting, I plan on adapting some of the activities shown in general chemistry labs and my inorganic course.”

*Heidi, Carl and Lorena: Thank you for taking the time to help LVACS ‘kick it up a notch’ when teaching with and using computer modeling!*



## View Job 1208911: C6H8O6, Molecular Orbitals - Mopac



## LEHIGH VALLEY ACS CAREER PAGE

Check out the Career page on our website [lvacs.org/careers](http://lvacs.org/careers) for a wealth of information on the services provided by LVACS 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](mailto:greglgibbs@gmail.com)



Join the ACS for this free Virtual Office Hour session on Thursday, March 2, 2023 at 12pm EST. Open to ACS members and non-members, this virtual session will begin with a presentation reviewing ins and outs of Networking, followed by the opportunity to network in small groups lead by ACS Career Consultants. Register: [here](#)

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**CHEMISTRY JOB LISTINGS:** These listings are posted to aid LVACS members in their career development and do not reflect a recommendation of these institutions by LVACS. For an updated listing, check our website, [www.lvacs.org](http://www.lvacs.org)

### **Formulation Chemist Personal Care, Brenntag, Allentown, PA**

The Formulation Chemist is responsible for creating innovative starting point formulations and managing customer projects, product development, and application testing in order to support the sales and marketing organization as well bring value to our customers and suppliers. [Apply](#)

### **Chemist, Evonik, Allentown, PA On-site**

Manages and completes new product development programs to meet the emerging needs of the epoxy adhesive market, that results in increased, defensible opportunities for the ECA business line. Works with North America-Application Technology and adhesive market leads to manage assigned product development projects from concept to commercialization. Support customers and commercial team on the adhesive curing agents and additives product lines and be the key point of contact. Understand the ECA base product offerings and have a deep knowledge of structure-properties-relationship to apply for the new product design. Develops a strong working relationship with technology teams in the Americas and further develop these relationships with technical counterparts in Europe & Asia. Demonstrates technical leadership in the area of safety and product stewardship. [Apply](#)

### **Post Doc Industrial Fellow - High Performance Polymers, Evonik, Allentown, PA On-site**

The position is limited to 15 months.

Contribute to R&D projects, communicate with partners internally (e.g., Technical centers in Marl and China) and externally (e.g., concerning polymer processing). This includes the planning, preparation, coordination, and execution of R&D work in labs and plants. The position holder will be in contact with customers and internal stakeholders to learn new competences and get involve with main tasks and challenges in polymer development work. [Apply](#)

### **Sr. Research Chemist - Oral Care, Church & Dwight Co., Inc., Princeton, NJ On-site**

Provide technical expertise and lead the development and qualification/implementation of new oral care products; maintenance of current products. [Apply](#)

### **Senior Surfactants Scientist, Nouryon, Bridgewater, NJ**

The Senior Surfactants Scientist will join the Nouryon team and be responsible for the research, development, and evaluation of surfactant ingredients for the home and personal care segments. This may include developments for various sub-segments, such as hard surface cleaners, degreasers, laundry and dish washing products, personal cleansing systems, conditioners, sunscreens, and skin care products. [Apply](#)



## LEHIGH VALLEY ACS CAREER PAGE [continued]

### **Sr. Research Chemist, Church & Dwight Co., Inc., Princeton, NJ On-site**

The Senior Research Chemist will work with other researchers and multidisciplinary project teams to solve problems using various analytical chemistry techniques. Work with Sr. Manager Applied Sciences and other Analytical, and Microbiology Leads to develop a 5- and 10-year plan to build C&D's Analytical/Microbiology capability delivering a roadmap to support innovation. The Senior Research Chemist will be able to interpret and communicate results to various product and process personnel. The Senior Research Chemist will also mentor other chemists and technicians in the department. [Apply](#)

### **Senior Surfactants Scientist, Nouryon, Bridgewater, NJ On-site**

The Senior Surfactants Scientist will join the Nouryon team and be responsible for the research, development, and evaluation of surfactant ingredients for the home and personal care segments. This may include developments for various sub-segments, such as hard surface cleaners, degreasers, laundry and dish washing products, personal cleansing systems, conditioners, sunscreens, and skin care products. [Apply](#)

### **Senior Scientist, AR&T Pigment Concentrates, Evonik, Allentown, PA On-site**

You will work on exciting and challenging topics together with a team in an ultra-modern, innovative and creative environment. Intensive on-the-job training with expert colleagues guarantees you will quickly become familiar with your duties and perform them independently. Performance related pay and the opportunity for personal and professional development are of course part of the package. Since 2009 Evonik Industries AG has been certified as a family-friendly company by the German Hertie Foundation. [Apply](#)

### **Senior Consumer Scientist, Church & Dwight Co., Inc., Princeton, NJ**

The Senior Consumer Scientist will be the voice of the consumer and own agile research solutions that uncover insights that enhance consumer experience. Leads product and consumer research for designated categories to guide product development/ Innovation R&D. Subject matter expert of consumer and product research methods (qualitative and quantitative methods). Develops/ leverages holistic approaches that capture consumer needs. Ability to connect research solutions to consumer centric needs and lifestyle trends. Collaborates with R&D partners to help formulate project objectives, appropriate action standard for research and recommendation on methods, analyses. Strong story-telling skill to deliver comprehensive view point of consumer experience. Collaborative and willing to 'roll up sleeves' to provide constructive solutions for problem solving are critical leadership qualities for this role. [Apply](#)

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## March Meeting at Muhlenberg will feature Todd McEvoy of Azzur Labs

Thursday, March 23<sup>rd</sup> at Muhlenberg College, 2400 Chew Street, Allentown, PA 18104

### **“Developing the Formula for a Rewarding Career in Science”**

Finding a career based in the sciences can be extremely rewarding. However, it isn't always clear for students, and even professionals, just what opportunities exist and what direction they can, and should, follow. There are numerous career pathways that exist for the scientist, and choosing the right one can be a daunting task. To help resolve these questions, this presentation will provide strategies to help guide scientists to develop a formula that leads to a successful and rewarding career. [Todd's abstract and bio](#)

*This presentation will include discussion on several areas such as:*

- Identifying personal motivators and demotivators
- Evaluating what careers align with your interests and values
- Exploring traditional and non-traditional career pathways
- Science doesn't always require you to be at the bench
- Using more than just data to create the formula that works for you



CONTACT: Sherri Young, [sherriyoung@muhlenberg.edu](mailto:sherriyoung@muhlenberg.edu)

## LVACS Announces High School Chemistry Awards

John Freeman, LVACS Awards Committee Chair, has announced the 2023 Chemagination Competition, Foundation in Chemistry Award and the Lehigh Valley Section Award for Excellence in High School Teaching. More on these awards, including application forms and past winners can be found by visiting our website, <https://www.lvacs.org/education-and-student-awards>. CONTACT: John Freeman, [jcf2@rcn.com](mailto:jcf2@rcn.com)

### Chemagination Competiton

The Lehigh Valley American Chemical Society (LVACS) will be holding a Chemagination Competition. Chemagination is a great learning experience for students. In addition to increasing their knowledge of science and chemistry, they can improve their creative, teamwork and public speaking skills. Such skills will serve them well in their future careers. For this event, high school students are asked to imagine that they are living 25 years in the future and have been invited to write an article for ChemMatters, a magazine for high school students that focuses on the role of chemistry in everyday life. The subject of the article is: "Describe a recent breakthrough or innovation in chemistry (and/or its applications) that has improved the quality of people's lives today." In addition to the article, students are asked to design a cover for the magazine. The article must be written as if the student is living in the year 2048, looking back at innovations that have occurred since 2023. The innovation must fall into one of the following categories: Alternative Energy, Environment, Medicine/Health, or New Materials. The winners of the LVACS local section competition will advance to the regional meeting, MARM 2023. **Application materials: see the appendices of this issue.**

### Foundation in Chemistry Scholarship Award


The Lehigh Valley Section of the American Chemical Society (LVACS) is delighted to announce the 2023 Foundation in Chemistry Award. The award, designed to promote the chemical sciences at the college level, will be given to a high school senior who will be majoring in chemistry, biochemistry, or chemical engineering and attending a college or university in the Lehigh Valley Section. This scholarship award consists of \$1000 and a certificate, which will be presented to the winner at a meeting of the Lehigh Valley Section of the American Chemical Society. The guidelines for the award and the application materials are attached. Please share this information with parents, students and guidance counselors and post the flyer. The four-part application should be completed and submitted by **April 14, 2023**. **Application materials: see the appendices of this issue.**

### The Lehigh Valley Section Award for Excellence in High School Teaching

The Lehigh Valley Section of the American Chemical Society (LVACS) is delighted to announce the 2023 award for excellence in teaching. The award is designed to promote excellence in chemistry instruction at the high school level. Within the membership boundaries of the LVACS (Lehigh, Northampton, Berks, Monroe, Schuylkill, and Carbon Counties in PA, and Warren County in NJ). We hope that you will identify an outstanding teacher at your school and support them for the award. The Application materials follow Please share them with a teacher or administrator that has shown excellence in the instruction of the chemical sciences. The application should be completed and submitted by **April 1, 2023**. **Application materials: see the appendices of this issue.**







ACS  
Chemistry for Life®  
AMERICAN CHEMICAL SOCIETY  
MEETINGS & EVENTS

# #ACSSpring2023

## Crossroads of Chemistry

# ACS SPRING 2023

## Crossroads of Chemistry

### Indianapolis, IN & Hybrid

### March 26-30

### Registration is Open!

Register and join us March 26 - 30 for ACS Spring 2023! We'll be in-person in Indianapolis at the Indiana Convention Center or virtually across the globe. The theme, Crossroads of Chemistry, will be at the core of programming for the hybrid event.

The [Schedule Overview](#) is available for you to explore the overall meeting schedule. Check out time blocks for hybrid, in-person, poster, and live virtual technical sessions along with Keynote Events and Expo featuring Career Navigator LIVE! information.

[Register Now »](#)

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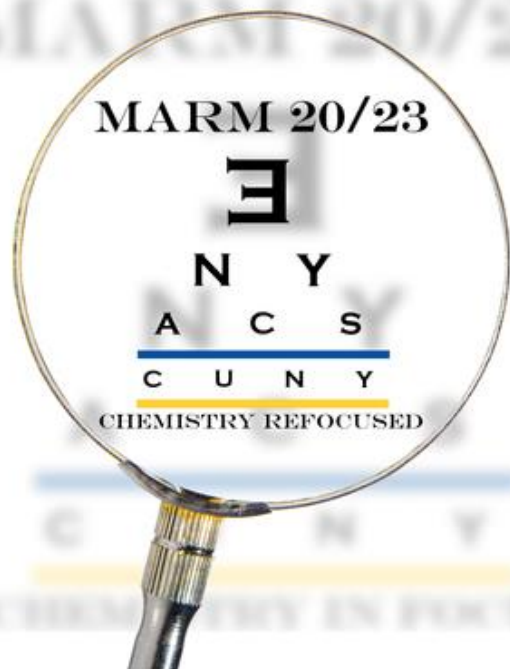
## Now Accepting Abstracts for ACS Fall 2023!

[Submit your abstracts](#) for oral and poster presentations for ACS Fall 2023. The meeting will feature a theme of Harnessing the Power of Data. Those who wish to submit an abstract will have the option of selecting a virtual or in-person presentation. [Visit the website](#) to find a list of the programming divisions and planned symposia that are open for submissions. The deadline to submit is Tuesday, April 4, which will be at the core of programming. Sessions for the hybrid meeting (in-person & virtual) will be held in San Francisco, CA, August 13 - 17, 2023. Those who wish to submit an abstract will have the option of selecting a virtual or in-person presentation. [Visit the website](#) to find a list of the programming divisions and planned symposia that are open for submissions. The deadline to submit is Tuesday, April 4.



## MARM 2023

### CHEMISTRY REFOCUSED



The [New York ACS](#) along with its partners at the [The Graduate Center of the City University of New York](#) and [St. John's University](#) are proud to present the 2023 Middle Atlantic Regional Meeting on June 9-10, 2023. This mini-MARM has the theme of 'Chemistry Refocused' and will include technical sessions, poster sessions, an exposition, employment programming including a resume review workshop, a graduate study fair, a social media social, a Women's Chemists Committee workshop on Promotion to Full Professor, a 50/60/70-year member luncheon, and an awards banquet.

Exhibitors and Sponsors are encouraged to [apply now](#) as space is limited. Abstract submission is open, [click here](#). **The deadline for abstract submission is March 3, 2023.** Registration open February 20, 2023.

### TWENTY-SEVENTH ANNUAL GREEN CHEMISTRY & ENGINEERING CONFERENCE June 13-15, 2023 | Long Beach, CA & Hybrid

#### A LIFE CYCLE THINKING APPROACH

Life cycle thinking is an important underlying principle in the successful implementation of green chemistry and engineering across chemistry enterprise. This approach allows chemists and engineers to think systematically about how the choices they make at one stage of the life cycle can influence the fate of a chemical and the ultimate impacts chemicals have on society and the environment. In order to highlight the importance of this approach to chemistry and engineering and to facilitate critical discussions on these topics, the theme of each GC&E Conference focuses on one of the stages of the chemical life cycle; put simply: Design, Make, Use, and Closing the Loop (see graphic).



Browse the GC&E Conference technical sessions. **Submit your abstract by February 13, 2023.**

[Browse the Symposia](#)

[Submit Your Abstract](#)

The 27th Annual Green Chemistry & Engineering Conference is a hybrid event. While we hope that you will join us in Long Beach, CA to present and get the most out of the conference, we understand not everyone will be able to do so. If you plan to present virtually, please indicate your intention when you submit your abstract. Virtual presentations will be live in Pacific Daylight Time (GMT -8).



## Chiles: The Chemistry of Capsaicin Part 4 of 4: Modern Analysis and Detection in Ancient Pottery

By Robert A. Yokley, Senior Chemists Committee Chair

The Scoville scale, although inherently imprecise and inaccurate, is still useful and widely used today to compare the capsaicinoid content of chiles. When more reliable data are required, modern techniques are employed such as high-performance liquid chromatography (HPLC), gas chromatography (GC), GC/mass spectrometry (GC/MS), HPLC/MS, and HPLC/MS/MS. The need for validated analytical methodology is growing due to the increasing and widespread use of capsaicinoids in foods and pharmaceuticals. In most cases HPLC is sufficient. A typical chromatogram obtained during the analysis of chile powders for capsaicin and dihydrocapsaicin (>90% of the total capsaicinoid content) is shown in Figure 1. The authors used a C-18 column (3  $\mu$ m, 4.6 X 100 mm) and Photo Diode Array detection (at 225 nm excitation). The analysis time was less than 4 minutes (Ng and Reuter, Perkin-Elmer, Inc. Application Note, 2015).

Techniques with confirmatory capabilities and much lower limits of detection are required when analyzing samples collected from archaeological and anthropological study sites. Sample types include stains on teeth and soil, deposits on stone tools, smoking pipes, and materials adhering to pot shards and ceramic vessels used for food and drink. Residue analyses include: the analysis of caffeine, theobromine, and theophylline for the past presence of chocolate; cholesterol and animal fats analyses for blood or meat; psilocybin and psilocin analyses for magic mushrooms; and samples are analyzed for capsaicinoids or their specific biomarker degradates.

Evidence of chile use in 2400 year old pottery samples collected at the Chiapa de Corzo site in Chiapas, Mexico was obtained by analyzing for the presence of capsaicin, dihydrocapsaicin, and degradates 4- OH-3-OMe-benzylamine and 3,4-dehydroxy-benzylamine (Terry G. Powis, et al, PLoS ONE 8(11), November, 2013). In this work, fine-grained sand paper was used to slightly remove substances that may have permeated the wall of the vessel. The resulting "burr" (90-200 mg) was vortexed with a solvent mixture, concentrated to 100  $\mu$ L, and analyzed using Ultra Pressure LC/MS/MS. Positive detections of dihydrocapsaicin were obtained in one of thirteen pottery vessels as well as positive detections for one or both of the degradates in four of thirteen vessels. Shown in Figure 2 are MS/MS chromatograms (monitoring precursor/product ion 308.3/137.0) from the dihydrocapsaicin positive pottery vessel. Thus, the presence of chiles in prehistoric pottery was confirmed. However, it is not known if the chiles were used for medicinal, ritual, magical, or culinary purposes.

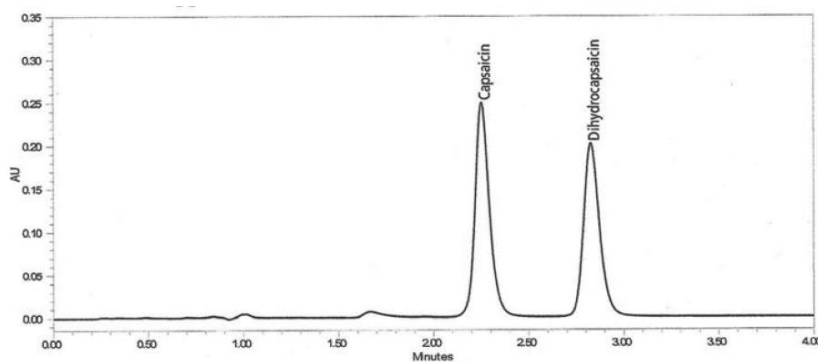


Figure 1. Chromatogram of a capsaicin/dihydrocapsaicin standard (100 ppm)

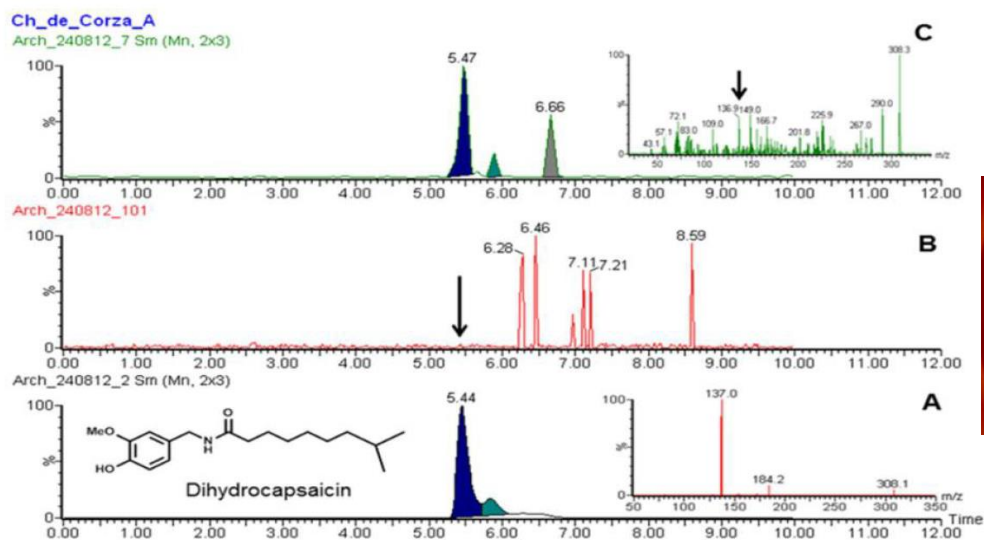


Figure 2. Chromatograms (MS/MS) of (A) dihydrocapsaicin standard, (B) Blank, and (C) Representative Corza sample confirming the presence of dihydrocapsaicin [the inserts are MS/MS spectra]

Ahh...What's up Doc?  
Me thinks I'll stick to  
carrots meself.



LEHIGH VALLEY SECTION OF THE AMERICAN CHEMICAL SOCIETY  
2023 EXECUTIVE COMMITTEEOFFICERS

Chair:  
Steve Boyer  
[sboyer11@esu.edu](mailto:sboyer11@esu.edu)



Chair Elect:  
Philip Elias  
[pelias@muhlenberg.edu](mailto:pelias@muhlenberg.edu)



Immediate Past Chair:  
Lindsey Welch  
[lawelch@cedarcrest.edu](mailto:lawelch@cedarcrest.edu)



Secretary:  
Nigel Sanders  
[nigel53.sanders@gmail.com](mailto:nigel53.sanders@gmail.com)



Treasurer:  
Sherman Cox  
[shermdc51@gmail.com](mailto:shermdc51@gmail.com)

COUNCILORS

Jeanne Berk (term ends 12/31/24)  
[jrberk@cedarcrest.edu](mailto:jrberk@cedarcrest.edu)



Kelley Caflin (term ends 12/31/23)  
[caflinacs@yahoo.com](mailto:caflinacs@yahoo.com)

ALTERNATE COUNCILORS

Mike Bertucci (term ends 12/31/23)  
[bertuccm@lafayette.edu](mailto:bertuccm@lafayette.edu)



Ned Corcoran (term ends 12/31/24)  
[ewc777@gmail.com](mailto:ewc777@gmail.com)



**APPENDICES: INFORMATION AND APPLICATIONS FOR LVACS HIGH SCHOOL AWARDS**

Pages 16-17 Chemagination Competition

Pages 18-20 Foundation in Chemistry Award

Pages 21-26 The Lehigh Valley Section Award for Excellence in High School Teaching

# 2023 CHEMAGINATION COMPETITION

Dear High School Teachers,

The Lehigh Valley Section of the American Chemical Society (LVACS) will be holding a Chemagination Competition. Chemagination is a great learning experience for students. In addition to increasing their knowledge of science and chemistry, they can improve their creative, teamwork and public speaking skills. Such skills will serve them well in their future careers regardless of field.

## CONTEST OVERVIEW

For this event, high school students are asked to imagine that they are living 25 years in the future and have been invited to write an article for ChemMatters, a magazine for high school students that focuses on the role of chemistry in everyday life. The subject of the article is: *“Describe a recent breakthrough or innovation in chemistry (and/or its applications) that has improved the quality of people’s lives today.”* To view a sample ChemMatters magazine visit [acs.org: http://www.acs.org/content/acs/en/education/resources/highschool/chemmatters.html](http://www.acs.org/content/acs/en/education/resources/highschool/chemmatters.html).

In addition to the article, students are asked to design a cover for the magazine. The article must be written as if the student is living in the year 2048, looking back at innovations that have occurred since 2023. The innovation must fall into one of the following categories:

- \* Alternative Energy
- \* Medicine/Health
- \* Environment
- \* New Materials

A few examples of areas where development is expected are nanotechnology, energy efficiency, pollution prevention, green chemistry, sustainability, intelligent devices for sensing, proteomics, climate models, biopharmaceutical therapies, medical devices and/or implants and new energy sources.

Questions to guide your students

1. How did this research begin? What prompted or catalyzed the idea?
2. How did this research evolve from the initial research idea to the final innovation 25 years later? What were some of the key breakthroughs?
3. How did the research team work together and collaborate over the years?

The local section competition will be completely electronic. Teams should submit their articles and cover design to by **April 14, 2023**. The articles will be judged based on the MARM 2023 rules. Please refer to the attached document titled 2023 MARM CHEMAGINATION DESCRIPTION AND RULES for the official rules.

The winners of the LVACS local section competition will advance to the regional meeting, MARM 2023, sponsored by the NY ACS Section of the ACS. This will be held on Saturday, June 10<sup>th</sup> at St. John’s University. First place category winners from the LVACS Section’s Chemagination contests are eligible to participate in MARM 2023. If a first-place winning team chooses not to participate, a second place team may serve as an alternate. At that event masks covering the nose and mouth may be required. Students and faculty will be required to comply with any existing NY COVID-19 regulations for large gatherings.



## **DEADLINES: 2023 Chemagination**

March 15: Teams should submit their intent to participate (this allows for appropriate judge recruitment but is not a firm deadline.)

April 14: Teams submit their articles online for the LVACS competition to [lvacschemagin@gmail.com](mailto:lvacschemagin@gmail.com). (This is a firm deadline)

May 9: Teams notified of award status (This is a firm deadline)

Late May TBD: LVACS winning teams submit their articles for MARM 2023 pre-judging

June 10: The 2023 MARM Chemagination Competition takes place at St Johns University, 8000 Utopia Parkway, Queens, NY 11439

Fall TBD: Teams honored at a Lehigh Valley ACS meeting

Regards,  
John Freeman Chemagination2023 coordinator  
[lvacschemagin@gmail.com](mailto:lvacschemagin@gmail.com)

# 2023 Foundation in Chemistry Award

The Lehigh Valley Section of the American Chemical Society (LVACS) is delighted to announce the 2023 Foundation in Chemistry Award. The award, designed to promote the chemical sciences at the college level, will be given to a high school senior who will be majoring in chemistry, biochemistry, or chemical engineering and attending a college or university in the Lehigh Valley Section. This scholarship award consists of \$1000 and a certificate, which will be presented to the winner at a meeting of the Lehigh Valley Section of the American Chemical Society. The guidelines for the award and the application materials are attached.

As an ACS member please share this information with parents, students and guidance counselors and post the flyer. The four-part application should be completed and submitted by **April 14, 2023**. We appreciate your help and thank you for publicizing the 2023 Foundation in Chemistry Award. We look forward to many worthy applications.

**Instructions:** The Foundation in Chemistry Award is sponsored by the Lehigh Valley Section of the American Chemical Society (LVACS) to promote the chemical sciences at the college level. This award, consisting of \$1000 and a plaque, will be awarded annually to a high school senior within the membership boundaries of the LVACS (Lehigh, Northampton, Berks, Monroe, Schuylkill, and Carbon Counties in PA, and Warren County in NJ) to attend a college in the Lehigh Valley area (eligible colleges are listed below) and intending to major in chemistry, biochemistry, or chemical engineering. The \$1000 check will be given to the student for defraying college expenses.

The applicant for this award should have completed one year of college preparatory chemistry, four years of mathematics, and one semester of college preparatory physics by high school graduation. The application, which is attached to these instructions, will be evaluated on merit by the LVACS HS Scholarship Committee. The completed four-part application (nomination letter from your chemistry teacher, the application form, transcript, and your essay) must be submitted by **April 14, 2023** and emailed to: [lvacsfoundations@gmail.com](mailto:lvacsfoundations@gmail.com). Please direct any questions about this award to: John Freeman at [lvacsfoundations@gmail.com](mailto:lvacsfoundations@gmail.com)

Sincerely  
John Freeman  
Chair of the LVACS HS Scholarship Committee  
220 W Pierce  
Easton, PA 18042

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*Eligible Colleges for Awardees:*

<i>Albright College</i>	<i>Alvernia College</i>
<i>Cedar Crest College</i>	<i>DeSales University</i>
<i>East Stroudsburg University</i>	<i>Kutztown University</i>
<i>Lafayette College</i>	<i>Lehigh Carbon CC</i>
<i>Lehigh University</i>	<i>Moravian College</i>
<i>Muhlenberg College</i>	<i>Northampton County CC</i>
<i>Penn State-Berks</i>	<i>Penn State-Lehigh Valley</i>
<i>Penn State-Schuylkill Valley</i>	<i>Reading Area CC</i>
<i>Warren County CC</i>	



## 2023 Foundation in Chemistry Award Nomination Form

*(To be filled out by the student)*

Student's Name: \_\_\_\_\_

Chemistry Teacher's Name: \_\_\_\_\_

e-mail address: \_\_\_\_\_

School Address: \_\_\_\_\_  
\_\_\_\_\_

I hereby \_\_\_\_\_ waive my right of access to this recommendation  
\_\_\_\_\_ do not waive my right of access to this recommendation

*(To be filled out by the teacher)*

Please submit a letter of recommendation (as an attached letter) addressing such issues as the above student's knowledge of chemistry and the sciences, initiative, leadership potential, and potential as a student in the chemical sciences at college. Any additional information about the student's financial need would be appreciated; we will consider financial need in the event we judge more than one student to be equivalent on the basis of merit.

**Deadline: April 14, 2023**

## Foundation in Chemistry Award Application Form

*(To be filled out by the student)*

Full Name: \_\_\_\_\_

Home Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Home Phone #: \_\_\_\_\_

e-mail address: \_\_\_\_\_

High School: \_\_\_\_\_

Names and addresses of your legal guardians:

\_\_\_\_\_  
\_\_\_\_\_

College you will attend: \_\_\_\_\_

Proposed major degree program: \_\_\_\_\_

Please attach an official transcript with your most recent grades.

**Please write and attach an one page essay (250 words maximum) on why you have chosen to study the chemical sciences in college.**

**Deadline: April 14, 2023**

Application Check list

- Application form/this page
- Letter of recommendation
- Student Essay
- Student Transcript



# The Lehigh Valley Section Award For Excellence in High School Teaching

The Lehigh Valley Section of the American Chemical Society (LVACS) is delighted to announce the 2023 award for excellence in teaching. The award is designed to promote excellence in chemistry instruction at the high school level. Within the membership boundaries of the LVACS (Lehigh, Northampton, Berks, Monroe, Schuylkill, and Carbon Counties in PA, and Warren County in NJ). We hope that you will identify an outstanding teacher at your school and support them for the award. The Application materials follow Please share them with a teacher or administrator that has shown excellence in the instruction of the chemical sciences.

The application should be completed and submitted by **APRIL 1, 2023** to *John Freeman* at [LVACSTOTY@gmail.com](mailto:LVACSTOTY@gmail.com) as an attachment.

THE LEHIGH VALLEY SECTION AWARD FOR  
EXCELLENCE IN HIGH SCHOOL TEACHING  
AWARD PROGRAM FOR 2023

**Purpose:** To recognize, encourage, and stimulate outstanding teachers of high school chemistry in the Lehigh Valley Section of the American Chemical Society

**Nature:** The Section Award consists of a cash award and a certificate. A meal at the meeting of the Lehigh Valley section of the ACS at which the award will be presented will be paid. A certificate will also be provided to the recipient's institution for display. The Winner's Application will be forwarded to the Mid Atlantic Regional ACS Division of Chemical Education Award for Excellence in High School Teaching for the following year.

**Who May Nominate?** Any individual, except a member of the award selection committee or currently enrolled student of the nominee, may submit one nomination or support form in any given year. Prior winners are members of the award selection committee for 10 years post their award.

**Who is Eligible?** The nominee must be actively engaged in the teaching of chemistry or a chemical science in a high school (grades 9-12) on at least a half-time basis in Berks Schuylkill Carbon Lehigh Northampton or Monroe counties in PA and Warren County NJ. The nomination should clearly demonstrate as many of the following attributes as possible.

- The quality of the nominee's teaching; unusually effective methods of presentation should be emphasized;
- The nominee's ability to challenge and inspire students;
- Extracurricular work in chemistry or a chemical science by the nominee, including science fairs, science clubs, and activities that stimulate the interest of young people in chemistry and related sciences;
- A willingness to keep up-to-date in the field, as evidenced by the pursuit of a higher degree in chemistry or a chemical science, enrollment in refresher courses and summer institutes, regular attendance at scientific meetings, membership in professional organizations, and other means of self-improvement;
- Evidence of leadership and/or active involvement within the profession.

**Required components of Nomination Portfolio:** The Awards Committee will consider only **complete** nomination portfolios. A complete portfolio shall consist of:

- A Nomination Portfolio Check List (see Page 3), which shall serve as the Portfolio Cover Sheet;
- Nominator Information Form (see page 5);
- Nominee Information Form (see page 6);
- Nominator Recommendation of not more than 750 words submitted by the nominator according to the guidelines outlined on the Recommendation Form (see page 7);
- A current 2-page curriculum vitae or resume that includes a list of the nominee's honors, professional activities, and additional evidence of service to the profession; **NOTE: Limited to no more than two pages and the activities listed must have occurred within the past ten years.**
- A statement by the nominee of not more than 500 words that describes the nominee's teaching philosophy or commitment to the profession.
- At least one, but not more than three, letters of support. One letter, of no more than 400 words, must be from the teacher's current principal or supervisor. Additional letters of support, of no more than 400 words, may be sent by colleagues, members of the American Chemical Society, who are familiar with the nominee's achievements, or former students and parents of former students.
- **NOTE: Some commentary on student reaction to the work of the nominee in either the nominating letter or that of the current principal or supervisor is essential for a well-rounded portfolio.**

Submit nominations to **John Freeman**) by e-mail attachment to [LVCSTOTY@gmail.com](mailto:LVCSTOTY@gmail.com) by **April 1<sup>st</sup> 2023**

\*\*\*Please state award title in subject line, and the candidates name \*\*\*

THE ACS LEHIGH VALLEY LOCAL SECTION AWARD FOR  
EXCELLENCE IN HIGH SCHOOL TEACHING

2023 Nomination Portfolio Cover Sheet Check List

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The following items are required components for a Nomination Portfolio. Please check each item contained in the portfolio. This list, submitted by the nominator, will serve as the cover to every submitted portfolio.

- Nominator Information Form;
- Nominee Information Form;
- Nominator Recommendation Letter of no more than 750 words send as email by Nominator with nominee's name in subject line.
- Nominee's Statement on Teaching Philosophy of no more than 500 words;
- Nominee's Current CV:  
A curriculum vitae or resume that includes a list of the nominee's honors, professional activities, and additional evidence of service to the profession. This must be limited to no more than two pages and the activities listed must have occurred within the past five years.
- Letters of Support (no more than 400 words) sent separately as email by principal with nominees name in subject line:  
**One must** be from the teacher's current principal or supervisor.  
**Up to two** additional letters of support may be sent by colleagues, members of the American Chemical Society who are familiar with the nominee's achievements, or former students and parents of former students.

Nominator's

Name: \_\_\_\_\_

Date: \_\_\_\_\_



## NOMINATION FORM

### THE ACS LEHIGH VALLEY LOCAL SECTION AWARD FOR EXCELLENCE IN HIGH SCHOOL TEACHING

**Deadline:** *April 1, 2023*

Any individual, except a member of the award selection committee or current students of the nominee, may nominate or support *only* one nominee during any given award year. Submit to **JOHN FREEMAN** via e-mail at LVACSTOTY@gmail.com By April 1 2023 Please state award title in the subject line.

The-award will be announced at a Meeting of the Lehigh Valley Section of the American Chemical Society. Dinner will be arranged.

#### NOMINATOR INFORMATION

Name:	
Company or Institutional Affiliation:	
Present Position (Exact Title):	
Address:	
City:	
State and Zip:	
Telephone:	
Fax:	
e-mail:	
Relationship to Nominee	

# NOMINATION FORM

## THE ACS LEHIGH VALLEY LOCAL SECTION AWARD FOR EXCELLENCE IN HIGH SCHOOL TEACHING

**Deadline: *April 1, 2023***

### NOMINEE INFORMATION

Name:	
Present Position (Exact Title):	
School:	
Address:	
City:	
State and Zip:	
Telephone:	
Fax:	
e-mail:	
Website: if appropriate	

Give your current teaching assignment including course titles and grade levels. What is your involvement in extracurricular activities.

- On a separate sheet, provide a statement of not more than 500 words in which you present your teaching philosophy or otherwise describe your commitment to the profession.

## NOMINATION FORM

### THE ACS LEHIGH VALLEY LOCAL SECTION AWARD FOR EXCELLENCE IN HIGH SCHOOL TEACHING

**Deadline: *APRIL 1, 2023***

#### RECOMMENDATION STATEMENT OF NOMINATOR

Submit a narrative statement of no more than 750 words that describes and comments upon the following:

- The quality of the nominee's teaching. Unusually effective methods of presentation should be emphasized;
  - **NOTE: Some commentary on student reaction to the work of the nominee in either the nominating letter or that of the current principal or supervisor is essential for a well-rounded portfolio.**
- The nominee's ability to challenge and inspire students;
- Extracurricular work in chemistry or a chemical science by the nominee, including science fairs, science clubs, and activities that stimulate the interest of young people in chemistry and related sciences;
- A willingness to keep up-to-date in the field, as evidenced by the pursuit of a higher degree in chemistry or a chemical science, enrollment in refresher courses and summer institutes, regular attendance at scientific meetings, membership in professional organizations, and other means of self-improvement;
- Evidence of leadership and/or active involvement within the profession.