



# American Chemical Society Susquehanna Valley Section

## NOVEMBER 2022 NEWSLETTER

The four hundred and sixty fifth meeting of the Susquehanna Valley Local Section of the American Chemical Society will be held on Wednesday, November 9<sup>th</sup>, 2022, at 7:00 pm in room G09 of the Heim Science Building on the campus of Lycoming College. The speaker will be Kelley Caflin, Ph.D., from the Explosives Research Branch at the US Army Picatinny Arsenal. The presentation will be preceded by a dinner at 5:00 in the President's Blue Room in the Wertz Student Center.

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### ***“Principal Components Analysis for Green Process Development”***

Dr. Kelley Caflin and Dr. Eric Gauthier

Dr. Kelley Caflin  
Lead Analytical Chemist  
US Army Picatinny Arsenal  
Explosives Research Branch  
Wharton, NJ

Green process development is an expanding effort within the energetics community. Many of the solvents used in energetic synthesis and purification efforts are hazardous to either operating personnel and/or the environment and are therefore candidates for substitution. For initial synthesis efforts solvents are chosen either based on analogous synthesis in existing literature or from the stockpile of solvents at the chemist's disposal.

Thermal rearrangement reactions are ubiquitous in the synthesis of emerging heterocyclic energetic compounds. A fundamental understanding of the solvent impact on these reactions is critical to development of environmentally conscious, safe and scalable synthetic processes. This work aims to continue the development of a systematic, statistics-based approach to solvent substitution using Principal Components Analysis (PCA) in conjunction with a Design of Experiments (DoE) methodology. These tools have been applied to energetic compounds of current interest with difficulties and hazards during the synthesis procedure. The tools will be applicable to future synthesis efforts and will result in reduction or elimination of hazardous waste streams and development of improved process productivity.

## **BIOGRAPHY OF DR. CAFLIN:**

Dr. Caflin works as the Lead Analytical Chemist in the Explosives Research Branch at the United States Army Combat Capabilities Development Command Armaments Center at Picatinny Arsenal. Dr. Caflin is a recognized expert in the field of Analytical Chemistry, specializing in the examination of both energetic and non-energetic materials using wide-ranging, novel, and state-of-the-art analytical instruments and techniques. In total, Dr. Caflin has dedicated 14 years of federal service to the U.S. Army.

Dr. Caflin is an alumnus of Cedar Crest College receiving a Bachelor of Science degree in Chemistry and Secondary Education in 2003. She attended graduate school at Lehigh University where she earned her Master of Science degree in 2006 and PhD in 2009. Over the last decade, Dr. Caflin has served the Lehigh Valley ACS section as Secretary in 2011 and 2012, Chair-Elect in 2015 and Chair in 2016. Currently she holds the position as Councilor for her local section and Member of the National Women Chemists Committee.

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## **DINNER:**

Dinner will be at 5:00 pm on campus in the President's Blue Room, which is in the Wertz Student Center. When entering the Wertz Student Center, go up the stairs and immediately to the left. The President's Room will be on the right. Dinner will consist of sliced turkey, roasted potatoes, broccoli, a garden salad, and dessert. Those that would like to attend the dinner should contact Debbie Smith (570-321-4180 or [smithdeb@lycoming.edu](mailto:smithdeb@lycoming.edu)) by Friday, November 4<sup>th</sup>.

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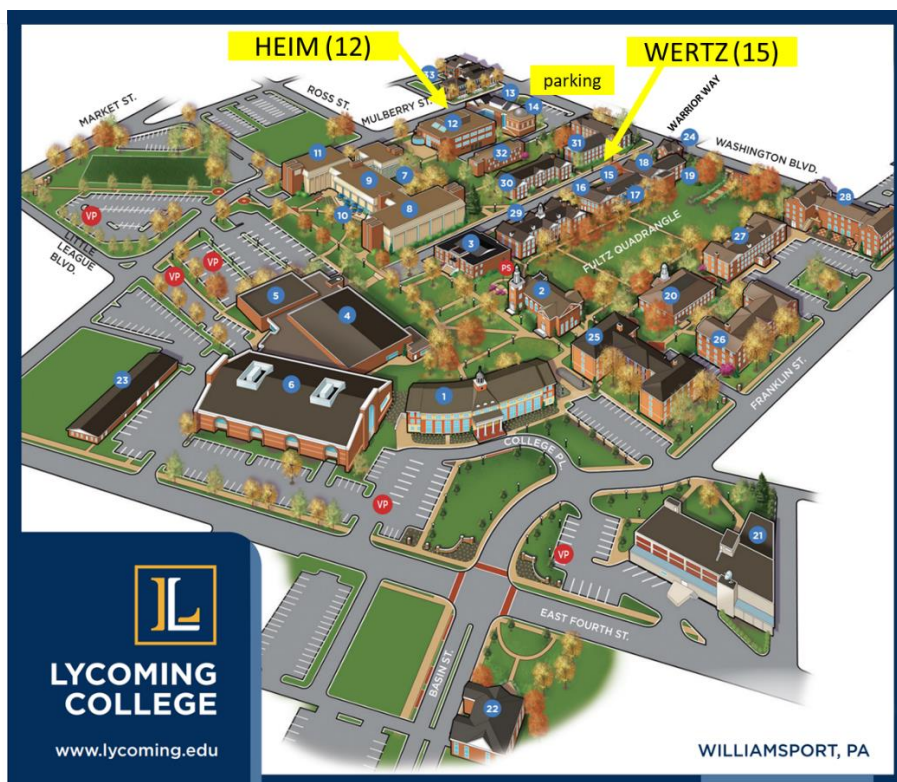
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## **DIRECTIONS TO LYCOMING COLLEGE:**

GPS address of the entrance to the Lynn Lot: 124 Washington Blvd, Williamsport, PA 17701

**From I-80:** take U. S. Route 15 north. Travel approximately 15 miles to Williamsport. Continue over the Market Street Bridge (stay in left lane) and follow the signs for the Business District. Go to the fourth traffic signal and turn right onto Little League Boulevard. Go one block east and turn left at the stop sign onto Mulberry Street. At the next traffic signal, turn right onto Washington Boulevard. The entrance to the Heim Building/Lynn Science Center parking lot will be the first right.

**From I-180/US-220:** exit onto Market Street (Exit 27A). Turn left from the exit ramp at the traffic signal and follow Market Street north into the city. Go to the third traffic signal and turn right onto Little League Boulevard. Go one block east and turn left at the stop sign onto Mulberry Street. At the next traffic signal, turn right onto Washington Boulevard. The entrance to the Heim Building/Lynn Science Center parking lot will be the first right. Proceed straight after entering the main doors of the Lynn Science center into the Heim Building.



Detailed directions can be found at the following internet address:

<https://www.lycoming.edu/admissions/visit/directions.aspx>

A detailed campus map can be found at the following internet address:

<https://www.lycoming.edu/admissions/ourcampus/campusmap.aspx>

## LOCAL SECTION NEWS:

MARM 2023



Save The Date:

The 51<sup>st</sup> Mid Atlantic Regional Meeting (MARM) will be held Friday and Saturday, June 9-10, 2023. The meeting is hosted by the New York Local Section of the American Chemical Society. The technical sessions will be Friday at the CUNY Graduate Center in Midtown Manhattan and high school and Chemagination will be held on Saturday at St. John's University in Queens.

## 2022 LOCAL SECTION ELECTIONS:

Nominations are due for the position of Chair-elect. If interested, please contact any [section officer](#).

## POSTPONEMENT OF SEPTEMBER SECTION MEETING:

The September meeting was postponed, and plans are being made to have [Dr. Freedman](#) present at Bucknell University at a later date. The SVS is planning on having two meetings in a single month to accommodate the rescheduled meeting. Please check the SVS website and forthcoming section newsletters for more information.

## OPEN POSITIONS IN THE LOCAL SECTION:

Do you want to use your talents to help other chemists in the Susquehanna Valley section? Listed below are examples of positions that need to be filled by willing individuals along with websites that give organizing ideas:

- SVS Chair-Elect  
*This two-year position is the usual office taken on by local chemists who want to begin to become more involved in the local section.*
- [Chemistry Olympiad](#) Chair  
*Administer Local Chemistry Olympiad Competitions in coordination with the National Chemistry Olympiad.*
- CMA ([Committee on Minority Affairs](#)) Chair  
*Help increase the number & participation of racially & ethnically underrepresented scientists in the Society and its governance*
- Project SEED ([Summer Experiences for the Economically Disadvantaged](#)) Coordinator  
*Coordinators are responsible for establishing programs, identifying mentors, recruiting students, fundraising, and organizing activities such as field trips*
- CH&S ([Chemical Health and Safety](#)) Committee Chair  
*Help provide authoritative technical resources and mentorship in chemical health and safety for all*
- SCC ([Senior Chemists Committee](#)) Chair  
*Help improve communication among senior chemists, increase the number of senior chemists' groups and the level of their engagement within local sections, and encourage the involvement of senior chemists in programs focused on K-12 education, undergraduate networking, and mentoring*
- CCEW ([Chemists Celebrate Earth Week](#)) Coordinator  
*Help promote the positive role that chemistry plays in the protecting our planet (recyclable plastics, cleaner-burning fuels, phosphate-free detergents, environmental monitoring, and green chemistry initiatives).*

If you are interested, contact the section Chair (Allison Saunders, [saundersa@lycoming.edu](mailto:saundersa@lycoming.edu)), Secretary (Ronald Supkowski, [ronaldsupkowski@kings.edu](mailto:ronaldsupkowski@kings.edu)) or any member of the Susquehanna Valley Section leadership team ([executive committee](#), [committee chairs](#), [liaisons](#)).

## LOCAL STEM COMPETITIONS:



A list of all STEM competitions for high school students is posted on our [website](#). If you have any questions about the contests or have suggestions for others, please contact either the person indicated on the site or the section webmaster, Ron Supkowski at [ronaldsupkowski@kings.edu](mailto:ronaldsupkowski@kings.edu) or 570-208-5900 x5733

## **NATIONAL ACS NEWS:**

### **COVID-19**

ACS is committed to helping combat the global COVID-19 pandemic with initiatives and free resources. Learn More at their website [acs.org/content/acs/en/covid-19](https://www.acs.org/content/acs/en/covid-19)

### **ACS LEGISLATIVE ACTION NETWORK:**

Legislation that may impact the chemical enterprise comes before Congress on a regular basis, and the ACS is committed to keeping its members informed and encouraging them to weigh in on high-priority issues. To see the position of the ACS on many legislative issues visit the ACS LAN website:

<https://www.acs.org/content/acs/en/policy.html>

To find out how to become more active in ACS advocacy activities, see the website:

<https://www.acs.org/content/acs/en/policy/memberadvocacy/advocacy-tools.html>

To join ACS' grassroots legislative advocacy network, ACT4CHEMISTRY, which will allow you to stay up to date on policy issues and contact legislators on behalf of chemistry and chemists, go to their website, follow the [Act4Chemistry Twitter](#) account, or email [advocacy@acs.org](mailto:advocacy@acs.org).

*Act4Chemistry Advocacy Issues. To take action go to the website*

[acs.org/content/acs/en/policy/memberadvocacy/issues.html#/takeaction](https://www.acs.org/content/acs/en/policy/memberadvocacy/issues.html#/takeaction)

### **Ask Congress to support funding of the CHIPS and Science Act in FY 2023**

The CHIPS and Science Act passed Congress and was signed into law by President Biden on August 9, 2022. The Act authorized research funding for the National Science Foundation, the National Institute of Standards and Technology, and the Department of Energy Office of Science for the next five years. However, these provisions still need to be funded through the appropriations process. The ACS would like your help highlighting the importance of not just authorizing these programs, but also providing appropriations for them. Please write your members of Congress and share with them the importance of funding research agencies at levels Congress has agreed to.

### **Ask Congress to support climate change legislation**

With the growing climate crisis, the American Chemical Society recently endorsed a package of legislation to help address climate change, both to reduce greenhouse gas emissions, improve the sustainability of our energy and transportation sectors, and adapt to a changing world. ACS believes these steps are only part of addressing our changing climate, but it is a step towards leaving a better planet to our children and grandchildren. We ask you to raise these important issues to your Representative and Senators as they consider their legislative activities and priorities.

### **Ask the Senate to confirm science nominees for key positions & consider a chemist for the Chemical Safety Board**

We In 2021, the Biden Administration nominated three chemists for three important roles at the Department of Energy (DOE) and the Department of Commerce National Institute of Standards and Technology (NIST). Dr. Geri Richmond and Dr. Laurie Locascio have been confirmed as DOE's Under Secretary for Science and Energy and the Under Secretary of Commerce for Standards and Technology, respectively. Dr. Asmeret Berhe has been nominated as the Director of the DOE Office of Science. ACS asks the Senate to vote on her nomination as quickly as possible.

ACS is also asking Congress to encourage the nomination of someone with experience and a background in chemistry for one of the two remaining vacancies on the U.S. Chemical Safety and Hazard Investigation Board (CSB)..

### **Ask Congress to support the Research Investment to Spark the Economy (RISE) Act**

We encourage you to ask that your members of Congress cosponsor and support the Research Investment to Spark the Economy (RISE) Act, [H.R. 869](#) and [S. 289](#). These bipartisan bills would authorize supplemental funding for a variety of research agencies.

### **Support the Chemical Safety Board**

The CSB is an independent federal agency that saves companies, universities, and local communities billions of dollars and countless lives by helping them prevent catastrophic incidents. Despite its great value, the administration has called for \$9.4 million for FY 2019 to be allocated to CSB, specifically for its elimination. Join us in asking appropriators and other members of Congress for their continued support of the CSB and its mission to protect workers and the public.

### **Keep Science Funding Strong**

Congress and the White House are working to complete the appropriations process for fiscal year 2021. Join us in asking appropriators for a strong and predictable boost in federal funding for scientific research.

### **Congressional Chemistry Caucus**

The Caucus' mission is to educate Members of Congress, their staff, and the public on the benefits of chemistry in today's society and its economic impact on our country. If you do not see your Representative or Senators represented in the Chemistry Caucus ask them to join.

JOIN THE ACS:

If you know of anyone who would benefit from being a member of the American Chemical Society, please direct them to the membership website:

<https://www.acs.org/content/acs/en/membership.html>



## NATIONAL MEETINGS:



### *Spring 2023 ACS National Meeting*

The spring 2023 national meeting, “Crossroads of Chemistry” will be a hybrid event. The meeting will be held March 26-30, and the in-person event will take place in Indianapolis, IN. See the [website](#) for more information.



### *2022 GC3 Innovators Roundtable*

This GC3 Innovators Roundtable will be an opportunity for GC3 members and non-members to engage with leading innovators, investors, and government officials in the green and sustainable chemistry space. This year’s event will be hosted by the Dow at the Science History Institute in Philadelphia, PA. The event will take place on November 8-10, 2022. See the [website](#) for more information.

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Susquehanna Valley Section Web Page: <http://departments.kings.edu/SusquehannaValleyACS>  
Please send any comments about the monthly newsletter to Ron Supkowski, Section Secretary  
King’s College 131 N River St Wilkes-Barre PA 18711 [ronaldsupkowski@kings.edu](mailto:ronaldsupkowski@kings.edu)

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