

FEBRUARY 2023 NEWSLETTER

The four hundred and sixty sixth meeting of the Susquehanna Valley Local Section of the American Chemical Society will be held on Wednesday, February 15th, 2023, at 7:00 pm in the Academic West building, room 108, on the Bucknell University campus in Lewisburg, PA. The speaker will be Miriam Freedman, PhD., Professor of Chemistry. The talk will be preceded by a reception and dinner at 6:00pm in Academic West room 111.

“Phase transitions, ice nucleation, and acidity of atmospheric aerosol particles”

Dr. Miriam Freedman
Professor of Chemistry
Pennsylvania State University
University Park, PA



Atmospheric aerosol particles impact the climate system and human health through their reactive chemistry and interactions with light and clouds. In this talk, I will briefly discuss three different aspects of aerosol particles focusing on characterization of their phase transitions and physical properties, which determine their reactive chemistry, optical properties, and activity toward the nucleation of clouds. 1) One of the phase transitions that aerosol particles undergo, liquid-liquid phase separation, occurs due to differences in solubility between the components of the solution. I will discuss how non-phase separating compounds can impact the behavior of the phase separation process. 2) Clouds in the atmosphere can be composed of liquid water or ice, and these cloud droplets and ice particles tend to nucleate on a heterogeneous seed. I will discuss the nucleation of ice on silica and the features of the surface that can promote the ice nucleation process. 3) Aerosol particles are understood to be highly acidic, making direct measurement of the pH of aerosol particles challenging. I will discuss our development of carbon quantum dots for the measurement of highly acidic aerosol particles. For each of these three studies, I will address the impact of our results on our understanding of the climate system.

BIOGRAPHY OF DR. FREEDMAN:

Miriam Freedman graduated with her BA from Swarthmore College in 2000. She received a MS in Mathematics from the University of Minnesota from 2002. She then received her PhD in Chemistry from the University of Chicago in 2008, where she was an NSF graduate fellow. After her PhD, Miriam was a NOAA Climate and Global Change Postdoctoral Fellow at the University of Colorado at Boulder. Miriam began her independent position at the Pennsylvania State University in 2010, where she is currently a Professor of Chemistry and Meteorology and Atmospheric Science. She received an NSF CAREER award in 2014, the Eberly College of Science Dean's Climate and Diversity Award in 2019, and the ACS Physical Chemistry Division Early-Career Award for Experimental Physical Chemistry in 2021.


DINNER:

The lecture will be preceded by a reception and dinner at 6:00pm in the Academic West building, room 111. Dinner will be buffet style, including a vegetarian option and dessert. Those wishing to reserve a spot for dinner should contact Charlie Guttendorf by email (charlie.guttendorf@bucknell.edu) by 3:00pm Friday February 10.

DIRECTIONS TO BUCKNELL UNIVERSITY:

Address of the Academic West Building: 616 Coleman Hall Dr, Lewisburg, PA 17837

East of Lewisburg: <ol style="list-style-type: none">1. Interstate 80 West to Exit 210A2. Route 15 South3. At 11th traffic light (the first light after crossing Route 45 (Market Street)), turn left onto Moore Avenue. (Look for the Bucknell Athletic Stadium on the left.)	West of Lewisburg: <ol style="list-style-type: none">1. Interstate 80 East to Exit 210A2. Route 15 South3. At 11th traffic light (the first light after crossing Route 45 (Market Street)), turn left onto Moore Avenue. (Look for the Bucknell Athletic Stadium on the left.)
South of Lewisburg: <ol style="list-style-type: none">1. Take Routes 11&15 North2. When Routes 11 & 15 split, stay on Route 153. Approx. 7 miles after Selinsgrove / Shamokin Dam, you'll come to a stop light. Bucknell is on your right. (Look for the Bucknell Athletic Stadium on right.)	North of Lewisburg: <ol style="list-style-type: none">1. Take Route 15 south2. Once past Interstate 80, turn left on Moore Avenue at the 11th traffic light (the first light after crossing Route 45 (Market Street)). (Look for the Bucknell Athletic Stadium on the left.)

Once on campus: Follow the campus map below to the visitor parking designated with a .

CAMPUS MAP

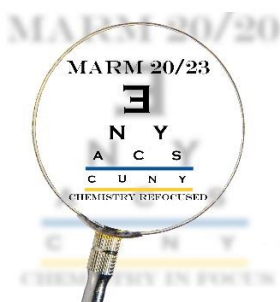
LEWISBURG, PENNSYLVANIA



Online campus maps can be found at <https://www.bucknell.edu/sites/default/files/public-safety/campusmap.pdf>

LOCAL SECTION NEWS:

MARM 2023



Save The Date:

The 51st 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. For more information, see their [website](#).

PENNSYLVANIA JUNIOR ACADEMY OF SCIENCE (PJAS):



The local PJAS regions will be holding their annual high-school science competitions. PJAS is always looking for local science professionals to volunteer to judge the STEM projects of the area's 7th through 12th grade students. Region 5's competition (the western half of the SVS section) will be Saturday, February 18th at Susquehanna University and Region 2's competition (the eastern half of the SVS section) will on Saturday, March 4th at Wilkes University. For more information visit the websites at <http://www.pjas.net/region5> or <http://www.pjas.net/region2>.

2023 SVS HIGH SCHOOL CHEMISTRY EXAMS:

Save The Date!

The examination will be held on Saturday April 1, 2023 at six colleges throughout the region. Two distinct exams are given: Exam A for students in their first year of study in chemistry, and Exam B for students in an advanced high school chemistry course. For more information, please see the [website](#).



THE 2023 MEETING OF THE PENNSYLVANIA ACADEMY OF SCIENCE:

The 98th annual PAS meeting will be held on March 17-19 at Gannon University. There will be oral and poster sessions broadly encompassing all fields of science, as well as student presentation awards, graduate school and career panels. See their website, pennsci.org, to register and for additional details.



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), Secretary (Ronald Supkowski, 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 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

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.

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

Last year Congress passed the CHIPS and Science Act into law, one of the largest research and innovation bills of the decade. Now, Congress must act to ensure the National Science Foundation, the Department of Energy Office of Science, and the National Institute of Standards and Technology have the funding necessary to support the ambitious research agenda outlined in the law in the upcoming fiscal year 2024 appropriations process. We are asking you to highlight the importance of adequately funding research priorities already outlined by Congress in the CHIPS and Science Act to your Representative and Senators.

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).

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.

Fall 2023 ACS National Meeting

The fall 2023 national meeting, “Harnessing the Power of Data” will be a hybrid event. The meeting will be held August 13-17, and the in-person event will take place in San Francisco, CA. Abstracts are now being accepted; submission deadline is April 4. See the [website](#) for more information.



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
