



American Chemical Society Susquehanna Valley Section

MAY 2022 NEWSLETTER

The four hundred and sixty third meeting of the American Chemical Society Susquehanna Valley Section will be our Annual Awards Banquet and will be held on Monday, May 2, 2022. With the presentation of various local section awards, the Annual Awards Banquet recognizes both aspiring and accomplished local chemistry professionals who have helped to promote chemistry, the chemical professions, and the section. This year's ceremony will begin at 5:30 PM at the [Pine Barn Inn](#) in Danville, PA. The speaker will be Dr. Douglas Collins from Bucknell University.

“Disinfecting our Indoor Environment: Intended and Unintended Chemistry”

Dr. Douglas Collins
Department of Chemistry
Bucknell University
Lewisburg, PA

ABSTRACT:

Cleaning activities are a strong connection point between the chemical enterprise and routine activities of the general public. Chemically-active cleaning and disinfection has proliferated in the face of the new light that has been shed on airborne disease transmission, along with evolving public expectations of health and safety, particularly in confined public spaces. However, the use of cleaning products and emerging disinfection technologies can introduce new environmental exposure issues. Most disinfection and/or cleaning techniques focus on surfaces, due to the long-established importance of surfaces as places where bacteria, viruses, and fungi can reside for extended periods of time. Most surface cleaning techniques rely on chemical agents to hydrolyze or oxidize contaminants; such cleaning agents are typically acids, bases, or oxidizers. Recent research has shown that surface cleaning can strongly influence the presence of air pollutants inside buildings through a variety of chemical mechanisms, including pH adjustments to partitioning equilibrium and/or multiphase chemical reactions. In addition, in response to increased understanding of the importance of airborne routes for disease transmission, the public has placed a strong emphasis on public institutions (particularly schools) to implement enhanced air cleaning. In addition to protecting people from airborne disease vectors, there are many important long-term health and cognitive co-benefits to cleaning indoor air, especially in places where children spend significant amounts of time. Simply put, school-aged children are healthier and do better in school when there is clean air to breathe. However, the pressure to retrofit new air cleaning technology into public buildings has placed decision-makers in a challenging situation. Emerging air cleaning technologies, many of which use chemical reactions to “clean” air, have flooded the market but are not subjected to rigorous safety and efficacy testing. When one uses a chemical reaction to remove a pollutant, some kind of byproduct must be formed. In general, it is assumed that byproducts are less harmful than the pollutant of interest - but this is often untrue. There are very few test standards available to characterize the diversity and abundance of by-products formed, and it is incumbent on chemists to more deeply explore the fundamentals of reactions used in air cleaners so that rigorous engineering test standards can be devised and implemented.

BIOGRAPHY OF DR. DOUGLAS COLLINS:

Dr. Douglas Collins has been a researcher in atmospheric chemistry and air quality for about 15 years. After graduating from Colgate University with a B.A. in Chemistry, he earned an M.S. and Ph.D. in Analytical and Atmospheric Chemistry from the University of California, San Diego. During his graduate work, Dr. Collins was a member of the Center for Aerosol Impacts on Chemistry of the Environment, an NSF Center for Chemical Innovation, as a researcher and later as Managing Director. While in San Diego, he used advanced mass spectrometry approaches to study the connections between chemistry, clouds, and climate processes. His early studies probed the ways that atmospheric aerosol particles influence clouds and precipitation in the Sierra Nevada Mountains during the winter (a key water source for California). Later, he moved into studying the manner in which microbial ecology in the ocean affected the production, chemical composition, and physico-chemical properties of sea spray aerosol particles. Dr. Collins parlayed the latter studies into a postdoctoral fellowship at the University of Toronto, where he studied the production and abundance of aerosol particles in the Canadian Arctic during summer -- which is an extremely clean environment in which marine biological activity plays a critical role. Aerosols and clouds in the Arctic during summer have strong control over climate-forcing processes in an extremely delicate region of the Earth. While in Toronto, Dr. Collins became engaged in detailed chemical studies of indoor air. Upon establishing a research laboratory at Bucknell University in 2018, his research has maintained an approach to understanding chemical processes at gas-liquid and gas-solid interfaces (like the ocean surface and the inner surfaces of buildings) from a fundamental chemistry perspective. His research group uses leading-edge separations and mass spectrometry techniques to investigate oxidation chemistry on realistic environmental surfaces that are exposed to polluted air.

DINNER: The Annual Awards Banquet of the local section will be held on Monday, May 1, 2022 at 5:30 pm at the [Pine Barn Inn](#) in Danville, PA. Dinner is a buffet featuring Tuscan grilled chicken. All SVS members are invited to attend. Cost of the dinner is \$10 per person, paid at the door, cash or check (payable to Susquehanna Valley Section of the ACS). Please do not mail checks in advance. Receipts will be provided upon request. Please note that individuals who are receiving an award at the banquet will not be charged for dinner. For more information contact Dr. Allison Saunders at 570-321-4404 or saundersa@lycoming.edu.

DIRECTIONS TO THE PINE BARN INN:

Address: One Pine Barn Place, Danville, PA 17821

From I-80:

Take the Danville exit 224 to PA-54 East which is Continental Blvd. In three miles turn left onto Bloom Street. Stay on Bloom Street; the Pine Barn Inn will be on your left in about half a mile. See the website for more details: pinebarninn.com

SECTION NEWS:

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

MARM 2022:



Save The Date:

The 50th Mid Atlantic Regional Meeting (MARM) will be held June 1-4, 2022. The meeting is hosted by the Trenton Local Section of the American Chemical Society. Check their website, marm2022.tcnj.edu, 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: Current committee chairs can be seen at the local section [website](#).

- WCC ([Woman Chemists Committee](#)) Chair
Help attract, retain, develop, promote, and advocate for women to positively impact diversity, equity and inclusion in the Society and the profession
- 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, asaunders@lycoming.edu), Secretary (Ronald Supkowski, ronaldsupkowski@kings.edu) or any member of the Susquehanna Valley Section leadership team ([executive committee](#), [committee chairs](#), [liaisons](#)).

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:

www.acs.org/content/acs/en/policy.html

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

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

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

In 2021, the Biden Administration nominated three chemists to three important parts of government. Dr. Geri Richmond has been nominated as the Department of Energy's (DOE's) Under Secretary for Science and Energy. Dr. Asmeret Berhe has been nominated as the Director of the DOE Office of Science. Additionally, Dr. Laurie Locascio has been nominated to lead the Department of Commerce's National Institutes of Standards and Technology (NIST). ACS asks the Senate to vote on their nominations. ACS is also asking Congress to encourage the nomination of someone with experience and a background in chemistry for the remaining vacancy on the U.S. Chemical Safety and Hazard Investigation Board

Ask Congress to include ACS's priorities in wider U.S. innovation legislation package

ACS is encouraging the inclusion of dedicated support for sustainable chemistry and authorization of new helium conservation measures into the wider Science and Innovation package Congress is aiming to pass. Language supporting sustainable chemistry and the conservation of the critical material helium has passed the House. Inclusion in the final package that could become law will depend on action by scientists like you to ensure Members are aware of the importance of supporting sustainable chemistry and conserving nonrenewable helium.

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:

www.acs.org/content/acs/en/membership.html

NATIONAL MEETINGS:



Fall 2022 ACS National Meeting

The fall 2022 national meeting, “Sustainability in a Changing World” will be a hybrid event. The meeting will be held August 21-25, and the in-person event will take place in Chicago, IL. Abstracts are now being accepted; submission deadline is March 14. See the [website](#) for more information.

2022 Green Chemistry & Engineering Conference

The 26th annual Green Chemistry & Engineering Conference will be held June 6-8, 2022 at the Hyatt Regency in Reston, VA. The 2022 theme will be *Thinking in Systems: Designing for Sustainable Use*. Hosted by the American Chemical Society's Green Chemistry Institute (ACS GCI), the GC&E Conference is the longest-running global conference dedicated to green chemistry and engineering. A virtual component will be available to connect the local event with the global community of scientists, students, educators and leaders interested in advancing science and solutions to global sustainability challenges. For more information on submissions and registration, please see the [website](#).

BCCE 2022

The 27th Biennial Conference on Chemical Education will be held at Purdue University in West Lafayette, Indiana from July 31 – August 4. See the [website](#) for more details.

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
