



American Chemical Society  
Susquehanna Valley Section

## FEBRUARY 2024 NEWSLETTER

The four hundred and seventy second meeting of the Susquehanna Valley Local Section of the American Chemical Society will be held on Wednesday, February 21<sup>st</sup>, 2024, at 7:00 pm in room 345-B of the Kehr Union Building on the Bloomsburg campus of Commonwealth University. The speaker will be Maegen Borzok, Ph.D., Assistant Professor of Biochemistry and Chemistry at Commonwealth University, Mansfield. The presentation will be preceded by a dinner at 6:00 in the same location.

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### *“A Study of Heart Disease – The Importance of Protein-Protein Interactions and Structure-Function Relationships”*

Dr. Maegen A. Borzok  
Assistant Professor of Biochemistry and Chemistry  
Commonwealth University, Mansfield  
Mansfield, Pennsylvania

Arrhythmogenic Cardiomyopathy (ACM) is an inherited heart disease characterized by fibro-fatty infiltration with an increased propensity for ventricular arrhythmias and sudden cardiac death. The function of the human body relies on the constant and synchronous function of the heart. The function of the heart is directly linked to its anatomical structure. At the molecular level there are numerous protein complexes essential to maintain physiological heart structure and therefore function. Beyond that, a protein's structure is directly linked to its function. Our work exploits the structure-function relationship of desmoplakin, an adhesion protein important for normal heart function, to understand ACM disease progression. We have identified a unique pathomechanism related to a minute loss of protein structure, which in turn results in loss of molecular function. This has led to the development of an innovative high throughput workflow to assess protein structure, which we use to infer functional stability. Lastly, we have developed a molecular band-aid to patch structural defects leading to a repair of cardiac function and are in the process of identifying small molecules to do the same thing. Future work will continue to link protein structure to function as it relates to disease development.

## **BIOGRAPHY OF DR. Borzok:**

Maegen Borzok joined Mansfield University (now Commonwealth University of Pennsylvania – Mansfield) in 2019 as an assistant professor for biochemistry. Maegen received her B.S. in biochemistry from Elizabethtown College, Elizabethtown, PA in 2002 and her Ph.D. also in biochemistry from University of Maryland, School of Medicine in 2007. Her post-doctoral research was also at the University of Maryland, School of Medicine. After earning the Pathway to Independence award (K99/R00) from the National Heart Lung and Blood Institute, National Institutes of Health (NIH), Maegen transitioned to a faculty position within the biochemistry department at the University of Maryland. In 2015, she was recruited to the Ohio State University Wexner Medical Center where she joined the faculty of the physiology department. Since being at Mansfield, Maegen has maintained her research program focused on the molecular and biochemical properties of adhesion proteins. With collaborations at other institutes around the country Maegen’s research incorporates the intricate structural biology of the proteins her lab studies as well as use patient specific engineered tissue and mouse models to understand their physiology. Ultimately, her lab uses the knowledge gained to develop novel therapeutics to treat life threatening diseases. In the fall of 2022, Maegen and her colleague at James Madison University was awarded a grant for undergraduate research (R15) from the National Institute of General Medical Sciences from NIH. Maegen is the author of 30 peer reviewed publications and many conference presentations. Aside from research Maegen also focuses her career on promoting student experiences and opportunities. She is the advisor for the Mansfield Chemistry Club and the Mansfield Garden and Sustainability Club.

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## **DINNER:**

Dinner will be at 6:00 pm on campus in Kehr Union 345-B. When entering the Kehr Union, go up the stairs to the top floor and walk straight to the second hallway on the right. Turn right, and follow the hallway to the lobby with the piano. 345-B is one of the subsections of the ballroom. Dinner will consist of Italian sausage with peppers, rigatoni marinara, eggplant parmesan, a Caesar salad, garlic breadsticks, and miniature cheesecake tarts. The cost is \$18. Those that would like to attend the dinner should contact Dan McCurry (dmccurry@commonwealthu.edu) by noon on Monday, February 19<sup>th</sup>. Please share any dietary restrictions, if applicable, so we can accommodate.

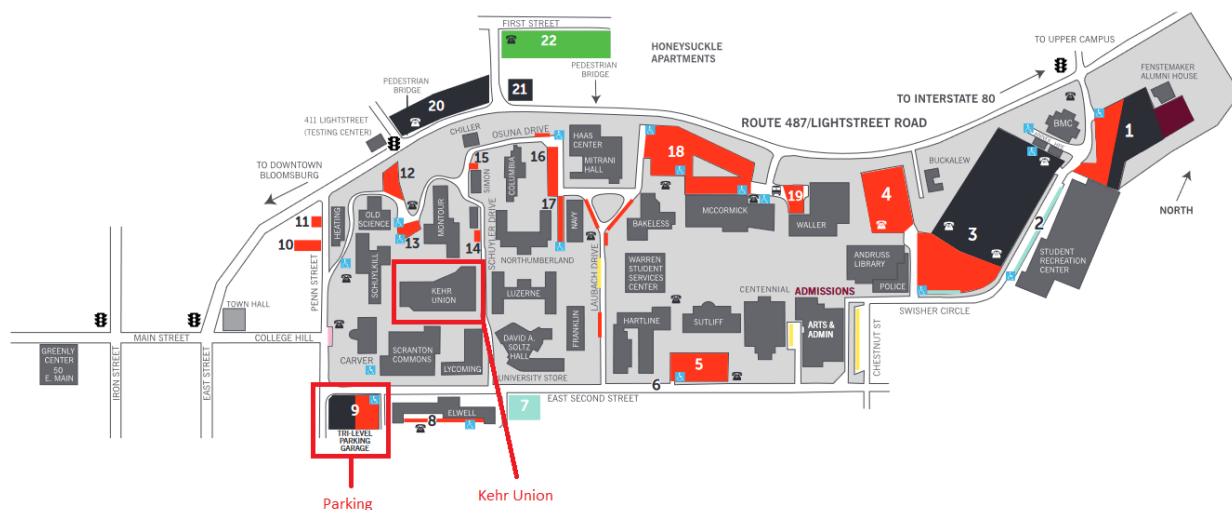
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## **DIRECTIONS TO COMMONWEALTH UNIVERSITY, BLOOMSBURG CAMPUS:**

Set GPS to the Tri-Level Parking Garage, Bloomsburg, PA 17815

**From I-80:** exit onto Lightstreet Rd (Exit 236A from I-80 W or Exit 236, then turn left from I-80 E). Continue for about 1.5 miles and turn left at the traffic light on Swisher Dr. (Bloomsburg University sign). Continue until the 4-way stop on 2<sup>nd</sup> St and turn right. Follow 2<sup>nd</sup> street to the end until you reach the tri-level parking garage on the left. Parking is free after 5 PM.

**From US-11:** Turn on to second street (corner of Bloomsburg Diner and Husky Korner's). Turn right on to S Penn St, followed by a left onto 2<sup>nd</sup> St. (Watch for oncoming traffic, there is no stop!) The tri-level parking garage is on the corner of S Penn and 2<sup>nd</sup> Streets. Parking is free after 5 PM



Additional details can be found at

<https://www.bloomu.edu/documents/parking-guide>

## LOCAL SECTION NEWS:

### LOCAL SECTION ELECTIONS FOR 2024 OFFICERS:

Nominations are due for the positions of:

**Chair-elect** (one year term as Chair-Elect, one year as Chair, and one year as Past Chair)

**Secretary, Treasurer, Councilor, and Alternate Councilor** (all three-year terms)

If interested, please contact any [section officer](#).

Expect a ballot to be emailed to you in the coming weeks.

### 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 three-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.*

- 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*
- 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 (Daniel McCurry, [dmccurry@commonwealthu.edu](mailto:dmccurry@commonwealthu.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.

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#### 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://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 X](#) (formerly 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 the Senate to Reauthorize CFATS and Protect the Public**

The Chemical Facility Anti-Terrorism Standards (CFATS) program enables the Department of Homeland Security (DHS) to work with chemical facilities to protect against terrorism incidents. Unfortunately, this program expired in July, preventing DHS and site operators from working together. On July 25, 2023, the House passed Protecting and Securing Chemical Facilities from Terrorist Attacks Act, H.R. 4470, which would reauthorize DHS to continue this valuable cooperation. The measure passed with overwhelming bipartisan support by a vote of 409-1. Now, the Senate must act so that the bill may become law. ACS has already written to Senate Leadership requesting prompt action, but we would like your help to raise this issue with all of the Senate as well.

#### **Ask Congress to complete appropriations and fund the CHIPS and Science Act in FY24**

As Congress continues to negotiate FY24 funding levels, now is the time for you to advocate on behalf of chemistry and remind your members of congress about the importance of investing in STEM education, basic research, and strengthening the domestic supply chain. We are asking you to email your Representative and Senators today and request they fund research agencies at the levels included in the CHIPS and Science Act.

#### **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.

## 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 budget appropriations process. 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/membership.html>

## NATIONAL MEETINGS:



### *Spring 2024 ACS National Meeting*

The Spring 2024 national meeting, “Many Flavors of Chemistry” will be a hybrid event. The meeting will be held March 17-21, and the in-person event will take place in New Orleans, LA. See the [website](#) for more information.

## SAVE THE DATE:

The 28<sup>th</sup> Biennial Conference on Chemical Education will be held at the University of Kentucky in Lexington on July 28 – August 1, 2024. See the [website](#) for more details.



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Susquehanna Valley Section Web Page: [svs-accs.org](https://svs-accs.org). Please send any comments about the monthly newsletter to Dan McCurry, Section Chair [dmccurry@commonwealthu.edu](mailto:dmccurry@commonwealthu.edu)

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