

Department of Chemistry & Biochemistry Newsletter



Elizabethtown College

From the Chair



Jeff Rood

Welcome to the annual newsletter from the Department of Chemistry and Biochemistry at Elizabethtown College! I hope you've had a great year. There is much activity and many exciting updates to share with you from the past year. Below are some of the highlights and you will likely find more details on many of these as you read further through the newsletter. I hope you enjoy it!

—Six students graduated in the class of 2023 and are either starting their first job or entering graduate or professional schools. These students were another talented group with diverse interests and we are excited to see the good things they go on to do.

—Summer 2023 was a busy one! The renovation of the first floor of Musser Hall was completed and we are thrilled to have an updated set of labs to be teaching in this fall. This work was carried out thanks to support from our own Dr. Charles Schaeffer, A.C. Baugher Professor of Chemistry, Emeritus. We are extremely grateful to Dr. Schaeffer for his generosity to the College and our students. I hope you will find time to stop by Musser at some point and see the updates for yourself.

—Even with renovations, we did manage to carry out summer research on a modified scale and had four students work on research projects over the summer. Each of the students presented posters at the Landmark Conference Research Symposium held at Susquehanna University.

—We inducted eight students into the Gamma Sigma Epsilon Chemistry Honor Society. From the class of 2024, Hallie Bleam, Ashley Burger, William Davis, Nicholas Erisman, Isabella Goebel, and Tristan Mabee became members. Jackson Dardis and Alexander Petrocelli were inducted from the class of 2023.

—We honored several students at our annual awards banquet for outstanding work in the department. We held our banquet at Cameron Estates and had a nice evening off campus. We also took the opportunity to recognize Dr. Tom Hagan for his retirement and the profound impact he made on generations of students at Etown.

—“Three-peat!” – for the third year in a row, one of our students, Tristan Mabee, was awarded a prestigious Barry M. Goldwater Scholarship. Tristan is an excellent student and is highly engaged in research, so it is pleasing to see him recognized this way. Dr. James MacKay does a wonderful job as a faculty mentor with these students. He has worked closely with each of the three winners.

—We are excited to welcome Dr. Amy Defnet as Assistant Professor of Chemistry and Biochemistry and Dr. Desmond Yengi as Visiting Assistant Professor of Chemistry. Dr. Defnet will be playing a major role with biochemistry and general chemistry, while Dr. Yengi will teach physical chemistry and general chemistry. We are excited to have them join us and look forward to new, exciting opportunities they will bring to the department.

The past year in my teaching went really well. I taught two iterations of our Synthesis Lab course for the first time and really enjoyed teaching some new topics about NMR and helping students see connections between organic and inorganic chemistry. I also had my usual roles in general chemistry and inorganic and was fortunate to work with a great group of students in each of those courses.

On the research front, our work on luminescent metal-organic frameworks continues. Isaac Kraenbring and Connor Lawrence worked on parts of this project over the summer and will continue their work during the academic year. Ashley Burger and Nick Erisman are working on a collaborative project with Biology involving vanadium complexes and their potential to function as insulin mimetic molecules. Ashley, along with Dr. Cavender's help, has developed a cell line that should be ready to study soon. Ashley secured a research grant from the Tri-Beta Honor Society to support some of her work. Many of these students are gearing up to present at the ACS National Meeting in New Orleans this spring.

Liz and I are busy as ever on the home front. Everyone is doing well, and the kids are involved in a lot. Kella is in sixth grade and is involved in soccer, running, and playing the violin. Kacey is in first grade and is the dancer/cheerleader of the family. They keep us on the move and it's all a lot of fun.

I hope you find a lot of interesting stories as you read through the newsletter. There are a lot of good things happening around here and we are excited about what our students are accomplishing. If you are ever in the area, please drop in to say hello!



The Rood Family

**Fall 2023
Volume 20**

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2023 Graduates



Commencement 2023

2023 Stambaugh Award Winner

Kelly S. Kraft, Ph.D.

The recipient of the *O. F. Stambaugh Outstanding Alumni Award* for 2023 is **Dr. Kelly S. Kraft**. Kelly has 25 years of pharmaceutical industry experience, focused on oral and inhaled drug delivery. Dr. Kraft originally joined MannKind Corporation in 2003 as a scientist in the chemistry department and has held jobs with increasing responsibility since. She is currently MannKind's Executive Director of Pharmaceutical Research, overseeing all aspects of basic research through early clinical phase development of MannKind's drug product pipeline. She and her team were instrumental in the early development efforts for the FDA-approved drugs AFREZZA® inhaled insulin and TYVASO® DPI, and continue to support these products and their product line extensions.

From 2019 – 2023, Dr. Kraft served as the Vice President of Pharmaceutical R&D at Receptor Life Sciences. In this role, she directed the pharmaceutical development of oral and inhaled cannabinoid drug products, leading to 3 open investigational new drug (IND) applications with the FDA. She was also responsible for the conduct of nonclinical (animal) and clinical (human) studies, coordinating work at external contract development organizations, and aligning internal and external work with Receptor's regulatory partner.

Dr. Kraft began her pharmaceutical career in 1998 as a laboratory scientist at Emisphere Technologies, a company focused on the development of oral absorption enhancers. She received her B.S. in chemistry from Etown College in 1994, and her Ph.D. in medicinal chemistry from the University of Georgia in 1998. She lives near Poughkeepsie, NY with her husband, Bob, their daughters Cora (18) and Riley (16), and a rescued stray cat, Leo.

We are proud to present the 2023 O.F. Stambaugh Outstanding Alumni Award to Dr. Kelly Kraft.



Kelly S. Kraft, Ph.D. was presented with the 2023 O. F. Stambaugh Outstanding Alumni Award by Dr. Schaeffer. Dr. Kraft received the award during Homecoming and Family Weekend on Saturday, October 14, 2023.

History of the O. F. Stambaugh Outstanding Alumni Award

In 1974 the faculty of the Department of Chemistry and Biochemistry established an award which honors the service of Dr. Oscar F. Stambaugh to Elizabethtown College for four decades as a professor and Chair of the department. Under his leadership, programs in chemistry achieved national recognition by the American Chemical Society, and graduates found increasing opportunities for careers of productive service in chemistry and medicine. The award is presented annually to recognize distinguished professional achievement in chemistry or medicine by a graduate.

ΓΣΕ

On Thursday, March 2, 2023, the annual induction ceremony for new members of the Rho Eta chapter of Gamma Sigma Epsilon (the national chemistry honor society) took place. Only students with a grade point average of 3.3 or higher in chemistry are invited to join.

New members

Majors: Nicholas Erisman, William Davis, Hallie Blean, Ashley Burger, Tristan Mabey
Minors: Jackson Dardis, Alexander Petrocelli

The faculty advisor is Dr. Jeff Rood. We congratulate these outstanding students!

ΓΣΕ 2023



**MEET OUR NEW FACULTY MEMBERS!****Amy Defnet**

Hello everyone! It is so nice to meet you. These past few months have been a whirlwind, but I am so excited to have joined the department! Prior to my arrival at Etown I was at UNC Asheville for two years completing a teaching and research postdoc in the lab of Dr. Ryan Steed after finishing my PhD in Pharmaceutical Sciences at the University of Maryland Baltimore School of Pharmacy. This fall I have been teaching introduction to chemistry and the associated lab as well as biochemistry. In the spring I will be teaching Biochemistry II, Biochemistry Lab, and some more introductory chemistry courses. Learning how to adjust and develop my teaching materials has been a challenge but the students here continue to surpass all my expectations.

I am still working on establishing my research lab, which is currently filled with materials donated by Eurofins that were picked up by Jane Cavender in Biology for me. My goal is to have students working on culturing cells and running various biochemical assays by the spring to explore new therapeutic approaches to asthma and other proliferative diseases through kinase inhibition. Over the summer I was able to attend a local symposium with some of the summer SCARP students, Jeff Rood, and James McKay and I am very excited and hopeful that my own students will be able to present next year!

At home, we are almost done unpacking boxes, but my 6-month-old daughter Mabel has been keeping my husband, Chuck, and I very busy as she has already figured out how to crawl, sit, and is working on standing. Her little smile and hugs are the best greetings to come home to. I have also had the opportunity to be an assistant coach for the Etown field hockey team this fall where I have been able to coach some of the current chemistry students. I hope to meet some of you at Homecoming this year or in the future!

**Desmond Yengi**

Hello Alumni, Friends, and the general community of Etown College! My name is Desmond Yengi; I am one of the new additions to the faculty here at Etown College. I am the Visiting Assistant Professor of Physical Chemistry and thrilled to be part of the Etown College community.

I am originally from South Sudan. I started attending school in the Uganda refugee camps after my family fled the civil war from South Sudan (then Sudan) to Uganda in the late 1980s. From Uganda, in 2003, I was offered an opportunity to attend an International Baccalaureate (IB) program (an equivalent of high school) at the United World College (UWC) of Atlantic in Wales, Britain. After two years in Britain, with the generosity of the Shelby Davis Foundation and Westminster College UWC scholarship, I came to the United States for my undergraduate program. Westminster College, Fulton, Missouri, is a small liberal arts college similar to Etown College. After graduating from Westminster College, I got accepted into the Chemistry Ph.D. program at West Virginia University (WVU). My work at WVU investigated synchronization patterns in a population of coupled chemical oscillators utilizing the Belousov-Zhabotinsky (BZ) Reaction. The BZ reaction is an oscillatory chemistry that can be used to study other systems in nature, like fireflies flashing in unison, rhythmic beating of cardiac pacemaker cells, patterns found in various types of nerve cells. I completed my Ph.D. in Physical Chemistry under the guidance of Dr. Kenneth Showalter in December 2017. Then, in January 2018, I joined Perez-Mercader's research group at Harvard University for two years as a postdoctoral research fellow. My mother, Mary Yangi, and brother, William Edema, live in Uganda. Prior to coming to Etown College, I was teaching at Alvernia University.

Besides teaching Physical Chemistry and General Chemistry labs this semester, I am working with Neil Divins on a research project examining the patterns in BZ reactions under various conditions. It has been exciting teaching here in the past couple of months; the students are eager to learn. Supportive colleagues! Great Community in Etown College. I look forward to playing my part in continuing to see wonderful things happen at Etown College.

**James MacKay**

Hi Alumni! I'm sure you are seeing all kinds of new showing up in this "new" sletter. We welcomed two new faculty members and had an exciting new lab renovation. Still, there has been some constant around Musser. I continue to teach Organic Chemistry lectures and labs and involve students in undergraduate research through my collaborative project with Eriks Rozners at Binghamton University. I'm still challenging them with the subject I love so much. One fun change over the past year is that I've shared some of my teaching load with Dr. Grant Walby. Grant was hired as a postdoc funded by my NSF grant and taught Organic I alongside me last spring. This semester, I've had the opportunity to sit in on his Advanced Organic class and learn some new and exciting chemistry. Grant has also been heavily active in research both running reactions and mentoring undergraduates. We hope to publish much of this work in due time. It has been such a privilege to have him be a part of the team and it will continue through this summer. I'll miss him when his second year is up!

Research in my lab has been quite productive over the past two years mostly because of many talented students. We continue to develop new peptide nucleic acid monomers aimed at RNA recognition. Our most recent publication just came out in *Chemistry: A European Journal* and I hope you will give it a look. (<https://doi.org/10.1002/chem.202302390>) Many Etown folks were involved in this work including John Talbott ('22), Brandon Tessier ('21), Emily Harding ('23), and Kyle Hess ('23), along with myself and Grant Walby. I'm also working on two other manuscripts related to the PNA project that will hopefully be published in the near future. Last spring, I had two students, Emily and senior Tristan Mabee, awarded TriBeta grants for their research. In addition, Tristan became the MacKay group's third consecutive Goldwater scholar. The summer of 2023 started with another iteration of our RNA workshop at BU, I think this was the 5th iteration or so, and we had 8 students participate. Then I had the privilege to mentor and work with junior Jennah Hoke and senior Hallie Blead through the SCARP program.

On the home front, Leah is now a teenager. She continues to thrive at violin, swim, and is now into acting in musicals. JJ is 11 and plays baseball (mostly catcher). He recently took up trombone in addition to his piano studies. Kendon is 8 and he loves everything related to water. He was on the swim team for the first time this summer and had a blast. We are hoping that can continue. Jana continues to play the flute and homeschool the kids. I'm the superintendent. We continue to be active at our church. Life is busy with all this, but it is good, and we are grateful for the opportunities we have had.

**Lauren Toote**

Hi All! It has been an exciting year here in Musser. Enrollments in my analytical chemistry courses continue to rise and it has been amazing to start this new semester with a renovated lab space. CH201 lab is running much more smoothly as the renovations have allowed space for more students to work comfortably in the lab. Also, pre-lab lectures are now much easier as the lab renovations provided clear sight of the whiteboard and technology to display powerpoint slides. I'm very thankful for the gifts that made these renovations possible. My other courses are also going well. In Chemical Instrumentation, I have implemented a new experiment using the LC-MS to quantitate cocaine on dollar bills. It has proved to be a favorite of the students and I'm always surprised how many of their samples come up positive! I also enjoyed teaching

Integrated laboratory again, the last time I taught it was my first year at E-town! It was fun to watch the students synthesize and optimize their nanoparticle sensors.

Beyond the classroom, I served as the chair of the search committee for our tenure-track biochemistry position. Though we were all very sad to see Dr. Hagan retire, I'm excited to have Dr. Amy Defnet as part of our department. She clearly cares for students and is trying a variety of innovative teaching strategies that I think will help continue to improve student learning in our department. The addition of Dr. Desmond Yengi to our physical and materials chemistry courses is also a great gain for our program. On the research front, my group continues to develop tests for heavy metals and Lyme Disease. I'm excited to have four students working with me this semester. It has been an exciting time already as we have been preparing their abstracts for the ACS meeting in the spring.

My family is doing well and Nora is almost three and so much fun! We enjoyed a trip to the beach with family at the beginning of the summer. Nora loved the sand but was still unsure of the waves. We also planted our first vegetable garden and Nora loved watering, picking the vegetables and eating them! She has started pre-school this fall and we have all enjoyed getting back into the routine of the school year. I hope you all are doing well! Please keep in touch!



**Charles Schaeffer**

My role as A.C. Baugher Professor of Chemistry Emeritus continues. I continue to assist with the organization of the annual conventions of the Intercollegiate Student Chemists (ISC). The ISC is the oldest continuous undergraduate chemistry meeting in the United States; Etown last hosted the event on April 7, 2018. Cancellation of the 2020 meeting was the first interruption since 1948; Lehigh University successfully organized the 2021 meeting as a virtual experience. Our research involves the preparation and characterization of main group organometallic compounds of silicon, germanium, and tin compounds; NMR spectroscopy continues to play a vital role in product characterization. The most recent research manuscript containing former Elizabethtown student coauthors (underscored) is: C.H. Yoder, T.M. Agee, A.K. Griffith, C.D. Schaeffer, Jr., M.J. Carroll, A.S. DeToma, A.J. Fleisher, C.J. Gettel, A.L. Rheingold. Use of ⁷³Ge NMR Spectroscopy and X-ray Crystallography for the Study of Electronic Interactions in Substituted Tetrakis(phenyl)-, - (phenoxy)-, and -(thiophenoxy)germanes. *Organometallics* 2010, 29, 582-590 (DOI: 10.1021/om900905c). The most recent collaborative presentation with Dr. Rood and Etown students (underscored) is: J. Pigga, J.A. Rood, C.D. Schaeffer, Jr., "Germanium Coordination Complexes: Synthetic Development and Structural Characterization," oral presentation, 80th Annual Convention of the Intercollegiate Student Chemists, Ursinus College, April 16, 2016; First Prize, Inorganic Division. I continue to add material to our extensive online NMR bibliography of English language books and reviews (<http://www.wiredchemist.com/nmr/bibliography>). Acquisition and cataloging of titles for the chemistry section of the High library continues. Our long-time research collaboration with Professor Claude H. Yoder, Charles A. Dana Professor of Chemistry Emeritus at Franklin and Marshall College, began in Fall of 1966 (<https://www.fandm.edu/chemistry/chemistry-faculty-research>). I continue to explore aspects of medium-format digital photography. The chemistry student affiliate chapter distributes a calendar composed of some of these campus images, with proceeds supporting various student affiliate activities. I also supported this summer's extensive renovation of the first-floor Musser Hall laboratories.

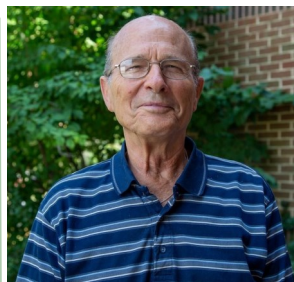
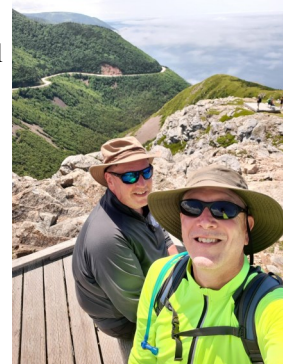
**Grant Walby**

Teaching & Research **Postdoctoral Associate of** **Chemistry**

Hello! For those of you who don't know me, my name is Grant Walby and I am an NSF postdoctoral associate in chemistry and teaching in my second year as a faculty member at Etown. The past year of getting to work with the wonderful Etown students has been a blast alongside doing some exciting research with Dr. MacKay. Sadly, this is my last year at Etown, but I am planning on doing everything I can to enjoy the remainder of my time here both in teaching and research!

**Tom Hagan**

I don't believe it. I retire, and Michele is STILL asking for a newsletter submission! Though I am only a few months into retirement, it has been a rewarding time. The best part has been the slower pace of life. Lots of bike rides have taken the place of preparing for classes, and there is always the omnipresence of yard work. It's great to not finish a particular weeding job for the day and know that I can pick up the next day, weather permitting (or if a bike ride is not planned ☺). We have also been able to spend more time with family especially seeing the grandkids and more of their various soccer and football games. We did celebrate our retirement by taking three weeks this past July to travel around Nova Scotia and Prince Edward Island in the Canadian maritime provinces. The people and the scenery were incredible. It was a great way to decompress from 30+ years of teaching for me. But it has not been only fun and games. We have been able to get more active with our church's outreach team by volunteering with various community initiatives, and Special Olympics continues to play an important role in our weekly lives. I have also had the good fortune to keep my toe in the research waters by serving as Will Davis' senior research advisor. His senior research will be the culmination of three years of hard work on the porphyrin project synthesizing and purifying asymmetrically substituted tetraphenyl class porphyrins. If all goes well this semester, we hope to begin preliminary cell studies in the spring with his compounds! I look forward to staying connected with all the alums through the department newsletter and emails. If you would like to contact me, my email is hagantom11@gmail.com. Please stay safe, healthy, and happy! Best wishes, Tom

**Mike Bierbower**

Hello, my name is Mike Bierbower, and I am the Chemical Hygiene Officer for the Biology & Chemistry Departments. There is an abundance of hazards that exist in the laboratory setting. Those risks/hazards show up as both unsafe acts and unsafe conditions. It is my job to assist in the process of identifying and eliminating them before they result in injuries. I am also a member of the Site Safety Committee and a member of the Site Wellness Team. I arrived at the college 26 years ago coming from industry with backgrounds in engineering and risk management. My hope is that we are able to continue the work of controlling the chemistry's departmental risk profile and of course to continue using students to assist the faculty/staff in this important process. I am the father of two daughters, one is a nurse at Harrisburg Hospital, graduating from Millersville University and the other is a massage therapist, graduating from Gettysburg College.



STUDENT NEWS



2023 Graduates

Emily Harding

Working as a CNA at Masonic Homes while also working on pre-requisites for a 2-year accelerated BSN program to start Jan. '24.

Marissa Lesko

Pursuing a Master of Science degree in Forensic Pattern Analysis at Loyola University Maryland.

Kyle Hess

Pursuing a Ph.D. in organic chemistry at the University of Delaware. He was accepted into their chemistry biology interface program.

Brandon Molina

Accepted a position with Eurofins Lancaster Labs while finishing up his degree with Etown College.

Kaylynn Leap

Accepted a job offer from Eurofins Lancaster Labs as an Associate Scientist, Biochemistry.

Sagar Patel

Pursuing a Master of Biomedical Sciences (MBS) at Geisinger College of Health Sciences.

Students Recognized for their Educational Accomplishments



Samantha Small '26

CRC First Year Chemistry Achievement Award



Tristan Mabey '24

Analytical Chemistry Award



Jennah Hoke '25

ACS Student Affiliates Award



Kaylynn Leap '23

ΓΣΕ DeLap-Holcomb Scholarship



Kyle Hess '23

Biochemistry Award

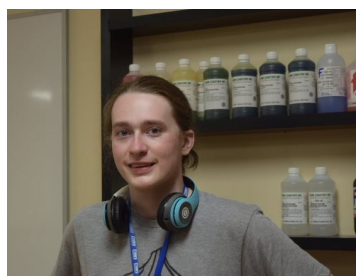
ΓΣΕ Roy W. Sonntag Award

SEPSACS Outstanding Senior Chemistry Major Award
Undergraduate Award in Organic Chemistry



Emily Harding '23

A.C. Baugher Chemistry Award



Neil Divins '25

SO Organic Chemistry Achievement Award



Nicholas Erisman '24

Inorganic Chemistry Award



2023 Summer Research & Internships/Employment

RESEARCH AT E-TOWN (SCARP):

Hallie Bleam '24 & Jennah Hoke '25.

Faculty Mentor: Dr. MacKay

Research Title: *Synthesis of Novel Peptide Nucleic Acid Nucleobases for Sequence Selective Recognition of RNA*

Isaac Kraenbring '25 & Connor Lawrence '25

Faculty Mentor: Dr. Rood

Research Title: *Covalent Incorporation of Transition Metal Complexes into Metal-Organic Frameworks for Sensing and Delivery Applications*



SUMMER INTERNSHIPS & EMPLOYMENT

Sophomore **Callie Asper** — Rite Aid

"I am incredibly thankful for the opportunity I have had to make my pharmacy technician experience at Rite Aid a means of hands-on exposure to not only community pharmacy, but regulatory, clinical, compounding, hospital, and ambulatory care pharmacy disciplines. Through my completion and certification in Pharmacy Technicians University and collaboration with my internship supervisor and pharmacist manager, I have been able to acquire pharmacological knowledge and fluency in community pharmacy workflow. I aspire to become a pharmacist that combines my advanced pharmaceutical knowledge with my passion for patient care to create innovative, effective, and accessible treatments for patients."

Senior **Ashley Burger** — Merck & Co. in West Point, PA

"My position was in the Merck Research Laboratories (MRL) Division, specifically within the Department of Protein and Structural Chemistry. I worked in a group whose main function is to produce protein that can be isolated, purified, and analyzed using structural analysis such as X-ray crystallography or Cryo-EM. The basis of my summer project at Merck revolved around a commercially available cell transfection kit that is utilized to transfect plasmid into cells to express protein. My goal was to determine alternative reagents to use in place of the transfection kit reagents that would yield similar (or better!) protein expression levels in mammalian cells, all while hopefully reducing costs and serving as a backup in the event of a backorder. I was able to network across multiple Merck sites, allowing me to meet others that could offer their advice and expertise."

Senior **Kyla DeWittie** — Janssen Pharmaceuticals

"I had a summer internship at Janssen Pharmaceuticals (Johnson & Johnson's pharma company) in Analytical Development, specifically Bioassay Methods Development, where I worked on early identification and potency assays for a new potential drug therapeutic."

Senior **Isabella Goebel** — Jefferson Institute of Bioprocessing (JIB) in Spring House, PA

"This position included working in the lab with my team of other interns under a Masters student and PhD student. We were working on a cryopreservation project as a part of my PI's PhD research which involved testing umbilical cord derived mesenchymal cells with different medias as well as running freezing profile with PXV media to find which conditions would be most ideal for the cells to prevent ice formation and supercooling during the freezing process. During the internship I was also able to sit in on classes for the Masters degree of Biopharmaceutical Process Engineering offered at JIB. Throughout the summer, I participated in biweekly presentations where my team and I could present our work and we could listen to the five other teams as they broke down their projects and the work they were doing. Through the internship, I was able to work and make strong connections with some amazing people as well as get hands on experience with instruments and techniques that I hope to use in my future career in biopharmaceutical research."

Junior **Yudeliz Sanchez** — Brookhaven National Lab in Upton, NY

"I participated in the Nuclear Chemistry Summer School which was a summer internship that taught classes on nuclear and radiochemistry at Brookhaven National Laboratory. We had a lot of guest speakers from the field talk to us about graduate school or plans after college. We also toured many nuclear and radiochemistry labs in the Long Island/NYC area."

Junior **Ryan Smith** — AirGas in Plumsteadville, PA

"AirGas is a company that will make specialty gases with extremely tight specifications for companies that order them, any company from cement mixers to dentist offices, and everything in between. One of my many tasks included working on preparing the cylinders using a blow-down technique and trichlorosilane, a pyrophoric chemical. After the cylinders were prepped, they were able to be filled gravimetrically with whatever the order was by me or whoever was assigned that cylinder. After the cylinders "passed" the rigorous checks, I was able to help with some of the business aspects and seeing what the profit margins were and how much the cylinder was being sold to the customer for. It was an extremely rewarding experience, and I thank Dr. Stephen Miller, Mr. Bob Grasmeyer, and everyone else for their hard work on taking me under their wing and showing me the ropes about what it was like to work right in the middle of the chemistry field."



Student Presentations at Local, Regional and National Meetings

2022-2023—A large number of our chemistry and biochemistry majors participated in research over the course of this past school year. Some presented the results of their work at several events including the Scholarship and Creative Arts Day (SCAD) at Elizabethtown College, the local section meeting of SEPSACS, the 14th annual Landmark Conference Summer Research Symposium held at Susquehanna University, the 86th annual ISCC hosted by Lebanon Valley College, and the TriBeta District Conference in Penn State Schuylkill. Student researchers were majors: Hallie Bleam '24, Ashley Burger '24, Nicholas Erisman '24, Emily Harding '23, Kyle Hess '23, Jennah Hoke '25, Isaac Kraenbring '25, Connor Lawrence '25, Kaylynn Leap '23, Marissa Lesko '23, Tristan Mabee '24, Brandon Molina '23, Sagar Patel '23, and minors Jackson Dardis '23, Bailey Groff '24 and Alexander Petrocelli '23.





School of Sciences: Dean's Message



**Interim School of Sciences
Dean Jodi Lancaster**

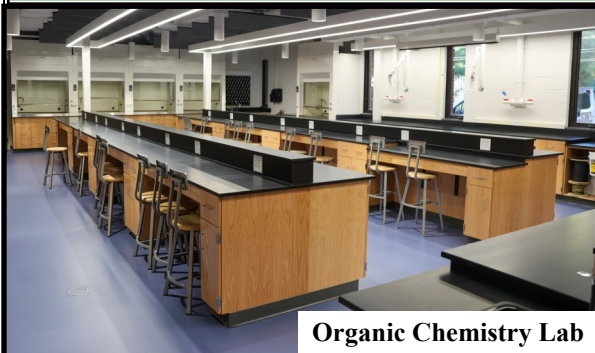
Hello Chemistry and Biochemistry family! It is an exciting academic year as students and faculty enjoy the newly renovated laboratories on the first floor of Musser Hall. I add my heartfelt thank you to Dr. Charles Schaeffer Jr. for his generosity in supporting the project. I hope that many of you can return over Homecoming weekend to see the bright new spaces.

Excitingly, two new faculty, Dr. Amy Defnet (Biochemistry) and Dr. Desmond Yengi (Physical Chemistry) were hired last year and have joined the Chemistry and Biochemistry faculty. They bring new research programs, opportunities for new classes, and a fresh perspective on curriculum.

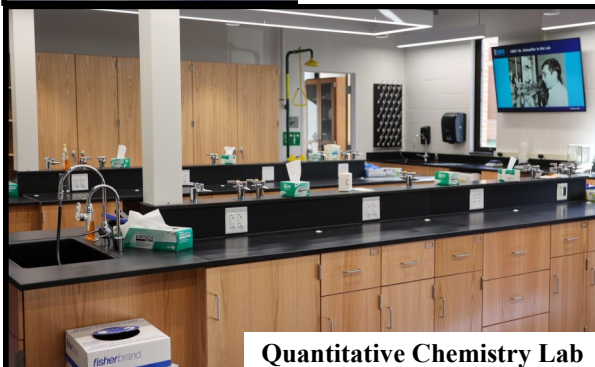
We are in a period of transition in the School of Sciences. On August 1, 2023 I transitioned to my new role as Associate Provost for Student Learning and Dean of Faculty. It was a difficult decision to step further away from teaching and advising and supporting undergraduate research. However, I'm excited about the new position in which I can support faculty and student learning more broadly at

Etown. I am confident the School of Sciences and Department of Chemistry and Biochemistry will continue to provide excellent curriculum and mentoring to all students!

Musser Hall Renovation



Organic Chemistry Lab



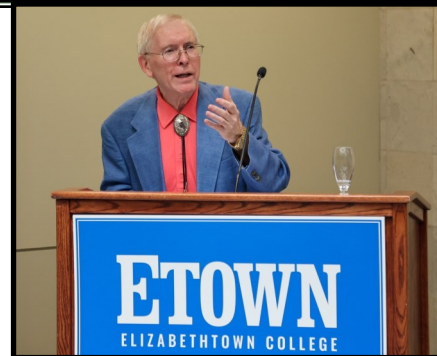
Quantitative Chemistry Lab



General Chemistry Lab

On September 14, 2023, an intimate reception was held to officially unveil the newly renovated state-of-the-art Musser Hall first-floor chemistry labs and hallway! The College recognized the donors of the renovation, and honored our very own A. C. Baugher Professor of

Chemistry Emeritus, Dr. Charles D. Schaeffer, Jr., who funded the majority of the project. We extend our sincere gratitude to Dr. Schaeffer whose very generous gift has not only impacted all current students, but will continue to impact generations of students to come. Dr. Schaeffer will be forever remembered and honored for his commitment, dedication, and love of chemistry, our students, and Etown College. A beautiful plaque has been installed as a tribute along the entrance to the first floor hallway.



1st Floor Hallway



STUDENT AFFILIATES

Chemistry Club - '23 - '24 Officers:

President— Ashley Burger

Vice President— Nicholas Erisman

Secretary— Jennah Hoke

Treasurer— Tristan Mabee

Marketing Chair— Ryan Smith

Faculty Advisor: Dr. James MacKay

The Chemistry Club was back in full swing this year thanks to the full COVID restriction lifts in early 2022. This was a very successful year in the Chemistry Department and there were lots of academic achievements among our students.

The Chemistry Club would like to acknowledge some of the achievements of students in our department who have worked tirelessly to further their academic careers and experience. First, five of our majors in the class of 2024 cohort were inducted into the ESE Chemistry Honor Society. Those inducted include Hallie Bleam ('24), Ashley Burger ('24), Will Davis ('24), Nicholas Erisman ('24), and Tristan Mabee ('24). Also, this was the first year that Biochemistry majors would be able to apply for TriBeta Biological Honors Society academic research grants. Ashley Burger, Emily Harding ('23), and Tristan Mabee were granted research funding from TriBeta and were able to present their research at the regional TriBeta conference. Regarding other conferences, Kyle Hess ('23) and Tristan Mabee attended the SEPSACS regional conference and presented their research in Organic Chemistry under Dr. MacKay. Notably, Kyle received an award as an outstanding Senior in Chemistry from the higher education institutions in attendance. Towards the end of April, a majority of our upperclassman presented either a research poster or presentation at Etown's Scholarship and Creative Arts Day (SCAD), showcasing their amazing chemistry research.

Highlighting some individual successes, after her graduation in May, Emily Harding was awarded the Outstanding Thesis Award by the Etown College Honors Program for her incredible senior thesis. Tristan Mabee was awarded the prestigious Goldwater Scholarship. He was one of 413 selected for the scholarship out of an application pool of 5,000 people. Yudeliz Sanchez ('25) received a Distinguished Student award out of a pool of nominees from across departments. Justin Cosgrove ('25), Isaac Kraenbring ('25), and Maria Brzezinski ('26) were awarded Summer Enrichment Grants through the Etown College Office of Prestigious Scholarships and Fellowships to fund their pursuit of research and academic experience. While not every success is highlighted here, this year has been impactful for every student in the department. We are so impressed with our colleagues' achievements, and we are so happy to be building a strong reputation of the department throughout the Etown community. In addition to all the amazing work from our department, Summer Scholarship Creative Arts and Research Program (SCARP) program occurred while the downstairs Musser labs were being beautifully renovated. Participating students were Hallie Bleam and Jennah Hoke ('25) from Dr. MacKay's group and Isaac Kraenbring ('25) and Connor Lawrence ('25) with Dr. Rood's group. All involved in SCARP were able to present their research findings at the conclusion of their programs. Besides SCARP, many students had summer internships, which is great for professional development, networking, and exposure!

The Chemistry Club was able to uphold a few key traditions in our events this year! We participated in the annual Homecoming festivities by selling chemistry mugs and Dr. Schaeffer's calendars. The second annual Pie-A-Professor event was held in early November and was a fun bonding activity. We also were able to go to Shady Maple the week before Thanksgiving, which is always a big hit! In February, we held an ice-skating event that allowed students to get off campus and enjoy time on the ice, and we held our annual Easter Egg hunt all around Musser in April. We were happy to be fully back on our feet following the restrictions of the COVID-19 pandemic and hosting great events that advocate for chemistry! We have exciting plans for this year for the Chemistry Club. We are planning on having fun holiday events to create a Chemistry "family" feel in the club, as well as service projects that will allow students to advocate for chemistry at high schools and/or middle schools. Perhaps of most importance, the planning stages of our biannual trip to the National ACS conference has begun! This year it will be held in New Orleans and students will have a chance to present a poster presentation. We are looking forward to another great year of this fantastic club!

**Annual Club Fair 2023**

A Special Note of Thanks

The Chemistry & Biochemistry faculty, staff, and students would like to express our sincere gratitude to the several individuals who made donations to our program this past school year. Funds received went to help cover multiple expenses. Some of the funds were used to cover the cost for four of our majors to participate in the Summer Scholarship, Creative Arts and Research Projects (SCARP) program this past summer. (Details on student participants shown on Page 7 of this newsletter.) In addition, donated funds were used to help pay for student travel to conferences and to also buy equipment to support student research. Thank you so much for your generous contributions and for helping to further the education and experience of our students!



From the E-Mailbag, Study Abroad & Department Snapshots

I'm starting my second year as a full-time instructor of physics and lab coordinator at York College of Pennsylvania. Our oldest son just graduated with a degree in Mechanical Engineering from YCP, and our oldest daughter is currently in her junior year at Etown for OT (our second gen blue Jay). Our two youngest are in HS and MS respectively.

Wendy (Marsh) Crane ('93)

Henry J. Pownall, Ph.D. was the 1979 recipient of Etown College's O. F. Stambaugh Outstanding Chemistry Alumni Award. Dr. Pownall is the director of the Weill Cornell Graduate School in Houston, scientist with Houston Methodist Academic Institute, SI Weill and AM Gotto Chair of Translation Research and Education, and Professor of Biochemistry at Weill Cornell Medicine, New York, NY. Recently, he published a joint paper ([linked here](#)) that was featured in a video press release on the rescue of infertility. ([linked here](#)).

Henry J. Pownall, Ph.D ('65)

Study Abroad Experience

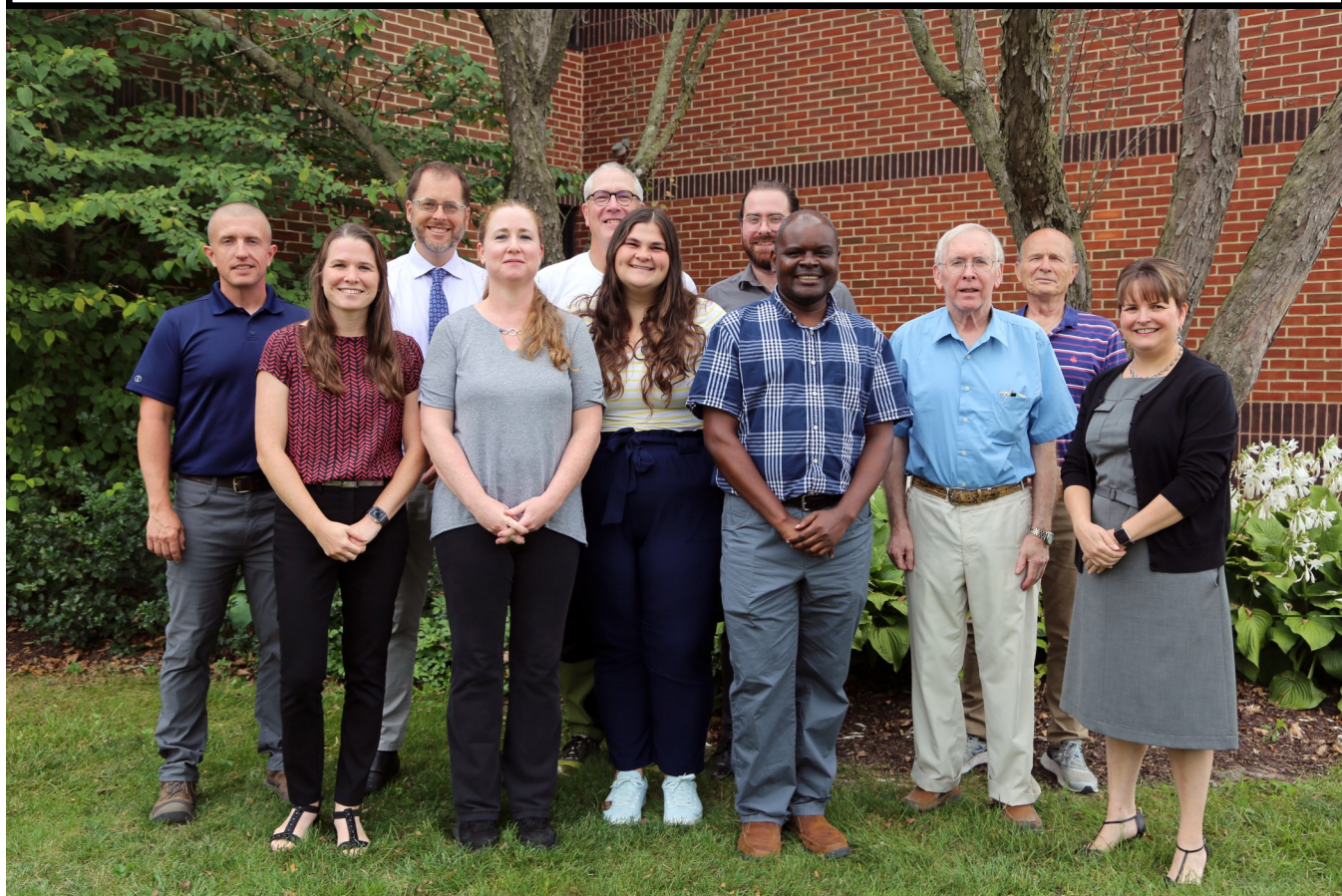
Biochemistry & Molecular Biology major, **Isabella Goebel**, spent this past spring semester studying abroad in Australia! She took chemistry classes while there, and was able to travel and sightsee as well. Here is what she had to say about her experience abroad:

"This past spring, I had the opportunity to study abroad in Melbourne, Australia for four months. While there I was able to study at Deakin University and take classes in Microbiology, Synthetic and Medicinal Chemistry, Evolution, and Aboriginal Studies. It was an incredible experience to be able to see how a much larger university handled classes and events that they put on for the students. One of the most interesting differences I noticed was that the majority of Deakin Students were commuters, and they would come from up to two hours away for classes. During my time abroad I was able to travel very frequently and was able to visit amazing places including Melbourne City where I was living and Sydney, Gold Coast, Brisbane, Uluru, Wangaratta, Auckland (New Zealand). All of these places held such unique experiences. Some were big cities, others were little towns, and Uluru was a collection of massive rock structures in the middle of nowhere! My favorite places I visited were Uluru and Hobbiton, where the Lord of the Rings and the Hobbit movies were filmed and where they still have the set intact. This experience was unlike any other I have ever had in my life, and I truly believe the experience of being so far out of my comfort zone in an entirely new country and side of the world helped me gain confidence in striking out on my own and problem solving when things don't go the way I plan. For instance, when my flight to Sydney was cancelled, I took a 13-hour solo bus ride overnight to get there and be able to enjoy my weekend adventure! It made for an interesting story, and I learned how much I could really do on my own when life throws me a curveball. This trip was one of the best times of my life and it makes me so excited for opportunities to travel in my future!"



Dr. MacKay's RNA Workshop 2023 at Binghamton University

DEPARTMENT OF CHEMISTRY & BIOCHEMISTRY FACULTY & STAFF



A Special Thank You to the faculty, staff, students, and alumni who contributed to this newsletter.

Chemistry and Biochemistry Faculty and Staff:

Front Row: Dr. Lauren Toote, Ms. Michele Herndon, Dr. Amy Defnet, Dr. Desmond Yengi, Dr. Charles Schaeffer, Dr. Kristi Kneas

Back Row: Dr. Jeff Rood, Dr. James MacKay, Dr. Thomas Hagan, Dr. Grant Walby, Mr. Michael Bierbower

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