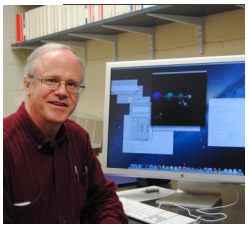
Department of Chemistry & Biochemistry Newsletter

Elizabethtown College

Fall 2018
Volume 15, Issue 1

From the Chair



Gary Hoffman

Greetings from south central PA. Temperatures are getting cooler; fall is in the air. The farm stands don't have any more corn. These are usually telltale signs that I am late once again with my contribution to the Department newsletter. Michele has been leaving hints. As usual, we'd like to fill you in on what we've been up to in the Department. So, kick back a bit, brew a cup of coffee, and take in what we've got to present.

Our Department is back to normal this year – whatever that means! There are no new hires to report (thank goodness!) and James MacKay is back from his sabbatical. James had a productive year at Binghamton and he is raring to get back to teaching classes. It seems I see him in the lab or elsewhere in the building when I arrive in the morning and when I leave at night. It's tiring just to watch him! But it's good to have him back.

The main change to report is a new major. We put together a proposal for a *Chemistry Laboratory Sciences* major and it was approved last fall. We took a cue from an article in *C&EN* which pointed out that there is a need for bench analytical chemists. These positions need college-educated graduates, ones who want to make a career out of performing analytical chemistry. We thought we could tailor a curriculum for this type of student and we established an agreement with Eurofins Lancaster Labs to provide guaranteed internships for students in this major. We shall see how this new major works out in the next few years.

The Department hosted the 82nd Intercollegiate Student Chemists Convention (ISCC). We had presentations by 35 students from 15 institutions from around the area. A total of 100 people attended. The keynote address was given by Dr. Lawrence R. Pratt, Herman and George R. Brown Chair in Chemical Engineering at Tulane University and the 2018 recipient of the Joel Henry Hildebrand Award in Theoretical and Experimental Chemistry of Liquids. The event was a big success.

The Department continues to be active in research. Twelve students performed research with faculty during the academic year. This past summer, nine students performed research at E-town and one student performed some work in an industrial lab. One student presented at the *ISCC* in April, three students successfully defended their honors theses, and we sent a contingent of students to the national ACS meeting in the spring.

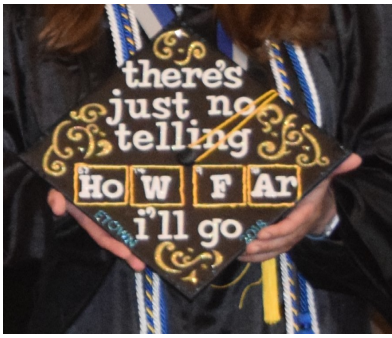
Some exciting news on this front! Two new endowed accounts have been established to support student research. Doug Thudium '76 and his wife Linda have pledged for an account to support applied research in chemistry or biology. Joseph Albanese '86 and his wife have pledged for another account to support research in chemistry. The latter account is named in honor of our own Dr. Charles D. Schaeffer, Jr.

We hosted a number of external speakers. We do so every year, but I was especially proud to see my daughter, a biochemistry PhD candidate at Duke, present a seminar on her research last spring.

We are planning a Career Expo in February; last year's event hit some snags. If you are interested/willing to participate, we'd love to hear from you. Please contact us. But you can read more about these things in the rest of the newsletter. As far as my activities are concerned, I taught the usual set of courses. I am regularly teaching general chemistry now and, of course, I taught physical chemistry. A paper on my work during my sabbatical was published in *ChemSusChem* last spring. I am still finalizing a paper on the Dunham coefficients. Trumpet playing still takes up a lot of my time. The Hershey Symphony recently hosted Carol Jantsch, probably the best tuba player in the world (look her up!), to play the John Williams Tuba Concerto with us in September. What an experience. The trumpet parts were challenging as well. Alyson seems to have a firm defense date next spring for her PhD from Duke. Cynthia just graduated from school for massage therapy. Carlos is still doing well in Miami. Susie and I are enjoying life together. Stop by and I can fill you in on the details.

Enjoy the newsletter. Please let us know what you are up to. Compliments are welcome as are criticisms. Let us know what we are doing well and how we can make your Department even better!

Inside this issue:

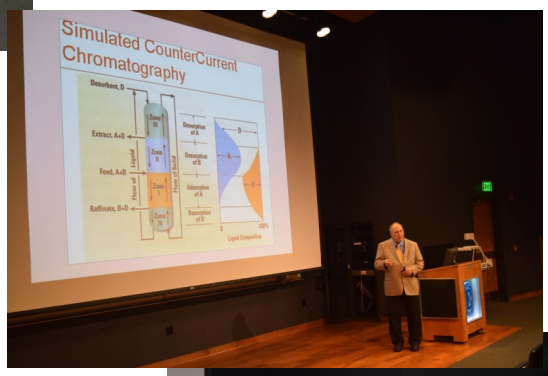


Commencement 2018

2018 Stambaugh Award Winner

Dr. Gary Hoffman, Chemistry department chair, presents the 2018 O. F. Stambaugh Outstanding Alumni Award to Arthur M. Landis, Ph.D.
Dr. Landis received the award during Homecoming ceremonies on Saturday, October 20, 2018, in the Masters Center.

The recipient of the *O. F. Stambaugh Chemistry Alumni Award* for 2018 is Dr. Arthur Landis, class of 1966. Art received a BS in Chemistry from Elizabethtown College, went on to receive an MS in Inorganic-Analytical Chemistry from Ohio University in 1970 and then a PhD in Inorganic-Analytical Chemistry from Georgetown University in 1977. After receiving his doctorate, Art joined the organic separations group of UOP (Universal Oil Products), LLC, a company specializing in petroleum refining and processing. At UOP, he was responsible for five patents and was a member of the team that developed the separation process for producing the first high fructose corn syrup. Art later went into academia. He spent most of his career teaching at Emporia State University in Emporia, KS. He oversaw a number of MS students and contributed to the academic program of the institution. He has been an active member of the local ACS section for over 50 years, serving as chair of the Wichita section and chairing a 45th ACS Midwest Regional Meeting in 2010. His record shows that Art has a love of education and is a fine example of "Educate for Service". We are proud to present the Stambaugh Award to Dr. Arthur Landis.



ΓΣΕ

On Tuesday, February 27, 2018, three new members were inducted into the Rho Eta chapter of Gamma Sigma Epsilon, the national chemistry honor society. Only students with a grade point average of 3.3 or higher in chemistry are invited to join.

New members: **Aubrey Maryniak, Steven Reehl, Haley Young (not shown)**
Current members: **Kayla Hess, Aaron Rathsam, Colby Schweibenz, Amanda Williams and Eric Zimmerman.**

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

ΓΣΕ 2018 Inductees

FACULTY NEWS

Tom Hagan

It's funny, I have this Christmas song running through my head, "…it's the most wonderful time of the year…" Guess it must be time for the annual Chemistry Department newsletter! I hope this newsletter finds you doing well and enjoying life! It was quite a year. The hallowed silence that filled the hallways during James' sabbatical absence is gone. It IS good to have James back! We very much appreciated having Jon with us during the past year and wish him all the best in future endeavors. Lauren did an outstanding job getting acclimated to the department and now it seems like she has been here for years. It's also been great getting to meet her new hubby, Celtson. He certainly fits in with the rest of us! The students had a really good year. I took 8 of them to the national ACS meeting in New Orleans back in March. It was wonderful to see their enthusiasm for the meeting, and they all did a fantastic job presenting their research and demonstrations. We had absolutely amazing weather when we were there; this, however, was not the case back home. The last leg of our return flight was canceled and we ended begging the Enterprise office near Dulles to get us a rental to drive back in the snow. It was quite the experience. In research matters, I am sad to see Colby leave my research group. She was truly remarkable, and even earned an honorable mention for her Honors research thesis. But all is not sad, she is now pursuing doctoral studies at Emory! Michael Perzel worked with Colby this past semester and will be taking over the reins of developing a reliable procedure for the synthesis of the giant unilamellar vesicles. This fall will be a little different for me as I will be team teaching a new course with a colleague from the English department. It is a medical humanities-type course and will explore disease and disability through the lenses of literature and biochemistry. Students will read several works of literature from a variety of genres about Alzheimer's, Downs syndrome, and mental illness. Simultaneously, I will be explaining the relevant biology and chemistry associated with these three areas. The vast majority of students taking the course are non-science students so it should be quite the adventure. Speaking of adventures, if you ever venture out this way, please stop by and say hello. I love hearing from you all. Best wishes, Tom

James MacKay

As I reported in last year's newsletter, during the 2017-2018 academic year I was on a research sabbatical working at Binghamton University alongside my collaborator Eriks Rozners. Our project, titled "Nucleobase-Modified Peptide Nucleic Acid (PNA) for Sequence Selective Triple-Helical Recognition of Non-Coding Ribonucleic Acid (RNA)," is NSF funded and aimed at the development of new methods for molecular recognition of biologically-significant, non-coding RNA. The majority of cellular RNA consists of non-coding RNAs that play important roles in regulating gene expression even though these processes are not fully understood. Selective recognition, imaging, and functional regulation of such RNAs are useful for fundamental studies and practical applications in biotechnology. The project expands interdisciplinary, collaborative research across traditional institutional boundaries and continues our collaboration of 2 years in both my research group and in integrated lab (CH 455/456). During this sabbatical, I made many new compounds for incorporation into PNA, and as research often seems to go, I left with more questions than I had answers. However, it was so professionally rewarding and we have a great deal of results in the pipeline which are hopefully not too far removed from publication. In March, I joined a large contingency of Etown students in New Orleans at the national ACS meeting where I presented on both the science of this project, and the pedagogy related to our integrated lab.

Last year I also wrapped up my work in the area of pyrazole halogenation with a publication in Tetrahedron Letters. Two Elizabethtown Alumni were co-authors on this paper, Katie Olsen ('14) and Matt Jensen ('16) *Tetrahedron Lett.* **2017**, *58*, 4111-4114.(DOI: 10.1016/j.tetlet.2017.09.042). Additionally, I am working on wrapping up some longstanding research in collaboration with Dr. Kneas and Chris Ryan ('17) in the area of fluorescence sensing. We are completing a manuscript that should be submitted by the time this newsletter is published.

Despite having a great sabbatical, I'm excited to be back at Elizabethtown College and in the classroom. I'm teaching organic lecture and lab along with advanced organic and integrated lab. It's a lot to keep track of but these courses are all near and dear to my heart. For those of you in the medical profession, I will be covering the role as chair of the Health Professions Advisory Committee next semester when Dr. Wohl goes on sabbatical. Though I'm happy to serve in this role, I also recognize that this is not a field where I have direct experience. For that reason, I'd love to get input from our alumni who are in this field. If you would be interested in coming to campus to talk to our students, or serve in a mentoring capacity in any way please reach out and let me know!!

Finally, the family is doing great. Kendon (3) started preschool on our return to PA. He loves it. He is really growing up and amazes us all daily with his development. Leah (8) continues to play violin and reads voraciously. Most days we can't get her to shut the book, turn off the lights, and go to sleep. JJ (6) loves the piano and runs around everywhere like a pretty typical 6 year old boy. He really enjoyed baseball last year. He's also the more math/science inclined kid so I should probably start teaching him organic structure soon.

Hope to see you around the halls of Musser soon!

Dick Papez

Hi, my name is Dick Papez and I serve as an instructor here at E-town College. I teach the forensic science courses, general chemistry labs, organic chemistry labs and help with some of the chemical instrumentation. With two years of retirement in between, I have enjoyed the change from thirty-five years of industrial/research chemistry to the college scene.

I am married to Dottie. We have two sons, four granddaughters (ages 12-18) and a 3 year old grandson. One of my favorite activities is teasing the granddaughters.

The forensics courses are most exciting for me due to the ever-changing breakthroughs in crime related science. Also, the case studies do not stop coming. We do not run out of crime. They say there are only two things that are certain, death and taxes. I say there is one more, that there is always crime. In the last year we have studied two twenty and twenty-five year old cases, the murder of Christy Mirack, a local school teacher and the death of Princess Diana, accident or not? Upon my transition from industry to academia, I have found many similarities between analytical chemistry in my past life and forensic chemistry that I now teach. The big difference is the devious plot that often goes with crime solving.

The on-line forensic summer course has now run for six years with reasonable attendance each summer. I try to keep it fresh and different from the classroom course if for no other reason than it takes place in the summer when I can manage much of it from my backyard with a cool lemonade nearby. Dr. Linda Macaulay has been great helping me through the many computer aspects of the conversion.

The high point for me is the Forensics Lab in the spring. Working the students through the cases and the science, watching them run the analyses and wrestle with the myriad of conflicting results is very inspiring.

In the last three summers, I have had the opportunity to return to active research following up on ideas many of which were started in my previous career. Some of these were completed then but many were not due to more pressing duties. The research led to an active role with a total of seven students over these summers in the SCARP program. If there is any interest in polymer research, feel free to contact me.

In previous newsletters I have noted that playing/coaching soccer is my favorite out-of-school activity. Although I grew up with baseball, football and basketball, when my sons started playing organized sports they needed a soccer coach. I volunteered and enjoyed the sport so much that I became a coach, referee and active player. Soccer is constantly moving which for me keeps it exciting. I compare it to molecules in a container, always in motion. I have been in an over-30 league for many years and became the oldest member in the league before I recently retired from the sport. For the last five years both my sons and I were on the same team. One is the goalkeeper, the other plays up front and scores the goals and I would just run around in the middle and have fun. My wife and I still go to watch them play just as we did years ago when they were in high school.

As always, I want to acknowledge the staff here at E-town for the tremendous help and encouragement that I have received. They are always very supportive.

Jeff Rood

Hello! I hope everyone has had a great year since the last time we updated. It is shaping up to be a busy fall semester here at the College. For the first time, I am teaching a First Year Seminar course. I'm excited to be doing a new course and interacting even more with the new students who have enrolled at Etown. The topic of the course deals with energy. In class, we will be mainly discussing a lot of the science behind various forms of energy. The students will be doing much of the same when writing their research papers but will also delve into the other areas such as history and policy. I'm hoping they enjoy it. I am also teaching a number of sections of our general chemistry course. I have made some substantial changes to my approach with this course and am trying a "flipped classroom" model this fall. This method will bring more problem solving to the classroom and hopefully help me to better see where students have misconceptions. We'll see how it goes, but I am looking forward to trying something new.

On the research front, my main focus is still on a collaborative project with Professor Kneas that aims to synthesize new solid-state luminescent sensor materials. We have had a number of students work on this project over the summer. One portion of the work is shaping up nicely and I hope we can publish this academic year. I have also developed a bit of a side interest in developing some new inorganic labs utilizing our new Monowave reactors. These units dramatically decrease reaction times from hours to minutes and open up a lot of opportunity for students to design and execute many experiments in a lab session. So far, my approach has been to have students develop a question and target a few compounds to synthesize and characterize to answer that question. In July, I presented some of this work at the Biennial Conference on Chemical Education held at the University of Notre Dame.

Life on the home front is great. Our two daughters definitely keep my wife and I busy. Kella is now 6 and starting first grade and Kaceley will be two in December. I still make time to get out and run and will be doing my second marathon this fall. I'm sure the students will get a chuckle when I hobble into class that following Monday morning! As always, if you are ever on campus, we'd love to see you and catch up.

Lauren Toote

Hi Everyone! It's hard to believe that my first year at E-town is complete and a new semester is beginning. I had a challenging but great first year here in the department. I had the experience of teaching a variety of courses from quantitative and instrumental methods to I-lab and chemistry seminar. The students did a great job of welcoming me to the department, showing me around and making me a part of the community. Additionally, all the professors and staff were always there to answer questions and offer feedback when I needed it. I so enjoy being part of the department and I felt like I grew a lot in my teaching this year!

This summer I had two excellent SCARP students and was really able to get my research off the ground. Kaitlyn Jacoby ('20) synthesized several rhodamine-based probes for detection of mercury and Miranda Campbell ('18) synthesized polymer nanoparticles for the same purpose. We will continue to work toward the goal of developing a paper test for detection of heavy metals this fall with the help of Haley Young ('19), who will be completing her honors thesis. I was also given the opportunity to attend the ACS New Faculty Workshop in Washington, D.C. in July. At the workshop I was able to learn more about active learning and how to implement it in the classroom as well as network with other new chemistry faculty from across the country!

In other news, I'm now Dr. Toote as I married Celtson Toote on June 2nd! The wedding was in Nashville, TN, where we met, and we enjoyed a great celebration with friends and family before honeymooning in the Canadian Rockies. Celtson was able to move up to PA but continue his job as a web developer for LifeWay Christian Resources in Nashville, which has been a great blessing. We finished out the summer with a trip to the Bahamas, so that I could meet his extended family and visit all the places from his childhood. I hope you all are doing well! Please stay in touch!

Charles Schaeffer

My role as A.C. Baugher Professor of Chemistry Emeritus continues. 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 the characterization. Dr. Jeff Rood and I supervised Jessica Pigga ('16) during both semesters of the 2015-2016 academic year. Jessica's oral presentation on the synthesis and characterization of novel organogermanium compounds earned first prize in the inorganic division at the 80th annual convention of the Intercollegiate Chemists (ISC) on April 16, 2016. The ISC is the oldest continuous meeting of its kind in the United States; E'town hosted the event on Saturday, April 7, 2018. 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 Elizabethtown students (underscored) is: (1) 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, Saturday, April 16, 2016; First Prize, Inorganic Division.

Our long-time and ongoing research collaboration with Professor Claude H. Yoder, Charles A. Dana Professor of Chemistry Emeritus at Franklin and Marshall College, began in fall of 1966 and enters its fifty-first year (see: 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.

Kristi Kneas

Happy fall, alumni and friends of the department! Thank you for reading our latest newsletter. I continue to be delighted by the surprise visits to Alpha Hall, and I absolutely love seeing your updates on Social Media and/or coming to the department via e-mail. Keep them coming. As for me: I'm now in my third year as Dean for Academic Affairs and Faculty Development, and I continue to enjoy the fast pace and challenging work as well as the many opportunities to apply my analytical thinking and problem-solving skills. This past year, I especially enjoyed delivering a lecture on the role of female chemists during WWI as part of a year-long interdisciplinary seminar course open to all students at Etown, and I welcomed the opportunity to deliver a research seminar/career retrospective as part of the University of Virginia's graduate student seminar program. With co-authors, I published two papers in the Association of American Colleges & Universities' journal *Peer Review*, both of which described features of Etown's Signature Learning Experiences program. I enjoyed meetings with Dr. Rood and the research team to discuss progress on our collaborative research on luminescent metal-organic frameworks, and it was somewhat bittersweet to sign Kayla Hess's senior thesis as she may be my last research student for awhile. (Congrats, and thanks again, Kayla!)

On the home front, Daniel and I launched Benjamin into Kindergarten and Garrison into 6th grade, and we continue to enjoy hiking, biking, camping, and traveling as a family. Please come to see us when you can!

STUDENT NEWS

2018 Graduates

Miranda Campbell
Plans to enter the police academy & work with the PA State Police's Forensics lab

Kayla Hess
Attending Vanderbilt University pursuing her Chemistry Ph.D.

Lacey Mac-Rhyann
Working at Eurofins Lancaster Labs

Kelsi Newman
Plans to pursue a chemistry teaching position

Sitara Ramjit
Plans to pursue job opportunities

Colby Schweibenz
Attending Emory University pursuing a Ph.D. in their Biochemistry, Cell and Developmental Biology Program

Amanda Williams
Attending Penn State College of Medicine pursuing her M.D.

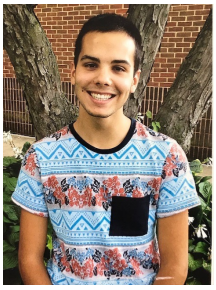
Students Recognized for their Educational Accomplishments

Paul Andonie '20
Emergent Scholar

Kayla Hess '18
Biochemistry Award
ΓΣΕ De-Lap-Holcomb Scholarship

Kaitlyn Jacoby '20
Emergent Scholar
Sophomore Organic Chemistry Achievement Award

Sarah Moyer '20
ACS Student Affiliates Award



Steven Reehl '19
Analytical Chemistry Award
Benjamin G. & Vera B. Musser Pre-Medical Scholarship

Colby Schweibenz'18
SEPSACS Outstanding Senior Chemistry Major Award

Emily Taylor '21
CRC Freshman Chemistry Achievement Award

Amanda Williams '18
A.C. Baugher Chemistry Award

Haley Young '19
Inorganic Chemistry Award

Congratulations to all of our honorees!

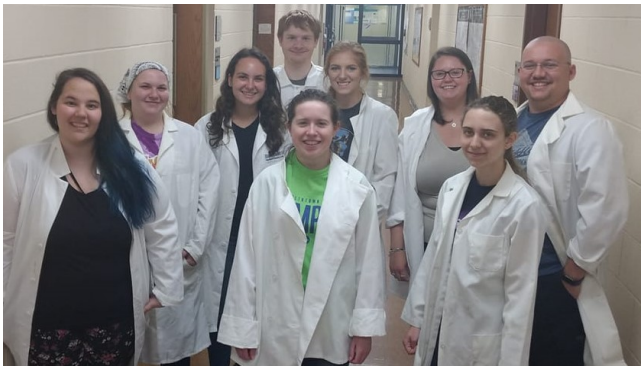
2018 Summer Research & Internships

RESEARCH AT ETOWN (SCARP):

Miranda Campbell, a chemistry forensics major, and ***Kaitlyn Jacoby***, a junior chemistry major both worked with Dr. Toote on projects called "Detection of Heavy Metals by Colorimetric Polymer Nanoparticles."

Michael Chaffier, Carli Monostra & Katie Snyder, all Biology majors, worked with Mr. Papez doing research entitled "Further Exploration of Non-isocyanate Polyurethane Oligomers with Particular Interest in Eliminating the Solvent."

Sophomores ***Jessica Kasper & Amanda Worthington*** along with Junior ***Sarah Moyer***, all biochemistry majors, worked with Dr. Rood on "Luminescent Metal-Organic Frameworks with Polarity-Sensitive Response."



2018 SCARP Students (not pictured are Miranda Campbell & Aubrey Maryniak)

Aubrey Maryniak, a senior biochemistry major, worked with Dr. MacKay at Binhamton University doing research entitled "Design and synthesis of Peptide Nucleic Acid capable of triplex formation with Watson-Crick base pairs in double-stranded RNA."

Kelsi Newman, a chemistry education major, worked with Dr. Licona in the Education department on "Constructing, Implementing, and Evaluating PK-12 STEM Learning Opportunities for Girls in Conjunction with Local Science Museums."

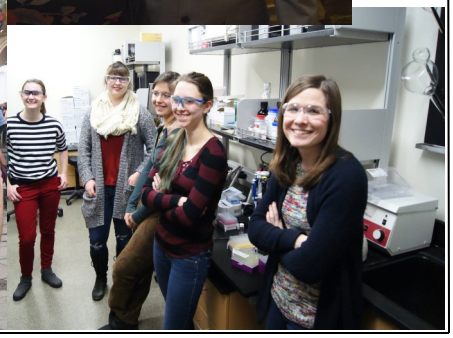
Ryan Thomas, a senior chemistry education major, worked with Dr. Licona in the Education department and presented research entitled "Using PK-12 Pre-Service Teacher Pedagogical Content Knowledge and Informal Science; Learning of Environments to Construct, Implement, and Evaluate Authentic and Relevant Integrated STEM Learning Opportunities."

INTERNSHIPS:

Steven Reehl — Completed an internship in occupational health through The Volvo Group, NA at Mack Trucks where his experiences ranged from shadowing to working with patients and case managing with patients. Steven reported he was also able to "...complete projects which assessed the physical demands of jobs within the manufacturing plant we were adjacent to and which remodeled and revamped the way we track workmen's compensation cases and accident and sickness claims."

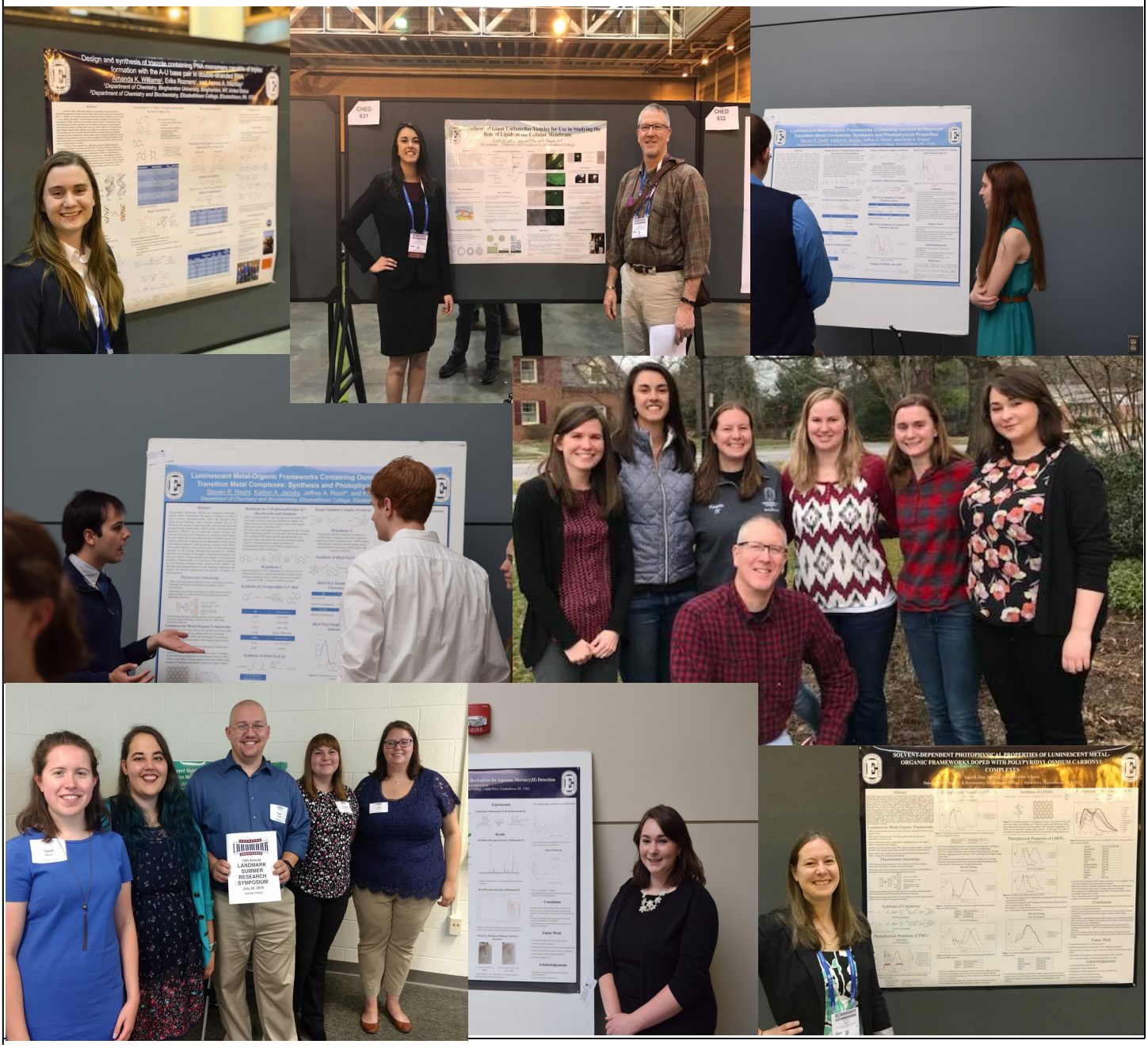
Haley Young — Participated in an internship with Smith's Detection, a company that focuses on military and aviation security where she was testing a prototype product that uses mass spectrometry to detect harmful chemical agents in the air. Haley reported that "...working with a private company was very interesting because I could see the intersection of chemistry with engineering, materials science, and manufacturing."

Memories



Student Presentations at Local, Regional and National Meetings

2017-2018—Numerous chemistry and biochemistry majors within the department participated in research over the course of the school year. Some presented the results of their work at several venues including the Scholarship and Creative Arts Day event at Elizabethtown College; the local section meeting of SEPSACS; the Intercollegiate Students Chemists Convention held this year at Elizabethtown College, the 10th Annual Landmark Summer Research Symposium at Juniata College and the ACS National Meeting in New Orleans. Student researchers were: Miranda Campbell ‘18, Kayla Hess ‘18, Kaitlyn Jacoby ‘20, Jessica Kasper ’21, Lacey Mac-Rhyann ‘18, Sarah Moyer ‘20, Kelsi Newman ‘18, Steven Reehl ’19, Colby Schweibenz ‘18, Ryan Thomas ‘19, Amanda Williams ‘18 and Amanda Worthington ‘21.

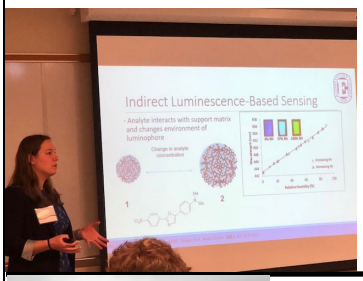


ISCC at Etown & Study Abroad

ISC Convention

Earlier this year, Elizabethtown College had the privilege of hosting the 82nd Annual Intercollegiate Student Chemists Convention (ISCC) on April 7th! This was the fourth time the college has hosted the convention since its' inception in 1936. Nearly 100 students and faculty members from 15 different colleges attended and 35 students presented research in the various divisions. Our own chemistry-ACS major, Kayla Hess, participated and presented her research in the Inorganic Division!

Dr. Pratt



We also had several of our E-town students helping with registration and the announcing/timing of all participants. President Strikwerda began the day by welcoming everyone and then student presentations encompassed the remainder of the morning. After lunch, attendees listened to our guest keynote speaker, Dr. Lawrence R. Pratt, Herman and George R. Brown Chair in Chemical Engineering with Tulane University and then the convention concluded with an Awards Ceremony. The Chemistry Department would like to thank everyone who attended, presented and assisted with the event. Thanks to you all it was a great success!

Study Abroad Experiences

Haley Young: This past spring semester senior chemistry-ACS major Haley Young studied in Bangkok, Thailand at the Mahidol University! In addition to her studies, Haley visited a local school to help teach English to the students. When not in class, she also spent a lot of time traveling around exploring different cities and places. She visited the northern city of Chiang Mai where the Asian elephants are native, went camping at the Myanmar border and spent a few days in the Krabi province where she traveled to the nearby island of Koh Chang for snorkeling. Haley also made a trip to Vietnam where she was exposed to many things related to the Vietnam War including the Hoa Lo Prison where John McCain was held as a POW. In addition, her travels took her to Cambodia where she learned more about the Cambodian Genocide and visited the world's largest religious monument, Angkor Wat.

Emily Kagarise: Senior chemistry-forensics major, Emily Kargarise, spent her spring 2018 semester studying abroad in Germany! Her program actually began in Vienna where she spent several weeks working on her German language skills by taking an intensive German course. Upon completion, she travelled to Marburg, Germany to study at the Phillips University.

Coming Up

Junior Chemistry-ACS major, *Kaitlyn Jacoby*, will be traveling to Granada, Spain to study abroad for her upcoming Spring semester! (pictured on the left below)

Also, Junior Biochemistry major, *Sarah Moyer*, will be spending her Spring semester studying abroad in Marburg, Germany! (pictured above in the middle)

STUDENT AFFILIATES

Elizabethtown College Chemistry Club

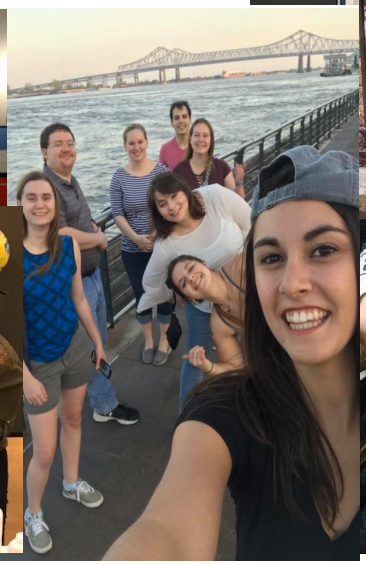
During the past year, the Chemistry Club has been active in many events on and off campus. Students volunteered and presented research at the Intercollegiate Student Chemists Convention and at the Scholarship and Creative Arts Day, both of which were hosted by Elizabethtown College. The presenters interacted with other undergraduate researchers as well as professors from the college and others. Upperclassmen also attended the ACS National Conference in New Orleans, Louisiana. Students presented individual posters and did demonstrations in addition to presenting the Integrated Laboratory course research. Everyone had a great time attending presentations and exploring New Orleans!

In addition to conferences and research presentations, the Club was involved in a Chemistry in a Box program presented by the American Chemical Society. This program focused on opioids and allowed members to engage in thoughtful conversation regarding the effects of addiction and the role of medicinal chemistry. Students also engaged with the community through Into the Streets and trips to the Lancaster Science Factory. During Into the Streets, Club members helped local children create playdough in an effort to encourage scientific learning and show them how much fun chemistry can be. Several students also went to the Lancaster Science Factory to do various demonstrations for children. Some included fingerprint dusting, elephant slime, density rainbows, and chromatography flowers. Additionally, Homecoming was a good fundraising opportunity with scented soaps and tie-dye socks being sold in addition to the calendars and t-shirts.

In the next year, there will be an emphasis on increasing involvement in the Club and the creation of more of a community in the department. A mentoring program for incoming first-year chemistry students is being put together. Upperclassmen chemistry majors will be paired with a first-year student to serve as a resource to them. Professional development also will continue with SEPSACS events and ACS sponsored events.

By Haley Young, president

Chemistry Club '18-'19 Officers:
President—Haley Young
Vice President—Michael Perzel
Secretary—Ryan Thomas
Treasurer—Kaitlyn Jacoby
Marketing Chair—David Krebs



From the E-Mailbag

I graduated from Etown in 2014 and have had a lot of changes since then. First, I changed my name to Emily Carper as I married a med school classmate in April of this year. In May, I graduated from Wake Forest School of Medicine and followed my husband to WV where I am a Family Medicine Resident at United Hospital Center in Bridgeport, WV. Life is different, but still great. The department has been changing some too! Although, I'm sure it's still providing a great education in Chemistry and forming great friendships between educators and students. Thanks for all you do!

Emily (Gockley) Carper ('14)

I recently graduated from the State University of New York College of Optometry in May 2018 with my Doctor of Optometry degree. I am now back in upstate NY seeing patients in a private practice.

Dr. Elaina Nellis ('14)

I was very excited to see the homecoming email this year! I am planning on coming up this year to take part in some of the festivities so I should see everyone then! This past year has been quite a roller coaster that has, thankfully, had many ups. This past year, I was a part of a team working on obtaining the ISO14001 Environmental Certification. Due to our success and my level of involvement, I was able to accept a promotion to Quality Assurance Coordinator for our No-Tox division at Colorcon. No-Tox develops and manufactures non-toxic printing inks for direct and indirect food contact. Think of the print you may find on the inside of candy wrappers or on food tray liners. This is not the only news! My husband and I not only celebrated our first anniversary, but also recently found out that we are expecting our first child in May 2019!!!!

Elizabeth (Costello) Drozd ('13)

I retired from the quality control laboratory of Bayer Corp. in Myerstown in May 2017 to focus on my volunteer work in Lions Clubs International. I have been a member of the Blandon PA Lions Club since May 2007 and on July 3rd of this year, I was installed as District Governor for Lions Clubs International District 14P during the International Convention in Las Vegas. There are 17 districts within PA (Multiple District 14) and district 14P covers Berks and Chester Counties. We have 41 Lions Clubs and 3 Lioness Clubs within our District 14P. I am the executive in our district and part of the State Council of Governors from our 17 PA districts. Lions Clubs International has 1.45 million members in 210 countries and geographic regions around the world. Our global causes include vision (Helen Keller asked Lions to be her "Knights of the Blind" in 1925), environment, hunger, diabetes awareness and now childhood cancer. Lions Clubs also serve in our local communities wherever we can. One project that may interest the Elizabethtown College community is our peace poster contest for middle school age students. The international award is given at the Lions Day at the United Nations in March. Lions were instrumental in helping to write the non governmental organization portion of the United Nations Charter and therefore we have a day at the United Nations each year.

David M. Hunsberger ('77)

Hi everyone! It's been 8 years and counting working in the environmental division at Eurofins Lancaster Laboratories. It's amazing to see how much we are growing in Lancaster and throughout the country. The biggest news I have to share this year, is our bundle of joy, Ryan James, who we welcomed into this world January 6, 2018. He is quite the happy baby; we just love watching him grow. Hope everyone is doing well!

Laura (Krieger) Caulfield ('10)

I graduated in 1961 with a BS in Medical Technology. I worked at Lancaster General Hospital until 1963 when I retired to raise a family. I began 2nd career at Park West Medical Center in Knoxville, TN from 1973 until 2004 in the Bacteriology Dept. I am now enjoying retirement. I was widowed in 2018 after 57 years of marriage, with 3 children and 5 grandchildren.

Sandra (Swanger) Baymiller ('61)

I graduated from Elizabethtown College in 1965. I moved on to Northeastern University and obtained my doctorate in chemistry (physical). This was followed by a postdoctoral fellowship at Baylor College of Medicine where I collaborated with two awesome chemists (organic and biochemistry) who taught me a lot. By the age of forty, I was a full professor and had my own research group. I also conducted clinical studies of alcohol consumption, obesity, and fat intake, used mouse models of human diseases, and studied whole-body and regional body composition among obese diabetic patients. Now I am working with a bacterial protein (serum opacity factor) that has promise for the treatment of female infertility and atherosclerosis with underlying defects in cholesterol metabolism. Looking back, I conclude that chemistry was a great major for research in life sciences. I found learning other things from a perspective of chemistry was easier than learning chemistry from another perspective. I do maintain an interest in writing and provided a small endowment to support writing at the College. I expect to add to that in the coming year. I hope all of you know that no matter how good you are in your scientific specialty, if you cannot write to inform, persuade, or entertain, your horizons will be limited.

Henry J. Pownall ('65)

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A Special Thank You

To the faculty, students and alumni who contributed to this newsletter.

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