Department of Chemistry, Gettysburg College

► Established 1874 ← ◄ ALUMNI NEWSLETTER AY 2021 & AY 2022



Chemistry Department Faculty & Staff

Back Row (L to R): Prof. Suvrajit Sengupta, Lea Czar (Administrative Assistant), Prof. Katherine Buettner, Prof. Donald Jameson, Prof. Lucas Thompson, Prof. Shelli Frey, Prof. Michael Wedlock.

Front Row (L to R): Prof. Jeremy Kuhar, Prof. Timothy Funk, Prof. Gregory Suryn

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Two Years in the Chemistry Department

We apologize for not sending a Chemistry Newsletter during the 2020-2021 academic year, but now we're back on track! This issue will contain information about the last two years (2020-2021 and 2021-2022), one of which was certainly unique.

Gettysburg College went into the fall 2020 semester hoping that masking, distancing, periodic testing, and luck would prevail, but it wasn't meant to be. COVID-19 cases on campus increased dramatically early in the third

week of classes, and there was a limited amount of isolation/quarantine housing and testing capability. Therefore, at the end of the third week of classes, most upper-class students were sent home to learn remotely while first-year students were allowed to remain on campus. Fortunately, approximately half of our upper-class Chemistry and BMB majors successfully petitioned to remain on campus to benefit from in-person labs and research experiences. During the spring semester our testing capacity increased, so all upper-class students were invited back to campus while most first-year students switched to remote learning. During the 2020-2021 academic year, some faculty members taught fully remotely while others taught in-person with some students attending remotely. It was challenging for everyone involved, but we all made it through!

Prof. Funk with student, Emily Howe '23, in lab. The mask requirement in labs and classrooms in place since March 2020 was lifted for the fall 2022 semester.

Thanks to the COVID-19 vaccines, all students (who were fully

vaccinated) were invited back to campus for the 2021-2022 academic year. The testing regiment was fully operational, and while there were some cases, there were limited disruptions to classes and labs, all of which were held exclusively in-person. Students and faculty quickly realized that after the last year-and-a-half of modified schedules and remote learning, the stamina required for a traditional college semester was higher than we remembered. Nonetheless, we made it through a year that looked much more like pre-pandemic times than the previous three semesters. We even returned to in-person conferences, with five Chemistry Department faculty and 14 Chemistry and BMB students presenting their research at the Biophysical Society Meeting in San Francisco and/or the American Chemical Society Meeting in San Diego in the spring 2022 semester.

In May of 2021, seven Chemistry and 13 BMB majors graduated, with two students completing their degree requirements in fall 2020. To ensure social distancing, the ceremony was held in Musselman Stadium, with

students and faculty spread out on the field. We were able to resume in-person summer research in 2021, and 20 students did research with seven Chemistry faculty. Overall, the 2021 X-SIG summer research program had 72 students doing research in the sciences with 28 faculty advisors! In May of 2022, 13 Chemistry and 15 BMB majors graduated, including one student who finished in fall 2021. A total of 11 students did research with three Chemistry faculty during the summer of 2022; the numbers were smaller than usual due to some faculty sabbaticals and other variables. It was another good year for the X-SIG summer research program with 71 students doing research with 25 faculty advisors.

Due to scheduling challenges caused by the pandemic, we did not have our annual Musselman Visiting Scientist lecture series the last two years, but we hosted speakers both in-person and remotely. The remote



Jeremy Kuhar prepares one of his famous dishes during the Fall 2021 student/alumni Homecoming reception.

Two Years in the Chemistry Department - continued

option allowed us to connect with speakers across the country and the world! Please see the article below for more information.

The Chemistry Department hosted an event for both current students and alumni during the 2021 Homecoming weekend, and it was wonderful to see so many familiar faces! We will be holding the same event for all Chemistry Department alumni and friends (Chem majors, BMB majors, others . . .) and current students on Friday, October 14, 2022, from 5:00 – 7:00 pm on the patio of the Science Center. Please join us if you are in the Gettysburg area that weekend!

We love hearing from alumni and friends of the Chemistry Department, so please keep in touch with us as you move through your careers and your lives! You can find a link to a form to submit an update on the <u>Careers and</u> <u>Alumni page</u> of the Chemistry Department webpage.

Graduating Classes

We congratulate the following students who graduated in 2021 and 2022 with majors in Chemistry or BMB. We are proud of all you have accomplished here at Gettysburg College and all you will accomplish in the future.

Class of 2021

Paige Ashey graduated *magna cum laude* with a major in Chemistry (BS) and a minor in Mathematics. She is enrolled in the Chemistry Ph.D. program at the University of North Carolina, Chapel Hill.

Gyasu Bajracharya graduated *magna cum laude* with majors in BMB (BS) and Music, having studied abroad for a semester in Austria. Gyasu is employed as a Research Associate with the MGM Biopharmaceuticals Antibody Engineering Team.

Alec Beck graduated *summa cum laude* with a BMB (BS) major in December 2020. In addition to his studies, Alec worked for the Chemistry Department as a peer learning associate. He is working as a research assistant and plans to attend graduate school for further study in genetics or genomics.

Meredith Brown graduated *summa cum laude* with a BMB (BS) major and a minor in Spanish. She plans to attend medical school in the future.

Madison Cannatelli graduated with a major in Chemistry (BA). In addition to her studies, Madison played NCAA softball, intramural volleyball and soccer, worked for Dining Services and was a member of Gamma Phi Beta.

Matt Canonizado graduated *cum laude* with a BMB (BS) major and a minor in neuroscience, having studied for a semester in Egypt.

Yumeng Cao graduated with a major in Chemistry (BS), having studied for a semester in China. In addition to her studies, Yumeng worked for the Chemistry Department as a teaching assistant. She is enrolled in the Chemistry Ph.D. program at the University of California, Davis.

Julia Clevinger graduated *cum laude* with a BMB (BS) major and a minor in Peace & Justice Studies, having studied abroad for a semester in Kenya.

Matt Coe graduated *cum laude* with a major in Chemistry (BS) and a minor in Spanish, having studied abroad for a semester in Spain. In addition to his studies, Matt worked for the Chemistry Department as a teaching assistant. He is enrolled in the Chemistry Ph.D. program at the University of Southern California.

Abby Deaven graduated *magna cum laude* with a BMB (BS) major and a minor in French in December 2020. In addition to her studies, Abby worked for the Chemistry Department as a teaching assistant. Abby enrolled in the University of Georgia Integrated Life Science Ph.D. program.

Nolan Graham graduated with a BMB (BS) major, having studied abroad for a semester in Germany. In addition to his studies, he was active in Professor Sengupta's research lab and served as president of the student organization, Sceptical Chymists in AY21. After graduation, Nolan was employed as a lab technician. Beginning

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Graduating Class of 2021 - continued

in Fall 2022, he is enrolled in a Master's program in Immunology at the University of California, San Diego and hopes to continue in their Ph.D. program.

Erik Gutshall graduated with a BMB (BS) major and a minor in Neuroscience. He is employed as a lab technician and plans to attend graduate school in the future to study protein cell interactions.

Anna Hightower graduated magna cum laude with a major in Chemistry (BA) and a minor in Educational Studies. She was awarded a Woodrow Wilson Fellowship for MSc in Ed and is in an Urban Teaching Apprenticeship at the University of Pennsylvania, working toward her MSc in Education and Certification.

River Larson-Pollock graduated with a BMB (BS) major and an English minor. In addition to her studies, River worked for the Chemistry Department as a teaching assistant.

Chloe May graduated cum laude with a major in Chemistry (BS) and a minor in Computer Science. In addition to her studies, Chloe served for multiple years as the student assistant Jeremy Kuhar, the College's Chemical Hygiene Officer. After graduation, she began working as a Technical Associate in the University of Rochester Chemistry Department.

Carmelissa Norbrun graduated with a BMB (BS) major. She will continue her studies at Brown University in the Pharmacology & Physiology Department.



Peter Zhang '21 in the Imaging Lab using the new AFM

Jake Perkins graduated summa cum laude with a major in Chemistry (BS) and a minor in French, having studied abroad for a semester in France. Jake was active in Professor Sengupta's research lab.

Samantha Roth graduated with a BMB (BS) major and a minor in French, having studied abroad for a semester in France. Her post-graduation plans include applying to grad school after backpacking through Europe.

John Strobel graduated with a BMB (BS) major, having studied abroad for a semester in Norway.

Peter Zhang graduated with a BMB (BS) major. In addition to his studies, Peter worked for the Chemistry Department as a peer learning associate. He is enrolled in the Ph.D. program in Chemistry at the University of Buffalo.

Class of 2022

Sarah Adams graduated with a major in BMB (BS) and a minor in Spanish. In addition to her studies, she worked as a teaching assistant for the Chemistry Department, was a member of the

College equestrian team and was active in Professor Powell's lab. Sarah plans to apply to medical schools after graduation.

Emma Armstrong graduated with magna cum laude with a Chemistry (BS) major in December 2021. In addition to her studies, Emma worked for the Chemistry Department as a teaching assistant and peer learning associate. In AY2021, she served as Vice President of the student organization, Sceptical Chymists. She was a student researcher in Professor Don Jameson's lab, and she is pursuing a Master's degree in Education at Wake Forest.

Auden Cameron graduated magna cum laude with a major in Chemistry (BS). In addition to his studies, Auden worked for the Chemistry Department as a teaching assistant, and he is employed by W. R. Grace.



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The beginning of a highly competitive balloon toss during the summer 2021 Chemistry Department picnic.

Matt Cherubino graduated with a BMB (BS) major.

Graduating Class of 2022 - continued

Connor Dowd graduated with a BMB (BS) major, having studied abroad for a semester in Greece.

Maura Farinelli graduated with a BMB (BS) major. She was on the Dean's list several times and played field hockey with the college team.

Carolina Fernandes graduated with a major in Chemistry (BA) and a minor in Educational Studies. In addition to her studies, Carolina worked for the Chemistry Department as a teaching assistant.

Ashley Gaffey graduated *summa cum laude* with majors in BMB (BS) and Mathematics, having studied abroad for a semester in Germany. In addition to her studies, Ashley worked for the Chemistry and Biology Departments as a peer learning associate. In the 2022 Commencement ceremony, she served as the Mathematics Department Banner Carrier.

Daysiana Godbee graduated with a Chemistry (BS) major and a minor in Psychology. In addition to her studies, Daysiana worked for the Chemistry Department as a teaching assistant.

Keylly Hernandez graduated with a Chemistry (BS) major. In addition to her studies, Keylly worked for the Chemistry Department as a teaching assistant and was active in Professor Sengupta's research lab.

Kacie Herr graduated *summa cum laude* with a BMB (BS) major. In the 2022 Commencement ceremony, Kacie spoke as the class salutatorian. In addition to her studies, Kacie served as Secretary of the student organization, Biosphere, worked for the Chemistry Department as a peer learning associate and was active in Professor Frey's lab. She is working as an Associate Scientist at Eurofins Lancaster Laboratories for the next year and plans to attend graduate school in the fall of 2023 to pursue a Ph.D. in biomedical science.

Nathan Imgrund graduated *cum laude* with a major in Chemistry (BS) with minors in Math and History. Nathan was active in Professor Sengupta's research lab. He is in a Ph.D. program in Chemistry at Penn State.

Kyle Krozser graduated with a BMB (BS) major and a minor in Neuroscience. In addition to his studies, Kyle worked for the Chemistry Department as a lab assistant and served as President of the student organization, Biosphere. After graduation, he plans to seek employment as a researcher in neuroscience or pharmacology and plans to attend graduate school in the future.



Buettner Lab at the March 2022 ACS Conference, San Diego. Pictured are (L to R) Brittany Loh, Micaylah Bowers, Prof. Buettner and Oliver Pickering

Brittany Loh graduated *cum laude* with a major in Chemistry (BS) and a minor in French. In addition to her studies, Brittany was a student researcher in Professor Kate Buettner's lab, served as VP of the student organization, Sceptical Chymists, in AY22 and Secretary in AY21. She worked for the Chemistry Department as a peer learning associate, and is employed as a bioanalytical chemist at Charles River Laboratories.

Leigh Magness graduated *summa cum laude* with a BMB major and English minor. In addition to her studies, Leigh worked for the Chemistry Department as a teaching assistant and as a Biology peer learning associate. In the 2022 Commencement Ceremony, she served as Banner Carrier for the BMB Program. After graduation, Leigh began working for Werewolf Therapeutics in Boston.

Jordyn Markle graduated *summa cum laude* with a BMB (BS) major and minor in Studio Art. In the 2022 Commencement Ceremony, Jordyn spoke as class valedictorian. In addition to her studies, she served as President of the student organization, Sceptical Chymists in AY22 and Treasurer in AY21. She worked for the Chemistry Department as a peer learning associate. Jordyn is enrolled in the Chemistry Ph.D. program at the University of North Carolina, Chapel Hill.

Elizabeth Mehesy graduated with a BMB (BS) major, having studied abroad for a semester in Kenya. In addition to her studies, Elizabeth worked for the Chemistry Department as a teaching assistant, was active in Professor Hiraizumi's lab and served on the executive board for DiscipleMakers Christian Fellowship.



Oliver Pickering and Jordyn Markle relaxing at our Senior Dinner held at The Upper Crust in April 2022.

Olivia Morren graduated *summa cum laude* with a BMB (BS) major, having studied abroad for a semester in Germany. In addition to her studies, Olivia worked for the Chemistry Department as a peer learning associate, served as President of a campus dance club, worked as a fitness instructor and was active in Professor James' Molecular Genetics Lab. In 2020, she participated in a University of Pennsylvania summer undergraduate research Internship Program. After graduation, Oliva plans to work at a pharmaceutical contract research organization prior to attending graduate school.

Hayley Neubauer graduated with a major in Chemistry (BS)

Oliver Pickering graduated *summa cum laude* with a BMB (BS) major. Prior to graduation, Oliver served as captain of the College's swim team. He received many

honors as a scholar-athlete, including the Charles W. Beacham Athletic Award and the Margaret F. Fisher Memorial Award. He was also the first Gettysburg College student awarded the Centennial Conference Scholar-Athlete of the Year Award. In 2019, Oliver participated in research on evolutionary biology with Professor Alex Trillo at the Smithsonian Tropical Research Institute in Panama. He was an active student researcher in Professor Kate Buettner's lab. In addition to his academic and athletic endeavors, Oliver served the Chemistry and Biology Departments as a TA and PLA. He was also the treasurer for the student organization, Sceptical Chymists. Oliver is working at the Children's Hospital of Philadelphia as a clinical research coordinator and expects to attend medical school in the future.

Abby Reitz graduated *magna cum laude* with a major in Chemistry (BS), having studied abroad for a semester in Denmark. In addition to her studies, Abby worked for the Chemistry Department as a teaching assistant and a peer learning associate.

Suzana Sarkar graduated with a BMB (BS) major and minor in Religion having studied abroad for a semester in Denmark. She plans to pursue a research-related career.

Danielle Sicotte graduated *cum laude* with majors in Chemistry (BS) and Physics. She worked in Prof. Wedlock's lab on efforts to stabilize metal artifacts discovered at the site of the cottage that served as the residence for the College janitor between 1860 and 1928. Danielle is now pursuing graduate work in conservation chemistry at Jesus College, one of the colleges of Cambridge University in the UK.

Vivian Soullaird graduated *magna cum laude* with a Chemistry (BS) major and a minor in Biology.

Jonathan Trilleras graduated with a BMB (BS) major. Jon completed his degree requirements at Gettysburg College in 2020, continuing his studies at Washington University in a 4-2 engineering program, completed in 2022. Jon was active as a student researcher in Professor Frey's lab.

Keira Tuberty graduated with a BMB (BS) major and a minor in Studio Art. She was active in Professor Powell's lab. After graduation, Kiera plans to work as a lab technician and, in the future, apply for a masters in genetic counseling.



Seniors Danielle Sicotte, Auden Cameron, MaKayla Walker, Abby Reitz, Nathan Imgrund, and Katy Wnuk-Fink enjoy a drink at our Senior Dinner held at The Upper Crust in April 2022.

Graduating Class of 2022 - continued

MaKayla Walker graduated *magna cum laude* with a major in Chemistry (BS) and a minor in Neuroscience, haven studied abroad for a semester in England. In addition to her studies, MaKayla worked for the Chemistry Department as a teaching assistant, and she is currently in the Chemistry Ph.D. program at Colorado State University.

Katy Wnuk-Fink graduated *cum laude* with majors in Chemistry (BS) and Biology. In addition to her studies, Katy worked for the Chemistry Department as a teaching assistant and served as secretary for the student organization, Sceptical Chymists. Katy is in a Chemistry Ph.D. program at the University of California, San Diego.

Gavin Zheng graduated with a BMB (BS) major. He is attending Cornell University where he is working toward a Master's degree in biomedical engineering.

Departmental Honors and Awards

The Chemistry Department and the BMB Program traditionally present a number of awards to students who demonstrate commitment and excellence in academics and in their interactions with faculty and fellow students. For many years, Chemistry and BMB faculty presented awards to Teaching Assistants who excelled in this role. In 2022, we created an additional award to honor the best of our Peer Learning Assistants. Our honorees in 2021 and 2022 are as follows:

Award	2022 Recipients	2021 Recipients
Departmental Honors	Emma Armstrong, Chem '22 Ashley Gaffey, BMB '22 Kacie Herr, BMB '22 Leigh Magness, BMB '22 Jordyn Markle, BMB '22 Olivia Morren, BMB '22 Oliver Pickering, BMB '22 Vivian Soullaird, Chem '22 MaKayla Walker, Chem '22	Paige Ashey, Chem '21 Alec Beck, BMB '21 Gyasu Bajracharya, BMB '21 Meredith Brown, BMB '21 Abigail Deaven, BMB '21 Chloe May, Chem '21 Jake Perkins, Chem '21
Election to Phi Beta Kappa	Kacie Herr, BMB '22 Leigh Magness, BMB '22 Jordyn Markle, BMB '22 Olivia Morren, BMB '22 Oliver Pickering, BMB '22	Meredith Brown, BMB '21 Jake Perkins, Chem '21
BMB Award	Jordyn Markle, BMB '22	Alec Beck, BMB '21 Meredith Brown, BMB '21
Stine Chemistry Prize	Emma Armstrong, Chem '22	Jake Perkins, Chem '21
J.B. Zinn Research Award	Jordyn Markle, BMB '22 Brittany Loh, Chem '22	Paige Ashey, Chem '21 Peter Zhang, BMB '21
Chemistry Banner Carrier	Abigail Reitz, Chem '22	Chloe May, Chem '21
BMB Banner Carrier	Leigh Magness, BMB '22	River Larson-Pollock, BMB '21

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Makayia Walker, Chem '22 Abby Reitz, Chem '22 Carolina Fernandes, Chem '22 Auden Cameron, Chem '22Jake Perkins, Chem '21Southeastern PA Section of ACS AwardMaKaylah Walker, Chem '22Paige Ashey, Chem '21Southeastern PA Section of ACS Dr. Judith Bond ScholarshipBryn Werley, Chem '23Brittany Loh, Chem '22Society for Analytical Chemistrs of Pittsburgh College Chemistry AwardMaKaylah Walker, Chem '22Paige Ashey, Chem '21ACS Division of Analytic Chemistry – Undergraduate AwardDanielle Sicotte, Chem '22Abby Reitz, Chem '22ACS Division of Iorganic Chemistry – Undergraduate AwardBryn Werley, Chem '23Vivian Soullaird, Chem '22ACS Division of Organic Chemistry – Undergraduate AwardKathryn Wnuk-Fink, Chem '22Chloe May, Chem '21ACS Division of Physical Chemistry – Undergraduate AwardEmily Howe, BMB '23Jake Perkins, Chem '21ACS Division of Physical Chemistry – Outstanding Senior AwardEmily Howe, BMB '23Jake Perkins, Chem '21General Chemistry Lab Assistant AwardAuden Cameron, Chem '22 Carolina Fernandes, Chem '22Oliver Larson-Pollock, BMB '21Organic Chemistry Lab Assistant AwardDaysiana Godbee, Chem '22 Carolina Fernandes, Chem '22Oliver Pickering, Chem '21Organic Chemistry PLA AwardOliver Pickering, BMB '22 AwardI' Year Chemistry Achievement AwardSneha Jayaram, Chem '25 Cristin MacIntosh, BMB '24			
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	Organic Chemistry PLA Award	Kacie Herr, BMB '22	
Sceptical Chymists Achievement AwardDylan Kemmerer, BMB '25Sarah MacDonald, BMB '24	1 st Year Chemistry Achievement Award	Sneha Jayaram, Chem '25	Cristin MacIntosh, BMB '24
	Sceptical Chymists Achievement Award	Dylan Kemmerer, BMB '25	Sarah MacDonald, BMB '24



Bryn Werley ('23 Chem, left) and MaKayla Walker ('22 Chem) pose with their awards at the annual Southeastern PA Section of the ACS Education Night at Messiah University.

<u>Speakers</u>

The COVID-19 pandemic forced us to have remote Sceptical Chymist and BMB seminars during the 2020-2021 academic year. While it meant no shared meals between speakers and students, we were able to hear from more



BMB Speaker, Dr. Derek Applewhite spoke with students and faculty in March 2021

no shared meals between speakers and students, we were able to hear from more geographically diverse scientists than usual. For example, our first BMB speaker of the year was Prof. Rachel Martin from the University of California, Irvine, who presented her work on using NMR spectroscopy to investigate biological molecules. Prof. Kathryn Riley from Swarthmore College was our first Sceptical Chymists speaker, and she discussed her lab's development of analytical techniques to study silver nanoparticles. Over the course of the year, we heard about a wide variety of work ranging from studying the regulation of the cytoskeleton using *Drosophila* as a model to the reactivity of strained allenes and alkynes to the characterization of artifacts from archeological sites. Our speakers included Prof. Krystle McLaughlin from Vassar College, Prof. Neil Garg from UCLA, Prof. Derek Applewhite from Reed College, Prof. Julio de Paula from Lewis and Clark College, Prof. Ryan Walvoord from Ursinus College, and Prof. Alaaldin Alkilany from the University of Jordan. Additionally, there were two interdisciplinary speakers sponsored by X-SIG: Prof. Paul Turner from Yale, and Prof. Jeff White ('77) from Indiana University.

Seminars were back on campus during the 2021-2022 academic year! The Sceptical Chymists speakers included

Prof. Khanh-Hoa Tran-Ba from Towson University (single-molecule fluorescence to study soft materials), Prof. William McNamara from the College of William and Mary (transition metal catalysis for artificial photosynthesis), Prof. Kathleen Howard from Swarthmore College (magnetic resonance studies of membrane-bound proteins), and our own Visiting Assistant Professor Ashlee Plummer (structural characterization of membrane-bound proteins). Our BMB speakers were Prof. Rebecca Switzer from Bucknell University (disease-related implications of mutated DNA methyltransferases), Prof. Jebrell Glover from Lehigh University (study of caveolin-1/membrane interactions), Prof. Lisa Jones from the University of Maryland (development of mass spectrometrybased methods to study protein-protein interactions), and two Gettysburg College professors: Prof. Jennifer Powell from Biology and Prof. Caitlin Hult from Mathematics. We also had a timely X-SIG-sponsored seminar from Prof. Glenn Rall from the Fox Chase Cancer Center about immune responses to viruses and how it relates to COVID-19 infections.

News from our Graduates



X-SIG Speaker, Dr. Glenn Rall spoke with faculty and students in October 2021

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We enjoy hearing from you so keep those cards, letters and e-mails coming! If you can provide information about your classmates, we like that, too. For those who prefer to correspond electronically, you can find <u>our email</u> <u>addresses</u> through the departmental web page. Or you may update us through a link on the <u>Chemistry Department</u> <u>Careers & Alumni webpage.</u>

Aaron Bezio (Chem '17) married Kellie Burke (Psychology '17) in June 2020 in a small ceremony. They hope for a larger post-COVID celebration in the future.

Taylor Buckley (BMB '19) is attending the Drexel University College of Medicine.

Brandon Carcuffe (Chem '17) attended the July 2021 wedding of classmates Caroline Jager (Business '17) and Campden Stoops (Religion '17), held in Christ Chapel on campus, along with several other Gettysburg College alumni.

Mikaela Collins (BMB '18) graduated from the nursing program at Northeastern University in August 2021. Before enrolling at Northeastern, Mikaela worked at Brigham and Women's Hospital in Bosten, where she conducted research on multiple sclerosis.

News from our Graduates- continued

Anthony Costanzo (Chem '51) reported the story of his post-college life to Professor Emeritus of Religion Lou Hammann, also a member of the Gettysburg College Class of '51. Lou shared parts of Anthony's story in the Class Notes section of the Winter 2021 edition of the Gettysburg College magazine. Anthony lived for 22 years in Cape May, N.J. where he served as president of the Senior Citizens Group and his homeowners association. He played saxophone in the community band and worked with the area chamber of commerce technical information services.

Maureen Miller Elliott (BMB '99) faithfully shares her annual Christmas letter with those of us in the Chemistry Department and BMB program. We enjoy hearing about her career and family adventures. She lives in the Colorado mountains with her 3 active children and their assorted fuzzy pets. Maureen ran in the New York City Marathon in 2021.

Sarah Francisco (BMB '17) provided support to High Garst (Environmental Studies/Religion '20) and Meira Ruben (Sociology '20) in their 2020 Appalachian Trail hike. Sarah, who hiked the Appalachian Trail in 2018, was among many Gettysburg alumni who provided food, gear, lodging, transportation and good advice along the way. Sarah is a Clinical Research Assistant, working at Boston Children's Hospital.

Craig Fryhle (Chem '79) hiked the Grand Canyon rim-to-rim in October 2021.

Dr. Tom George (Chem '67) retired in 2019 to Las Cruces, NM, after 16 years as chancellor at University of Missouri-St. Louis, preceded by 7 years as chancellor at University of Wisconsin - Stevens Point. He continues to do research and recently finished his 800th paper and co-authored his 8th book, entitled "Introduction to Ultrafast Phenomona". He compliments his career as a scientist and academician with a passion for music, playing jazz keyboard in performances throughout the United States and overseas in Bosnia, Croatia, China, Hungary, Kuwait, Oman, Romania and Russian Siberia. In 2015, he performed at Gettysburg College with his wife, Dr. Barbara Harbach, presenting works inspirational female jazz composers. He recently released a new CD, "Stardust, Songs of Hoagy Carmichael"

Lisa Gregory (Biology '86), along with husband, **Prof. Don Jameson**, spent time in France visiting with family during the summer of 2022. Lisa has been a lab instructor for the Chemistry Department since 1990.

Celina Harris (Chem '17) received a 2023 <u>National Sea Grant John A. Knauss Policy Fellowship</u>. The Knauss Fellowship is a national program that places exceptional, early-career graduate students with host offices of the federal government for a one-year fellowship in Washington, D.C. Celina is currently a graduate student pursuing a doctoral degree in chemistry at the University of Minnesota. Her research is about how rust (iron oxide) interacts with common pollutants in the environment and how those interactions change the pollutants and the rust.

Dr. Kenneth Hess (Chem '82), a professor of chemistry at Franklin and Marshall College since 1987, received the F&M's 2022 Faculty Distinguished Service Award.

Dr. Molly Hoke (Chem '95) got in touch with the College via social media. She recalled her time on the crosscountry team with Coach Schenk. She says, "The time I spent there was fantastic and filled with so many wonderful memories. ... Battlefield runs were amazing – workouts were named after major battles – Pickett's Charge, etc. (I think Devil's Den was a particularly brutal workout)"

Gettysburg College recognized recipients of the Young Alumni Achievement Awards during the Fall 2021 Homecoming Weekend awarding the 2020 Young Alumni Achievement Award for Career Development to **Dr**. **Walter Kowtoniuk** (BMB '05). Walter is a partner at Third Rock Ventures, a Boston-based venture capital firm which invests in biotechnology startups.

Brooke Krovic (Chem '04) moved with her family to Zagreb, Croatia, in June 2021. Brooke and husband, Ivan Hrabiric, have two children, Ljiljana, 7, and James, 5.

News from our Graduates – continued

Jeremy Kuhar (Biology & Environmental Studies '01) and wife, Anastasia, celebrated the birth of a daughter in November 2021. Alina Sophia Kuhar joined sisters Ariana and Eliana. Jeremy was on paternity leave during the Spring and Summer of 2022 but returned to the Gettysburg College Chemistry Department in the 2022 fall semester, resuming his work as Lecturer and Chemical Hygiene Officer.

Bryan R. Meyer (Chem '01) wrote a letter to the editor printed in the Winter 2021 Gettysburg College Magazine. In the letter, Bryan talks about the "challenging, dedicated and personable" Chemistry faculty he encountered as a student here. He recalls the enthusiasm and dedication



of **Prof. Don Jameson, Prof. Bill Parker's** calming steady approach in guiding students through the introductory chemistry classes and labs. He also remembers his academic advisor, **Prof. Alex Rowland**, "who always had a moment to listen, to answer a question, or to talk about his favorite professional baseball player, Willie Mays."

Kimberly Grove McMenamin (Chem '08) gave a virtual presentation in November 2020 on *The Science of Chocolate* for STEMinists, a Gettysburg College student group for women and underrepresented students in STEM related majors. Kimberly is a Senior Research Scientist in Chocolate Product Development for the Hershey Company. For more about Kimberly's presentation, check out <u>this article on the College website</u> or watch <u>this YouTube video of the presentation</u>.

Dr. Tina Tao Maynes (BMB '05) earned her Ed.D. in Higher Ed Administration from Northeastern University in 2021. She is an academic advisor at St. Lawrence University where her husband Jeff Maynes (History, Philosophy '05) teaches Philosophy. Together, Tina and Jeff teach a first-year course called "*Sherlock Holmes and the Art and Science of Reasoning*".

Dr. Rowan Meador (Chem '16) earned her Ph.D. from Syracuse University in September 2021 and is now a Degradation Chemist at GlaxoSmithKline in suburban Philadelphia.

Olivia Morren (BMB '22), along with **Cameron Thompson** (BMB '19) and **Claire Woodward** (BMB '20), both PhD students in Biochemistry & Molecular Biophysics at University of Pennsylvania, participated in an October 2020 virtual presentation for Gettysburg College students about research training opportunities in the biomedical sciences at University of Pennsylvania. Olivia also participated in the University of Pennsylvania 2020 Summer Undergraduate Internship Program.

Michelle Black Morritz (Chem '14) attended the November 2021 wedding of Casey Mensinger (Political Science/Public Policy '15) and Rich Cornish (Psychology '16) in Stroudsburg, PA, along with several other Gettysburg College alumni.

Dr. David Krug Nelson (Chem '93) serves as the correspondent for the Class of 1993 and would love to hear from former classmates at davidknelson@mac.com. A pediatrician at Gettysburg Pediatrics, he was the new guy in the practice when **Lea Czar**, administrative assistant for the Chemistry Department, had young children. Twenty-some years later, we are grateful for his kind, patient, knowledgeable care.

Ian Nuzum (Chem '17) attended the November 2021 wedding of Casey Mensinger (Political Science/Public Policy '15) and Rich Cornish (Psychology '16) in Stroudsburg, PA, along with several other Gettysburg College alumni.

Carrine Park (Chem '08) attended the December 2020 wedding of Jacob Conner (English History '08) and Rachelle DeCinque Conner (Political Science '09) along with many other Gettysburg College alumni.

Dr. Taylor Plank (Chem '12) serves as the correspondent for the Class of 2012 and would love to hear from former classmates at taylorplank@yahoo.com.

Gabby Pros (Chem '13) attended the wedding of classmate, Kaitlin Chiarelli Merritt in September 2020 and enjoyed reuniting with several other Gettysburg alumni also in attendance.

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News from our Graduates – continued

Colonel Gordon Rowe (Chem '66) provided updates on his life that appeared in the <u>Winter 2022 issue of</u> <u>Gettysburg College Magazine</u>. A retired Air Force Lieutenant Colonel, he is active with the Lancaster County Red Rose Veterans Honor Guard, participating in military funeral services. Gordie is also active in Rock Steady



David and Cynthia Salisburg at home in Gettysburg

boxing, an exercise program for Parkinson's disease patients. He also participates in the Parkinson Voice Project, an international speech therapy class. The group formed a virtual choir and gave an on-line concert in Fall 2021.

David Salisbury (Chem '85) and **Cynthia LeCompte Salisbury** (Chem '84) were featured in an article appearing in the <u>Winter 2022</u> issue of Gettysburg College Magazine. In 2017, the couple purchased and renovated an historic home in Gettysburg. They moved into the home in 2019. Prior to their retirement, David was the President of Polytek Development Corp where Cynthia was Vice President of the company. David is a member of the College's Board of Trustees. Both are active in Gettysburg and Adams County community organizations.

Hannah Scheffer (BMB '20) started nursing school at Salisbury University in Fall 2020 with the goal of becoming a nurse practitioner specializing in fertility and reproductive technologies. In Spring 2020, COVID struck as Hannah was completing her senior year at Gettysburg College and, at the same time, working as a nursing assistant at UPMS Hanover Hospital. Her experience working with COVID patients solidified her desire to work in the medical field.

Brian Schimpf (Chem '72) and Cindy Eichelberger Schimpf (Biology '72) reported in the Winter 2022 issue of Gettysburg College Magazine that they moved to San Diego in 2015 after spending 40 years in Boston. Happy to escape Boston's winter weather, they enjoy downtown life where they can walk to restaurants, theaters, church and other places nearby.

Colonel Fred Schumacher (Chem '69) was a guest speaker at Fort Detrick on the 246th birthday of the U.S. Army in June 2021. He also presented a history of the military as part of Maryland's Frederick County Veteran Recognition and Resource Days. Fred won 3 gold medals in the Maryland Senior Olympics, qualifying him to participate in the National Senior Games held in May 2022.

Dr. Jenna Stokes (BMB '07) recently obtained board certification in addiction medicine. She was previously board certified in family practice. Jenna serves as the medical director of St. Joseph Institute for Addiction.

Zach Travis '10 graduated with a major in Chemistry and an Individual Major in Film Theory and Preservation. Zach and his wife, Michelle, welcomed a new addition to their family, Edward Zachary Jr., born in April 2022. Zach also attended the December 2020 wedding of Jacob Conner (English History '08) and Rachelle DeCinque Conner (Political Science '09) along with many other Gettysburg College alumni.

Dr. Vince Venditto (Chem '03) is an assistant professor at the University of Kentucky in the College of Pharmacy. His lab researches immune responses and therapeutics. At the start of the pandemic, Vince switched gears, using his lab to process COVID test swabs sent from pharmacies across Kentucky. This valuable service benefitted the population while providing the lab with important data for use in their ongoing research.

Dr. Kevin Welch (Chem '02) was featured in an article at the University of Virginia. The article credits Kevin with transforming a large 500-student course into a more personal experience, even during the challenge of virtual instruction. Kevin, married to **Rebecca Scimone** (Chem '02), has been teaching chemistry since 2010 and joined the UVA Chemistry Department in 2016. Kevin's UVA webpage notes his interest in developing curricula for undergraduate instruction in general and organic chemistry, with focus is on accommodating the students' diverse background in chemistry.

<u>News from our Graduates</u> – continued

We are saddened to hear of deaths among our Chemistry alumni family. In the last couple years, we lost Anna Latsha Babcock (Chem '56) in November 2020, Frank Barranco (Chem '52) in March 2020, Leonard Bausback (Chem '51) in February 2020, Arvid Carlson (Chem '65) in July 2021, Dr. Lawrence Caruth (Chem '61) in October 2021, Eugene Deardorff (Chem '58) in September 2020, Judith Derr Hofmann (Chem '60) in May 2021, John Devoto Sr (Chem '50) in Ocober 2020, Emily Scheffer Dolbeer (Chem '45) in June 2020, Ronald Downey (Chem '57) in May 2020, Angeline Feeser Haines, (Chem '45) in April 2020, Phyllis Christ Hesser (Chem '51) in January 2021, Richard Kornmann (Chem '61) in January 2020, Ronald Leib (Chem '52) in February 2021, Robert Little Jr (Chem '51) in October 2020, Virginia Leedom Macfarland Chem '47) in September 2020, Joan Sibigtroth Murphy (Chem '75) in September 2021, Don Peterson (Chem '49) in June 2021, Charlotte Rehmeyer Odell (Chem '45) in May 2020, Richard Ott (Chem '50) in November 2020, Rederick Shisler (Chem '56) in January 2021, Joan Stein-Steilein (Chem '56) in January 2021, Robert Trewella (Chem '48) in August 2020 and Dr. John Zeigler (Chem '52) in March 2020,

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<u>Staffing News</u>

Congratulations to **Prof. Shelli Frey**, who became the G. Bowers and Louise Hook Mansdorfer Professor of Chemistry, an endowed professorship awarded to a research-active, full professor in the Chemistry Department! She takes it over from **Prof. Don Jameson**. One of the benefits of the endowed professorship is a full-year sabbatical, which she will use during the 2022-2023 academic year to focus on her research in membrane biophysics. It will also give her a break from her roles as chair of the BMB program, program coordinator of X-SIG, and chair of Faculty Council!

Congratulations to **Prof. Kate Buettner** who received tenure during the 2021-2022 academic year! Her excellence in teaching, research, and college governance was recognized with this promotion from Assistant to Associate Professor of Chemistry. Prof. Buettner teaches general chemistry (lecture and lab), inorganic chemistry (lecture and lab), and biochemistry labs; she has a highly active research program

in bioinorganic chemistry, where she recently received a major NIH grant; and she actively contributes to departmental and college-wide committees, including supporting our <u>STEM Scholars</u>.

Congratulations to **Prof. Tim Funk**, who was promoted from Associate Professor to Full Professor! He is now in his sixth and final year as Chemistry Department chair, and he is looking forward to his upcoming sabbatical.

Prof. Luke Thompson was supposed to be on sabbatical in Montréal during the 2020-2021 academic year, but COVID restrictions did not allow him to enter Canada. Therefore, he took a one-semester sabbatical in the spring of 2021 and stayed on campus. Fortunately, the restrictions were lifted in time for him to take a research leave in the spring of 2022, when he spent seven months working in Prof. Jean-François Masson's group at the University of Montréal.

Two Visiting Assistant Professors joined us in the 2020-2021 academic year: **Prof. Emily Sahadeo** and **Prof. Jason Labonte**. Prof. Sahadeo came to us from the University of Maryland after finishing her Ph.D. in May 2020. She taught Instrumental Analysis lecture and labs in the fall semester and CHEM 108 and Materials Chemistry in the spring semester while **Prof. Thompson** was on sabbatical. Prof. Labonte received his Ph.D. from Johns Hopkins University and taught at Loyola University Maryland and Franklin & Marshall College before coming to Gettysburg. In the fall semester he taught CHEM 107 and some Biochemistry I labs, and he taught Biochemistry II lecture and labs in the spring. After their time at Gettysburg, Prof. Sahadeo went to Swarthmore College as a two-year Visiting Assistant Professor and Prof. Labonte went to Towson University for a year as a Visiting Assistant Professor and began a tenure-track job at Notre Dame of Maryland University this fall.

During the 2021-2022 academic year, we welcomed **Prof. Ashlee Plummer** as a Visiting Assistant Professor. Prof. Plummer got her Ph.D. at Johns Hopkins University and did a post-doctoral fellowship at Harvard Medical School. At Gettysburg she taught CHEM 107 lecture and Biochemistry I labs in the fall and Biochemistry II lecture and labs in the spring. This fall she begins a tenure-track position at Bryn Mawr College.

Prof. Shelli Frey, G. Bowers and Louise Hook Mansdorfer Professor of Chemistry



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<u>Staffing News</u> – continued



Shana Wagner



Alecia

Achimovich

We have two Visiting Assistant Professors in the department for the 2022-2023 academic year: **Prof. Alecia Achimovich** and **Prof. Shana Wagner**. Prof. Achimovich—a Gettysburg College class of 2016 BMB major—received her Ph.D. in Biomedical Sciences – Biophysics in July 2022. Prof. Shana Wagner is joining us after getting her Ph.D. in Biological Chemistry in the summer of 2022. Both Profs. Achimovich and Wagner are teaching general chemistry lectures and labs and biochemistry lectures and labs.

Mary Jo Boylan, a dedicated lab instructor since 1988, taught her last lab at Gettysburg College in April of 2022. Over her 30+ years, she

introduced scores of students to methods and techniques in our general chemistry laboratories. Even after getting a full-time lab instructor position at Dickinson College, Mary Jo still taught at least one lab each semester at Gettysburg, and our students are better off for it. She and her husband are moving to Ogden, Utah to be closer to grandchildren. Thanks for your years of dedicated service to our students!

Joe Grzybowski, who retired in 2016 after 37 years of teaching in the Chemistry Department, reports that he wrote a <u>crossword puzzle entitled "Ch...Changes</u>." It was published in the Sunday November 22, 2020 edition of the LA Times. Congratulations, Joe!

Research and Professional News

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Professor Buettner

The **Buettner** lab continued their work on developing *de novo* proteins to function as hydrolases, and expanded to also work on developing mimics of natural haloperoxidase enzymes. **Brittany Loh** ('22 Chem) and **Micaylah Bowers** ('23 BMB) continued in the lab, as well as **Carolina Fernandes** ('22 Chem). In Spring 2021 **Oliver Pickering** ('22 BMB) and **Mark Seibert** ('23 Chem) joined the lab. **Brittany** and **Micaylah** spent the summer of 2021 in the lab working to characterize the metal binding and reactivity of our hydrolase mimics, while **Oliver** used their summer 2020 findings to develop a new series of *de novo* proteins to function as vanadium haloperoxidase mimics, all supported by X-SIG. **Carolina** and **Mark** did REUs at Southern Illinois and Duquesne University, respectively. In the Fall of 2021, everyone marched forward in their projects, and **Ethan Clare** ('25 Chem) and **Cristin McIntosh** ('24 BMB) joined the lab, **Ethan** to start to learn **Brittany's** metal binding characterization work, and **Cristin** to learn **Oliver's** protein production and characterization work. **Brittany**, **Oliver**, and **Micaylah** all presented their work at the Spring National ACS meeting in San Diego. Late in the semester, **Audrey Moroz** ('25 Chem) joined the lab to take on the reactivity portion of **Oliver's** work, in preparation for **Carolina**, **Oliver**, and **Brittany** to graduate. We are certainly missing all of them as we continue to build on all their hard work in the lab.

Micaylah Bowers presented a poster titled "Hydrolytic reactivity of *de novo* designed mini-metalloenzymes" with **Alexander Paredes** ('20 BMB) and **Prof. Buettner** as co-authors at the American Chemical Society meeting (March 2022).

Brittany Loh presented a poster titled "Biophysical characterization of *de novo* mini-metalloenzymes" with Olivia Peduzzi ('20 BMB), Mark Seibert ('23 Chem), Alexander Paredes, Carolina Fernandes, Oliver Pickering, and Micaylah Bowers and Prof. Buettner as co-authors at the American Chemical Society meeting (March 2022).

Oliver Pickering presented a poster titled "Hydrolytic reactivity of *de novo* designed mini-metalloenzymes" with **Brittany Loh** and **Prof. Buettner** as co-authors at the American Chemical Society meeting (March 2022).

Prof. Buettner gave talks at the Mid-Atlantic Regional Meeting of the ACS (May 2021), the University of Maryland Baltimore County (September 2021), and the American Chemical Society meeting (March 2022) all titled "Towards new titanium and vanadium enzymes."

<u>Research and Professional News – continued</u>

Professor Buettner - continued

Alexander Paredes, Olivia Peduzzi and Prof. Buettner had a paper published in *The Journal of Biological Inorganic chemistry* titled: Binuclear zinc hydrolase mimics for DNA cleavage.

Professor Frey

In Lipid Lab, Prof. Frey continued work on projects revolving around the theme of structure and function of cell membranes with a focus on understanding biophysical interactions of neurodegenerative proteins and functionalized nanoparticles with cells. During the 20/21 academic year, Jordyn Markle ('22 BMB) shifted her work to the Huntington project and worked on the structural and thermodynamic characterization of huntingtin peptides binding to cell membranes while Paige Ashey ('21 Chem) finished her project using fluorescence microscopy to study how nanoparticle functionalization affects their interaction with cell membranes with a focus on measuring induced changes to the interfacial material properties. Even with the college "population de-densification" complications, Kacie Herr ('22 BMB) and Abby Reitz ('22 Chem) finally got in the physical lab to run experiments they had learned about during remote summer research and introduced new lab member Tristian Kucera ('23 BMB) to pertinent techniques. Abby Deavan ('21 BMB) continued her time in Lipid Lab albeit remotely with weekly one-on-one journal club discussions with Prof. Frey. In Summer 2021, Jordyn Markle ('22 BMB) continued her work on huntingtin peptide-model membrane interactions and



Frey 2021 Summer Lab Group: (L to R) Abby Reitz ('22 CHEM), Prof. Shelli Frey, Jordyn Markle ('22 BMB), Kacie Herr ('22 BMB), and Tristian Kucera ('22 BMB).

developed a fluorescence microscopy assay to quantify changes to the membrane. Abby Reitz ('22 Chem) joined the Huntington project with a focus on using isothermal calorimetry to measure thermodynamic parameters of peptide-membrane interactions. After first focusing on protocol tweaks, Abby was able to successfully measure significant heat differences under different membrane conditions. Working on the nanoparticle project, Kacie Herr ('22 BMB) developed a fluorimeter-based assay to measure changes in membrane fluidity upon introduction of functionalized particles and was able to find correlations based on electrostatics of the system components. Tristian Kucera ('23 BMB) worked in collaboration with Prof. Buettner to start a new project to study metalmembrane interactions in zincosomes, zinc storage vesicles. All of this productive work continued into the 21/22 academic year where the lab bustled with projects and ended with three fantastic senior theses.



Members of Prof. Frey's Lipid Lab attended the March 2022 Biophysical Society Meeting in San Francisco. Pictured are (L to R) Tristian Kucera, Abby Reitz, Jordyn Markle and Kacie Herr

In March 2021, Paige Ashey ('21 Chem) and Jordyn Markle ('22 BMB) embraced the world of virtual conferences and presented posters via their computers set up in Lipid Lab at the American Chemical Society meeting. Paige's work was titled "Functionalized polystyrene nanoparticles alter the structure and stability of model cell membranes" and Jordyn's poster was "Interaction of PrP(106-126) with model cell membranes." A year later in February 2022, after monitoring pandemic conditions for months, Lipid Lab finally attended an in-person conference, the Biophysical Society (BPS) meeting in San Francisco, CA, where each member presented a poster. Abigail Reitz ('22 Chem) presented "Effects of charge on the

Research and Professional News - continued

Professor Frey - continued

interaction of the huntingtin N-terminal sequence with model cell membranes" while Tristian Kucera ('23 BMB) had a poster titled "Understanding interactions of zinc with model cell membranes" and **Kacie Herr** ('22 BMB) presented "Effect of functionalized polystyrene nanoparticles on model cell membranes." **Jordyn Markle** ('22 BMB) had a poster

"Interaction of the huntingtin N-terminal sequence with model cell membranes" and also participated in the BPS Undergraduate Poster Award Competition where she was named a finalist from among the 60 entries.

In February 2022, **Prof. Frey** gave a virtual lecture "Interactions of huntingtin with model cell membranes" as part of the Biochemistry and Molecular Biology Seminar Series at Lewis & Clark College where was she was hosted by her former undergraduate research mentor, Prof. Julio de Paula, a nice full-circle career moment. Following the BPS conference trip, **Frey** traveled to Williamstown, MA to give a lecture "Interactions of huntingtin with model cell membranes" at Williams College as part of their Chemistry Seminar Series. In March 2022, **Prof. Frey** traveled with several members of the Chemistry department to the spring American Chemical Society meeting in San Diego, CA where she gave a research talk titled "Interaction of the huntingtin N-terminal sequence with model cell membranes."

Professor Funk

Research in **Prof. Funk's** lab continued to focus on two main projects: synthesis and catalytic applications of (cyclopentadienone)iron carbonyl compounds, and the development of a library of cyanuric chloride-based lipids for use in vaccine development and drug delivery—a collaboration with University of Kentucky School of Pharmacy professor **Vince Venditto** ('03 Chem). Even with the campus being "de-densified" during the 2020-2021 academic year, multiple students were able to stay on campus and participate in socially distanced research. **Bryn Werley** ('23 CHEM and Music) took over **Evan Bertonazzi's** ('20 Chem) project studying a trimethylamine-bound iron cyclopentadienone compound. She grew x-ray-quality crystals that **Prof. Anthony Chianese** at Colgate University was able to get a structure of. Bryn did a great deal of NMR spectroscopy work to show that this trimethylamine compound is an important intermediate in the catalytic cycle of transfer hydrogenations and dehydrogenations with this class of catalysts. She continued working over the summer of 2021 and throughout the 2021-2022 academic year and collected a great deal of mechanistic information about these catalysts.



Funk 2021 Summer Lab Group: (L to R) Prof. Tim Funk, Emily Howe ('23 BMB), Danielle Kleinberg ('23 Chem/ES), Auden Cameron ('22 Chem), and Bryn Werley ('23 Chem).



Funk 2022 Summer Lab Group (L to R) Nicolle Elahian López ('24 Chem), Emily Sullivan ('24 BMB), Cole Springer ('25 Chem), Prof. Tim Funk, and Tommy Megna ('23 BMB).

Research and Professional News - continued

Professor Funk - continued

Auden Cameron-Lampariello ('22 Chem) also worked on the iron project. Over the summer of 2021 and throughout the 2021-2022 academic year, he developed new catalysts that selectively oxidized primary over secondary alcohols. **Danielle Kleinberg** ('23 Chem and ES) took over **Melanie Hempel's** ('20 BMB) project during the summer of 2021 exploring the reactivity of alcohols in transfer dehydrogenations with our iron catalysts using sustainable furfural as a hydrogen acceptor. She discovered that with some alcohols, the reactions could be run in water. **Katy Wnuk-Fink** ('22 Chem and Bio) worked on the same project during the spring of 2021 and throughout the 2021-2022 academic year, focusing on how substrate electronics and functional groups other than alcohols affect the process. **Nicolle Elahian López** ('24 Chem) joined the lab in the spring of 2022, and during the summer she worked on the selective oxidation of secondary over primary alcohols. **Cole Springer** ('25 Chem and German Studies) started in the summer of 2022 and optimized the work-up for the furfural-mediated, iron-catalyzed oxidations.

We began lab work on the lipid synthesis project in the fall of 2020, later than hoped due to the pandemic. **Peter Zhang** ('21 BMB) started by working on a way to connect cholesterol to cyanuric chloride. We took the project in a different direction in the summer of 2022 when **Emily Howe** ('23 BMB) attached fatty esters via an amine linker to cyanuric chloride. After some hard work and meaningful progress, she hit a wall late in the spring of 2022 that forced us to take a different approach. **Emily Sullivan** ('24 BMB) and **Tommy Megna** ('25 BMB) worked on the new approach during the summer of 2022 and made excellent progress, showing that these lipids can be prepared. Now the goal is to start preparing a library of them with different hydrophobic tail lengths and sending them to **Prof. Vince Venditto's** lab for biophysical studies.

In addition to these two projects, **Chloe May** ('21 Chem) worked on our old dental polymer project through the 2020-2021 academic year. She showed that we can make polyacrylates bearing photocleavable triazene groups, they survive the radical polymerization conditions, and they can be cleaved using near-UV light.



<u>The Barefoot Chemists</u> - Keylly Hernandez ('22 Chem), Bryn Werley ('23 Chem), Katy Wnuk-Fink ('22 Chem/Bio), Auden Cameron ('22 Chem) and Nathan Imgrund ('22 Chem) enjoy some time at Coronado Beach during the March 2022 ACS Meeting.

Prof. Funk gave a few presentations over the last two years. He presented a virtual poster titled "Alcohol oxidations using air-stable (cyclopentadienone)iron catalysts and sustainable hydrogen acceptors" at the ACS Green Chemistry & Engineering Conference in June 2021. He also gave two talks during the spring of 2022: one at the ACS National Meeting in San Diego, CA in March 2022 titled "Sustainable transfer dehydrogenations with (cyclopentadienone)iron carbonyl catalysts", and an invited talk at the Mid-Atlantic Regional Meeting (MARM) of the ACS at The College of New Jersey in June 2022 titled "(Cyclopentadienone)iron carbonyl compounds: Sustainable catalysts and sustainable undergraduate research projects."

Four students in the Funk lab presented posters at the San Diego ACS Meeting in March 2022. **Bryn Werley's** was titled "Isolation, characterization, and reactivity of a trimethylamine-ligated (cyclopentadienone)iron carbonyl compound", **Katy Wnuk-Fink's** was called "Improving the sustainability of (cyclopentadienone)ironcatalyzed alcohol oxidations", **Auden Cameron Lampariello's** was titled "Ligand steric effects on the selectivity of primary alcohol oxidations using (cyclopentadienone)iron tricarbonyl catalysts", and **Emily Howe** presented "Toward the synthesis of a library of modular, functionalizable lipids".

<u>Research and Professional News -</u> continued



Professor Jameson

Prof. Jameson continued to work on several projects associated with cobaloximes. Emma Armstrong ('22 Chem) returned to continue work on cobaloximes of camphorquinone dioxime during the summer of 2021. She made six new compounds during her research work and they represent the first chiral cobaloximes reported. She was able to grow high quality crystals of four of the compounds and, in collaboration with Prof. Nathan Schley at Vanderbilt University, x-ray crystal structures of those compounds were determined. She was unable to present her work at the 2020 National ACS meeting in Philadelphia due to COVID cancellation, but her results were presented by Prof. Jameson at a poster session at the National ACS meeting in San Diego in March of 2022. During the summer of 2021, Erin McGrath ('23 Chem) worked on the synthesis of acetylide complexes of cobaloximes. Despite the numerous reports of carbon-bonded cobaloxime complexes, no acetylides have been well-characterized in the literature. We are getting a hint as to why that is - they are proving to be unexpectedly challenging to prepare! Erin will continue to work on the project in during her senior year.



<u>The Jameson Lab</u> Emma Armstrong, Prof. Jameson, Erin McGrath

Professor Sengupta



Sengupta 2021 Summer Lab Group: (L to R) Prof. Suv Sengupta, Nathan Imgrund ('22 CHEM), Keylly Hernandez ('22 CHEM), and Meem Khan ('24 CHEM). The Sengupta lab undertook a variety of research over this time. Jake Perkins ('21 Chem) and Nolan Graham ('21 BMB) made up for their lost summer research experience in 2020 by working throughout the 2020-21 academic year. Jake worked with the innovation center to design equipment to study the "memory effect" of clathrate hydrates using the laser cutter housed in the facility. Nolan engaged in a virtual research experience where he worked on characterizing the dynamics of proteins involved in cataract formation in the eye lens. Both of them eventually wrote their senior theses on their projects. Jake's thesis was titled "Development and Analysis of a More Time Efficient Method for Investigation of the memory Effect in tetrahydrofuran Clathrate Hydrates", and Nolan's thesis was titled "An Approach to Investigating yS-Crystallin Aggregation via NMR". After working in PrimBio in Exton, PA for a year, Nolan started in a Masters program in Immunology in University of California, San Diego in the fall of 2022.

Keylly Hernandez ('22 Chem) also joined the lab in Fall of 2020 and engaged in remote research where she started writing Mathematica code

to analyze data for the gas hydrate project – work that she continued throughout her junior and senior year.

In the summer of 2021, the **Sengupta** lab got back into the full swing of research with **Keylly**, and two new members – **Nathan Imgrund** ('22 Chem) and **Meem Noshin Nawal Khan** ('24 Chem). **Keylly** and **Nathan** took on the task of building equipment to study the kinetics of gas hydrate formation from ice particles and the influence of alcohols on the kinetics of the process. **Meem** took over from where **Jake** left off and worked in the innovation center to develop instrumentation to study the memory effect using the CNC machine housed in the facility. All three of them continued their research in the 2021 -22 academic year. In Spring '22, **Keylly**, **Nathan**, **Meem**, and **Prof. Sengupta** attended the Spring ACS Conference in San Diego and presented posters on their work. **Nathan** and **Keylly** presented a poster titled "*Effect of Alcohols on Propane Clathrate Hydrate Formation Kinetics*" with **Prof. Sengupta** as a co-author. This poster was selected by the conference committee to be

Research and Professional News - continued

Professor Sengupta - continued

presented at the SciMix poster session as well, which showcases the best posters from each division. Meem and **Prof. Sengupta** presented their poster titled "*Investigation of the 'Memory Effect' of THF Hydrate Formation on Different Surfaces*". Keylly and Nathan eventually wrote their senior theses based on their work in the Sengupta lab. Keylly's thesis was titled "*Effects of Methanol on Propane Hydrate Formation and Mathematica Codes for*

Analysis of Reaction Kinetics", and Nathan's thesis was titled "Effects of Alcohols on Propane Hydrate Formation Kinetics". After graduation, Nathan joined the Ph.D. program in Chemistry at Penn State in Fall '22.

The summer of 2022 saw a couple of new faces in the **Sengupta** lab. While **Meem** continued in the lab with her memory effect project, **Vy Tran** ('25 Chem) took over the gas hydrate project from **Keylly** and **Nathan. Julia Hunter** ('25 BMB) joined the lab and started a new project where she expressed antifreeze proteins from an Antarctic bacteria. **Meem** is going to spend the Fall 2022 semester in Lancaster, UK for her semester abroad. **Vy** is continuing her research in the lab this semester.



Sengupta lab dinner (Spring 2022) in San Diego, with (left to right) Prof. Sengupta, Nathan, Keylly, and Meem.

Professor Suryn

Prof. Suryn has continued teaching both the general and organic chemistry yearlong sequences, along with overseeing the general chemistry labs. During the AY 2020–2021 he taught for the first time an intensive version of the general chemistry sequence meant to better support our students coming to Gettysburg without a solid foundation in math and chemistry. The course has gone well and continues to be taught, with students actively requesting to join the four-day-a-week 8am class! Prof. Suryn virtually attended the MAALACT and ISCC conferences in 2021 and was in-person for the Biennial Conference on Chemical Education in summer of 2022. He is excited to apply the pedagogy he learned to his general and organic chemistry courses! He also took over the laboratory preparation job in spring 2022 while Jeremy Kuhar was on parental leave. Most notably during this time he worked with Lisa Gregory to purchase new stirring hot plates for the CHEM 203 and 204 laboratories.



Thompson Lab Group 2021: (L to R) Prof. Luke Thompson, Emma Hedgepeth ('22 BIO), Delaney McCormick ('23 BMB), and Jackie Richardson ('23 PHYS).

Professor Thompson

Prof Thompson presented some of the group's work on pH driven assembly of gold nanorods in a virtual symposium at the Spring 2021 National ACS Conference as well as a virtual presentation at The University of Iowa analytical chemistry speaker series. Prof. Thompson joined the newly formed Primarily Undergraduate Nanomaterials Cooperative (PUNC); a group which seeks to support and foster collaborations between PUI nanomaterials faculty. As a part of this group, Prof Thompson contributed to a publication in <u>ACS Nanoscience Au</u> that was published in the fall of 2021.

In the spring of 2021 **MaKayla Walker** ('22 Chem) joined the nanolab to work on the pH driven assembly of gold nanorods before she went off to an industrial internship for the summer. In

the summer of 2021 the nanolab saw the arrival of **Emma Hedgepeth** (Bio '22), **Jackie Richardson** (Physics '23), and **Delaney McCormick** ('23 BMB). **Emma** worked on a project in collaboration with Prof. Fong in the bio department exploring the uptake of gold nanoparticles in to freshwater clams, while **Jackie** worked on synthesizing a polymerizable surfactant to coat the surface of gold nanorods, and **Delaney** worked on

Research and Professional News - continued

Professor Thompson - continued

understanding more about the intermediate polyelectrolyte layers on the assembly of gold nanorods coated with poly-lysine. The group also regularly participated in the weekly PUNC zoom meetings as well as a regional nanomaterials supergroup meeting with faculty from many central PA colleges.

In the spring of 2022 **Prof. Thompson** finally headed north to Montreal to work



Professor Wedlock

Prof. Wedlock and Danielle Sicotte ('22 Chem/Physics) worked together on a collaborative project with Professor Luley from the Classics and Anthropology Departments on a project to stabilize metal objects recovered from an

archaeological survey of a house formerly located between Pennsylvania Hall and Musselman Library. Among other uses, the house served as a residence for the College janitor's family. The house was built in the 1830s and remained in use until the 1920s.

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Students searching for artifacts at the archaeological dig site on campus Danielle tested different electrochemical techniques to try and stabilize objects recovered from the dig, including various types of handmade and machine-made nails that were used during different periods in the lifetime of the house. Danielle is now pursuing graduate work in conservation chemistry at Jesus College, one of the colleges of Cambridge University in the UK.

Faculty and Student Grants

Grant writing is a difficult and time intensive task with no guarantee of success. Yet, our faculty go through the process whenever possible as a means of supplementing the department budget. Grant funding has allowed the Chemistry Department to offer more research opportunities for student and faculty, purchase new or replacement instrumentation and expand opportunities for students to attend professional conferences throughout the United States. In the last five years, Chemistry Department faculty have received external grants totaling in excess of \$850,000.

Prof. Buettner received an NIH Grant funding her research on de novo mini-metalloenyzmes with hydrolase activity.

Prof. Frey and Prof. Buettner received a Procter & Gamble Fund's Higher Education Grant. This grant is

focused on evolving our Biochemistry and Chemistry curricula by increasing experiential learning and interdisciplinary thinking through new courses, such as biophysical chemistry, and half-semester, intensive lecture courses in faculty members' field of expertise such as bioinorganic, immunology, spectroscopy, bioinformatics, and organometallics, January 2021 – present.

Prof. Frey received a grant from the Spectroscopy Society of Pittsburgh College Equipment Grant for acquisition of six portable UV-Vis spectrometers to be in used in general chemistry and biochemistry labs.

Prof. Frey and Prof. Buettner received a grant from the Camille and Henry Dreyfus Foundation, Inc., Jean Dreyfus Lectureship for Undergraduate institutions. This grant provided funding for two undergraduate research students in Summer 2022, funding for the same students to attend a scientific conference and a lecture series. Our Jean Dreyfus Lecturer will be <u>Prof. Squire Booker</u>, Evan Pugh University Professor of Chemistry and of Biochemistry and Molecular Biology, Pennsylvania State University.



Fall 2023

Prof. Thompson has been known to get himself out of some

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tight situations



Faculty and Student Grants - continued

Prof. Frey received a grant from the Spectroscopy Society of Pittsburgh College Equipment Grant for acquisition of six portable UV-Vis spectrometers to be in used in general chemistry and biochemistry labs.

Prof. Funk received a Pittsburgh Conference Memorial National grant to purchase a Nicolet Summit FT-IR Spectrometer.

Prof. Funk received an NSF Grant funding his research on Development of Iron Catalysts for Sustainable, Selective Oxidations and Reductions.

Prof. Thompson received two grants funding his sabbatical research and travel in Spring 2022. A Burroughs-Wellcome Collaborative Research Travel Grant covered his travel between Gettysburg and Montreal during his sabbatical. A Professional Development Grant funded by the Mellon for Faculty Career Enhancement Program provided will provide additional support for Prof. Thompson's research at the University of Montreal on Development of SPR based immunosensors for monitoring IgA/Anti-IgA related anaphylactic transfusion reactions

Anna Hightower '21 received a Woodrow Wilson Teaching Fellowship from The Institute for Citizens & Scholars. This fellowship provided financial support and mentoring while Anna worked toward her master's degree at the University of Pennsylvania in AY2021-22. Upon graduation, the fellowship program places participants in high need secondary schools.

Brittany Loh '22 received the 2021 Judith Bond Scholarship from the American Chemical Society Southeastern Local Section.

Jordyn Markle '22 received a travel grant from the Biophysical Society funding her trip to the 2022 Biophysical Society Annual Meeting in San Francisco.

Bryn Werley '23 received the 2022 Judith Bond Scholarship from the American Chemical Society Southeastern Local Section. Bryn also received a Goldwater Fellowship from The Barry Goldwater Excellence in Education Foundation.

Summer Research Students and Faculty

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<u>The Cross-Disciplinary Science Institute at Gettysburg College</u> (X-SIG), directed by Prof. Frey, annually funds summer research in the sciences. X-SIG programming prepares students to answer science's most pressing questions across multiple disciplines, equipping students with skills necessary for modern research and allowing them to explore the practical and ethical aspects of being a scientist.

In addition to the 20 Chemistry and BMB students involved in 2021 summer research, 51 other students participated in research with Biology, Computer Science, Economics, Environmental Studies, Health Studies, Psychology and Physics.



2021 Summer Research Front Row (*L* to *R*): Kevllv Hernandez. Danielle Kleinberg, Meem Noshin Nawal Khan, Bryn Werley, Emily Howe, Auden Cameron Lampariello, Delaney McCormick, Prof. Tim Funk Second Row (L to R): Abby Reitz, Jordyn Markle, Emma Armstrong, Emma Hedgepeth, Jacqueline Richardson, Tristian Kucera. Third *Row (L to R): Kacie Herr, Micaylah* Bowers, Oliver Pickering, Brittany Loh, Erin McGrath. Back Row (L to R): Nathan Imgrund, Prof. Don Jameson, Prof. Shelli Frey, Prof. Luke Thompson, Prof. Kate Buettner, Prof. Jason Labonte, Prof. Suv Sengupta

Summer Research Students and Faculty - continued

In addition to the eleven Chemistry and BMB students involved in 2022 summer research, 60 other students participated in Biology, Computer Science, Economics, Environmental Studies, Health Studies, and Physics.



2022 Summer Research Front Row (l to r): Prof. Tim Funk, Vy Tran, Julia Hunter, Prof. Suv Sengupta, Ethan Clare, Prof. Kate Buettner. Back row (l to r): Emily Sullivan, Nicolle Elahian López, Cristin MacIntosh, Tommy Megna, Meem Khan, Cole Springer, Micaylah Bowers, Audrey Moroz



Some students and faculty (and a few faculty kids) participating in the summer 2022 X-SIG research program on a hike at Pine Grove Furnace State Park.



Crystals formed bv slowly evaporating solution of a 3*methoxybenzoic* acid in ethanol/water. We see the crystals as polarization viewed using microscopy. Photo by Professor Greg Suryn.

<u>Art in the Science Center</u>

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In 2021, the Chemistry Department installed a new gallery along the Science Center 3rd floor hallway, illustrating chemistry through the eyes of talented photographer, **Professor Greg Suryn**. Originally from Colorado, Professor Suryn began learning and practicing photography over a decade ago while attending the undergraduate program at Grinnell College in Iowa. He loves traveling, hiking and mountain biking so has many opportunities to take photos of the natural world. As a chemist, Professor Suryn also brings his camera into the lab, taking photos of objects and processes used in chemical experimentation.

Suryn's photographs, displayed in the Gettysburg College Science Center, show fall leaves, ice, bubbles, test tubes, sediment dried into a Büchner funnel, crystallized sodium chloride and more. All are artistically beautiful and all demonstrate lessons in chemistry that today's students are learning in the classroom and practicing in their labs.

Although we began the Science Center gallery with a collection of Professor Suryn's work, we hope to

change up items on display from time to time, circulating in new photos from Professor Suryn, from students or from alumni. Currently, the display includes a photo taken by Chemistry major, Meem Noshin Nawal Khan, Class of 2024. The photo shows a Tetrahyrofuran (THF) and water solution kept at high pressure and low temperature to form clathrate hydrate crystals of THF. The crystals developed to resemble a sunflower.



If you have a photo or other artwork you'd like to contribute that might be appropriate for the Science Center gallery, please get in touch with Lea Czar (<u>lczar@gettysburg.edu</u>), Professor Suryn (<u>gsuryn@gettysburg.edu</u>) or any of the Chemistry faculty.



In January 2022, Professor Suryn shared his experiences as a photographer with fellow College faculty in the Friday Forum, a series of presentations for faculty development. In Suryn's presentation, "Lessons from the Lens", he discussed the influence photography has had on his teaching and in his personal life. He quoted Guy Tal who wrote in his book, *Another Day Not Wasted: Meditations on Photography, Art, and Wildness*, "In my mind these experiences are a kind of retirement savings–cherished moments and memories I hope to someday recall with the same bittersweet joy and gratitude I felt when experiencing them, and I will know that I have truly lived. It's not about photography; it's about living life."

Suryn offered a dozen "lessons from the lens", relating lessons he's learned through photography to teaching. In one example, Suryn found that photography reinforced for him the idea that rules can be broken. This lesson also applies to teaching, where flexibility is sometimes a key to helping students reach their goals.

Suryn's skill and confidence as a photographer has improved over time. He talked about re-visiting his early work to remind himself of how much he's learned with practice. He finds the same is true for teaching.

Suryn says, "Teaching, like learning, is about steady improvement. Don't forget to look back on where you started to appreciate how far you've come. "

Professor Suryn referenced a June 2019 article from Nature about the value of hobbies in relieving stress, improving work–life balance and helping scientists to reach innovative solutions in their work. Quoting the article, he said, "Many scientists say that their hobbies provide them with crucial opportunities to relax, to find satisfaction in completing small, defined projects and, occasionally, to make the kinds of insightful leaps that propel science forward."

Professor Suryn finds that focusing on photography allows him to "switch off" work and de-stress. In addition, creativity developed through photography often adds creativity in other areas of his life and work.

Portraits from the Past

Prior to installing our current photography display, portraits of past Chemistry Department faculty, adorned Science Center walls. The same portraits were on display in our former Breidenbaugh Hall home.

Chemistry Department Chair Professor John B. Zinn began the collection in the mid-1920's by requesting a portrait of his predecessor, Professor Edward S. Breidenbaugh. Professor Breidenbaugh was the department's

first chair, serving for 50 years, from 1874 when the department was established until his retirement in 1925.

Breidenbaugh's portrait was first installed in the newly built Science Building, named Breidenbaugh Hall in honor of the beloved professor. This portrait was eventually joined by portraits of Dr. Zinn and other faculty as they entered retirement. The portraits were a way for us to honor the contributions of faculty members who shouldered the challenging task of guiding and developing the department through ever-changing times.

Since the early 2000's, however, recent faculty chose not to add their portraits to the collection. We realized that the historic portraits no longer resonated with our current students, as many of them were born years or decades after the faculty pictured in the portraits left Gettysburg College. We retired the portraits to the Musselman Library Special Collections Department where they could be appropriately stored and preserved, remaining accessible to researchers and anyone interested as needed.

Gifts to the Department

The Chemistry Department and BMB Program would like to offer heartfelt thanks to the generous donors who supported us with financial gifts from September 2020 through May 2022. Your gifts are welcome and much appreciated.

The following donors contributed to the Chemistry Special Gifts Fund: Dr. Dennis Bleile '72 & Patricia Bleile, Bob Britcher '68, Mildred DeVita, Brittany Loh '22, Dr. Ron Myers '69 & Ewha Myers, Doris Pickel Schumacher '69, Dr. Anne Kuhlmann Taylor '66 & Dr. Jerry Taylor.Jen Becker '97, Bob Britcher '68, Amy Lucadamo '00 & Tim Funk '00, Ewah and Ron Myers '69, Anne Kuhlmann Taylor '66 and Jerry Taylor.

In 2020, Gettysburg College established a new Special Gifts Fund for the BMB program. Donations to this fund directly benefit the BMB program and its students. The following donors contributed to the BMB Special Gifts Fund: Prof. Kate Buettner, William Cherubino, Prof. Shelli Frey. Mr. and Mrs. Robert Kemmerer, Kyle Krozser '22, Gavin Zheng '22.

Dr. Molly Hoke '95 donated to the Rowland Memorial Fund in support of the Science Center Complex.

<u>Dr. Edward S. Breidenbaugh</u> Founding Chair of the Gettysburg College Chemistry Department.



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In 2018, Gettysburg College established a fund in honor of retired Chemistry Department faculty members, **Prof. Joe Grzybowski** and **Prof. Bill Parker.** The fund supports student/faculty research in the Chemistry Department. Donors to the Parker-Grzybowski Fund include Dr. Dennis Bleile '72 & Patricia Bleile, Dr. Ken. Hess '82 & Julie Hess, Dr. Bruce Johnson '70 & Kyonggeun Yoon, Dr. Mike Lawlor '92 & Ann Lawlor, Dr. Stephanie Maiocco '10, Keith McDaniel '80 & Linda McDaniel, Dr. Tina Tao '05 & Dr. Jeff Maynes '05, Dr. Vincent Venditto '03 & Kristie Colón.Mary Lou & Richard Strunk '63, Steve Lind '73, Tina Tao Maynes '05 & Jeff Maynes '05, Linda & Keith McDaniel '80, Patricia & Dennis Bleile '72, Kyonggeun Yoon '70 & Bruce Johnson, Kristie Colon & Vince Venditto '03.

The following donors made gifts to the Gettysburg Fund, which helps support ongoing expenses of the college. Donors include: Dr. Albert Accettola, Jr. '67 & Iris Accettola, Frank Barr '75 & Wendy Patterson Barr '76, Jen Becker '97, Dr. Erin Podlesny Brown '07 & Tim Brown, Dr. Loren Buhle, Jr. '80 & Alycia Mallon-Buhle, Dr. Ben Chaloner-Gill '86 & Sandra Weymouth, Mark Chamberlin '87 & Deana Chamberlin, Dr. Rob Clontz, II '04 & Jessica Leonard, Bob Drawbaugh '69 & Carol Drawbaugh, George Farley, Jr. '59 & Sally Farley, Dr. Holly Thomas '89 & John Finegan '89, Elizabeth Shearer Fisher '90 & Bob Fisher, Abby Golin '03, Lois & William Gorodetzer P'05, Nolan Graham '21, Walter Greif '60, Dick Guise '67 & Diane Guise '91, Emily Harrison '18, Dr. John Hohneker '81 & Donald Vincent, Jr., Dr. Molly Hoke '95, Dr. David Jones "70 & Anya Kirvan, Dr. Richard Keeports '62 and Bonita Keeports, Dale Kiddoo ' 85, Darby Kiley '97, Dr. Jack Kline ' 59 & Anne Heckler Kline '60, Dr.Bob Knopf '54 & Mary Jane Knopf, Winnie Shearer Kost '57, Dr. Gordon Kotora '87 & Vivian Kotora, Dr. Art Kriner '65 & Jean Kriner, George Krone '59, Julie Laudenschlager '16, Connie Hedland Lee '64 & Jack Lee, Steve Lind '73, Edward Lis, Jr. '02, Jordyn Markle '22, Marilyn Orner Miller '85 & Shane Miller, Joanne Tittle Miller ' 47 & William S. Miller, III, Dr. Eileen Quickel Monson '72 & Dr. Tom Monson, Cynthia Bergman Myers '81 & Ronald Myers, Lynn Myers '81, David Naser, Jr. '83, Dr. Oak Oakley '61 & Jane Oakley, Deb Otis '73, Jake Perkins '21, Kristin ' Christopher Perkins P'21, Dr. Taylor Plank '12 & Dr. Luke Cuculis '12, Abby Reitz '21, Dr. Jeanne Scott Robinson '57 & Mr. Douglas Robinson, Graham Sauers '11 & Kylie Schleicher Sauers '11, Dr. Steven Schram '73 & Diane Lazarus, Doris Pickel Schumacher '69, Gail Seygal '67, Dick Simpson '59 & Dottie Lloyd Simpson '59, Dr. John Socey '63 & Charley Socey, Vivian Soullaird '22, Dr. Adam Steel '92 & Lisa Evans Steel '92, Brad Steffens P'10 & Nancy Murray P'10, Bryan Stokes-Cawley '14, Dr. Richard Strunk '63 & Mary Lou Strunk, Dr. Vincent Venditto '03 & Kristie Colón, Josh Wagner '19, Alison Kranitz Walsh '93 & Dr. Nathan Walsh, Oscar Weber, Taden Welsh '21, Karen & Troy Werley P'23, Dr. Sharon Hilgen Willis '88 & Dr. David Willis '90, Peter Zhang '21.

We would like you to know that gifts to the **Chemistry Special Gifts Fund** or to the **Parker-Grzybowski Fund** directly benefit Chemistry Department programs and students. Gifts to the new **BMB Special Gifts Fund** directly benefit the program and its students.

Gifts designated for the Chemistry Department *without a specified fund* go to the Gettysburg Fund, supporting ongoing, college-wide expenses.

If you would like the Chemistry Department of BMB to have direct access to your donation to support student/faculty research, student participation in conferences, instrumentation upgrades or repairs and other specific needs of the department, please make a note on your donation indicating "**Chemistry Special Gifts**", "**BMB Special Gifts**" or "**Parker-Grzybowski Fund**".

If you choose to make an on-line donation, you can do so <u>here</u> or by going to the Gettysburg College homepage and clicking on "Make a Gift". In the Designations portion of the on-line form, select "Other or multiple designations". Slide the bar to the right of the pop-up down to the bottom, select "Other Fund(s)", and hit the Continue button. In the box under "Please Specify", type the fund name (e.g. **Chemistry Special Gifts, BMB Special Gifts** or **Parker-Grzybowski Fund**).

