

COLLEGE OF SCIENCE AND TECHNOLOGY

CHEMISTRY

N E W S L E T T E R

Millersville University, Dept. of Chemistry ♦ <http://www.millersville.edu/chemistry/> ♦ Fall 2022

Greetings from the Chemistry Department! We are very excited to report that we had another successful year, and we would like to share our good news with you!



Murley Summer Undergraduate Research Fellowship

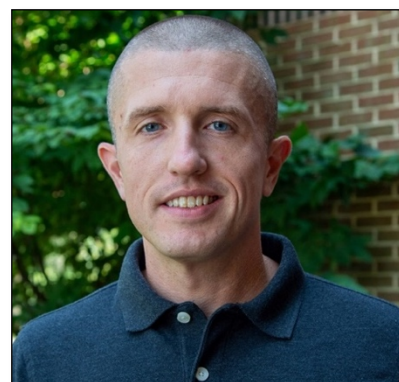
In 2022, the Murley Summer Undergraduate Research Fellowship was again awarded to two top Millersville Chemistry applicants. **Emma Witmer** (photo left) & **Aaron Maynard** (photo right) carried out intensive summer research with Millersville Chemistry Faculty thanks to the generous support of **Ms. Karen Murley** (photo center). Emma did her research with **Dr. Aimee Miller**, while Aaron worked under the guidance of **Dr. Edward Rajaseelan**. All three 2021 Murley Fellows (**Elliott Newman**, **Betel Erkalo**, & **Joshua Rushlow**) secured NSF REU programs (details below).

Murley Summer Fellowship - 2022

Emma Witmer, Ms. Karen Murley, Aaron Maynard (left to right)

Millersville Young Alumni Achievement Award

The Department was honored for the 7th year in a row to have a chemistry alumnus recognized for their outstanding professional accomplishments! The **2021** award was given to **Dr. Jeff Rood, Ph.D.** Dr. Rood graduated from Millersville University in 2004 with a bachelor's degree in chemistry and earned departmental honors for his undergraduate research. Dr. Rood went on to the University of Notre Dame where he received a doctorate in Inorganic Chemistry in 2009. Dr. Rood is currently Professor of Chemistry and Chair of the Department of Chemistry and Biochemistry at Elizabethtown College. At Elizabethtown, Dr. Rood has developed an active research program in inorganic materials, mentored more than 30 students, published 20 peer-reviewed papers, and secured funding from Research Corporation and the National Science Foundation. Dr. Rood's exceptional research, teaching, and service activities have been recognized by several merit awards, including a Bayer Predoctoral Fellowship, the Kaneb Outstanding Graduate Teaching Award, and the Elizabethtown College Honors Program Outstanding Professor Award. Congratulations, Dr. Rood!



Dr. Jeff Rood,
(MU-2004, U. Notre Dame-2009)

Faculty Transitions

This summer, **Dr. Steven M. Bonser** retired after 15 years as a faculty member teaching organic chemistry in the Chemistry Department. Dr. Bonser has been recommended for emeritus status for his accomplishments at Millersville. Also retiring is **Mr. Jack Sipe** who has helped teach a range of lab over the past 8 years. After 7 years here at Millersville, **Dr. Kathryn Allen** transitioned this summer to an industry position, capitalizing on her expertise in polymer chemistry. We wish all these valued colleagues the best in their new pursuits!



Dr. Nick Leed

To assist with our chemistry courses, especially in organic chemistry, we hired two temporary faculty members. **Dr. Nick Leed** is a full-time Visiting Assistant Professor (left photo) and also an MU alum. Dr. Leed earned his BSE in Chemistry from Millersville in 2003 and his Ph.D. in Inorganic Chemistry from The Ohio State University in 2013. His teaching this year includes the General Education CHEM 101 class, our General, Organic, and Biochemistry courses (CHEM 103/104), and organic chemistry labs.



Dr. Taylor Plank

Dr. Taylor Plank is joining us as an adjunct professor for the Fall. Dr. Plank completed her BS in Chemistry & Spanish from Gettysburg College in 2012 and her Ph.D. in Organic Chemistry from the University of Maryland in College Park in 2018. She is teaching our organic chemistry courses (CHEM 232 & CHEM 235). We welcome both to our department!

CHEMISTRY

H i g h l i g h t s

Important MU Chemistry Faculty Milestones & Achievements

Congratulations to Dr. Jeremiah Mbindyo:

- Dr. Mbindyo was awarded a PA Manufacturing Innovation Fund grant (\$53,450) with K & L Plating, Inc. as part of a \$2.5 million investment supporting 36 student projects across the state. The work is being done by a team of three current chemistry majors at Millersville (shown on right) to optimize a new production process at the Lancaster-based business. Dr. Mbindyo noted, “the students will have a unique opportunity to apply their knowledge of chemistry to solve a real-world problem.” The goal is to minimize acid waste generated as part of K & L operations, reducing environmental impact and fostering sustainability.
- Dr. Mbindyo was invited to be a reviewer for NSF.



PA Manufacturing Innovation Team
Peyton Frederick, Madison Adams, Dr. Mbindyo, Ashleigh Dell (left to right)

Congratulations to Dr. Edward Rajaseelan, Dr. Dan Albert, Kassandra Castaldi and Joshua Rushlow:

- Dr. Rajaseelan, Dr. Albert, and Joshua Rushlow, a Millersville Chemistry Major, published: “[$(1,2,5,6-\eta)$ -Cycloocta-1,5-diene](4-isopropyl-1-methyl-1,2,4-triazol-5-ylidene) (tricyclohexylphosphane- κ P) iridium (I) tetrafluoridoborate dichloromethane monosolvate” in *IUCrData*. Their reported structure was featured as the July 2022 cover illustration for the journal.
- Dr. Rajaseelan, Dr. Albert, and Kassandra Castaldi, a Millersville Chemistry Major, published: “(4-Butyl-1-methyl-1,2,4-triazol-5-yl--idene)[$(1,2,5,6-\eta)$ -cyclo-octa-1,5-diene](tri-phenyl-phosphane) iridium(I) tetra-fluorido-borate” in the international journal, “*IUCrData*.” in 2021.

Congratulations to Dr. Michael Elioff:

- Dr. Elioff gave a presentation entitled “Undergraduate Research on a Budget” at the annual Middle Atlantic Association of Liberal Arts Chemistry Teachers (MAALACT) meeting at Pace University in Manhattan, New York City.

Congratulations to Dr. Steven Kennedy:

- Dr. Kennedy has been recognized with a certificate in Effective College Instruction from the Association of College and University Educators and the American Council on Education.

Congratulations to Dr. Melissa Mullen Davis:

- Dr. Mullen Davis attended the Biennial Conference on Chemical Education (BCCE) this summer. She delivered two presentations, “Increasing student engagement in a non-major introductory chemistry course by writing children’s books” and “Demonstrating biochemical mechanisms using student movement.” She also organized a conference symposium entitled “Engaging Non-Majors in Introductory Chemistry Courses.”
- Dr. Mullen Davis presented a talk entitled “Inspired by Enzymes: Incorporating Art into Higher Ed STEM Courses” at the 2022 PASSHE Virtual Conference on Teaching and Learning.
- Dr. Mullen Davis presented a talk and a poster entitled “Using Student Movement to Improve Understanding of the Pyruvate Dehydrogenase Complex” at the 2022 American Society for Biochemistry and Molecular Biology (ASBMB) National Meeting in Philadelphia, PA.
- Dr. Mullen Davis presented CHEM 326: Biochemistry 1 Enzyme Art projects at Made in Millersville.

CHEMISTRY

H i g h l i g h t s

MU Student/Chemistry Major News

In Fall 2022, the Chemistry Department welcomed 15 freshmen coming in as chemistry majors at Millersville as well as 5 transfer students joining us from other institutions.

Chemistry faculty and students continue to be actively engaged in research, grant writing, and presenting their work at conferences. Numerous students received Noonan, Niemeyer-Hodgson, and SGRCA research grants.

Spring 2022 National American Chemical Society Meeting

In March, eight students traveled in person with **Dr. Aimee Miller** to the 2022 National ACS Conference in San Diego, CA. Seven students presented research posters, and the Millersville Student Chapter of ACS displayed a poster outlining activities that earned them a **Commendable Student Chapter Award**.



Spring 2022 ACS National Meeting

Ben Wise, Landon Kurtz, Rebecca Drager, Cassandra Castaldi, Dr. Aimee Miller, Amanda McKee, Joshua Rushlow, Elliott Newman, Betel Erkalo (left to right) at the Undergraduate Student Chapter recognition event.

Group dinner in Old Town San Diego with Millersville Chemistry alum **Yongyu (Rose) Ou** (far left; MU-2021) who is currently at UC-Davis working on her Ph.D.)



Summer 2022 Summer Research Placements

Five Millersville Chemistry majors were selected to participate in summer research programs (REU or SURP) across the country.

<u>Student</u>	<u>Institution</u>	<u>REU/SURP</u>
Elisabel Balbuena	SUNY-Stony Brook	REU
Betel Erkalo	New York University (NYU)	REU
Amanda McKee	Univ. of Maryland, Baltimore County (UMBC)	REU
Elliott Newman	North Carolina State (NC State)	REU
Joshua Rushlow	University of Tennessee-Knoxville	REU

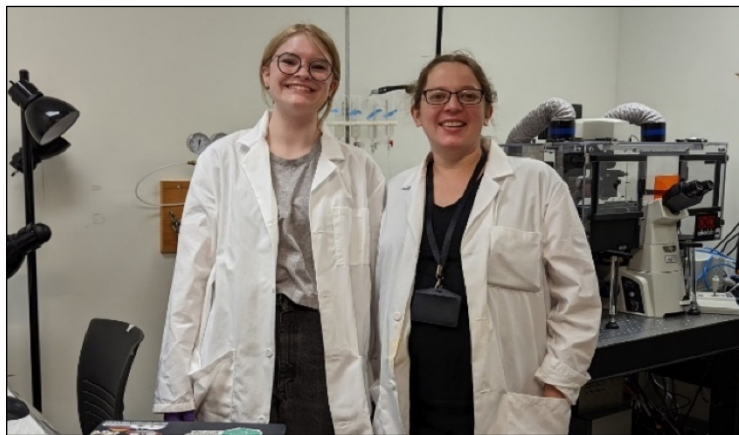
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H i g h l i g h t s

Company Internships During 2021-2022

Eight Millersville Chemistry majors engaged in internship or chemistry-related work experiences with regional companies.

Student	Company	Location
Madison Adams	Gaurdian CSC	Wrightsville, PA
Elizabeth Brittingham	Eurofins	Leola, PA
Madison Cherubin	NeverWet	New Holland, PA
Peyton Frederick	K&L Plating/MU	Lancaster, PA
Jesus Torres Gonzalez	MRG Labs	York, PA
Jacinto Hyman	Hershey Foods	Hershey, PA
Harrison Noel	K&L Plating	Lancaster, PA
William Trinh	Pharmtech	Lancaster, PA



Rebecca Drager and Dr. Jillian S. Weissenrieder

Rebecca Drager joined the lab of Dr. J. Kevin Foscett, the Isaac Ott Professor and Department Chair of Physiology at the University of Pennsylvania in the summer of 2022. Rebecca worked as an intern under the supervision of a Millersville alumna, **Dr. Jillian S. Weissenrieder** (MU-2015). Their work explored mitochondrial Ca^{2+} uptake in pancreatic cancer cells and expression of the mitochondrial calcium uniporter complex (MCUc) responsible for its transport. Results of their studies suggest that these cells handle Ca^{2+} signals in a novel way and help clarify the function of MCUc in cancer.

Amanda McKee, a junior chemistry major, is involved in the “Women in STEM Program” at Millersville. She joined the program during her first year of college. Amanda says, “Hearing other people talk about their passion has made me realize all the different opportunities that are out there.” After graduating, Amanda plans to pursue a doctorate in hopes of accomplishing her goal of becoming a research scientist.



Amanda McKee

Congratulations to Millersville Chemistry Students:

1. **Kassandra Castaldi** was selected as Millersville's nominee to PASSHE for the prestigious Ali Zaidi award this year.
2. **Pearl Ramos** was selected as the first Environmental Justice Fellowship awardee through the WETi program. She is working with environmental education and stormwater management efforts on campus.
3. Made in Millersville Presenters: **Jesus Gonzalez Torres, George Bershtein, Betel Erkalo, Amanda McKee, Landon Kurtz, Victoria Schmidt, Rebecca Drager.**
4. **Betel Erkalo**, who presented her research "Monitoring Transcription Factor IclR-Effector Binding by Intrinsic Fluorescence at the 2021 PASSHE STEM Student Research Conference in Kutztown, PA. This was work she completed with Dr. Mullen Davis as a part of her independent study research project.

CHEMISTRY

H i g h l i g h t s

Celebrating Chemistry Graduates: 2022

To celebrate our 2022 Spring graduates, the chemistry department held a Spring Awards Ceremony and a picnic before the end of the semester.



Spring 2022 Picnic



*Cake anyone? -
Landon Kurtz, Lucia Martin, Cassandra Castaldi*



Spring 2022 – Graduate Recognition

Top left to right:

Dustin Horn, Landon Kurtz, Jacinto Hyman, Regina Al Saqqa, Ben Wise

Bottom left to right:

Justine Termine, Victoria Schmidt, Lucia Martin, Cassandra Castaldi



Graduation time! – Victoria Schmidt



Graduation 2022! – Justine Termine & Landon Kurtz

CHEMISTRY

H i g h l i g h t s

Last year, 10 additional chemistry majors joined the ranks of our alumni. The Chemistry Department is very proud of our Fall 2021 – Spring 2022 graduates!



Spring 2022 Chemistry Graduates

Standing-Left to right: Landon Kurtz, Dustin Horn, Benjamin Wise, Regina Al Saqqa

Sitting-Left to right: Justine Termine, Kassandra Castaldi, Lucia Martin, Victoria Schmidt

Not Shown: Conan Judy (Fall 2021), Jacinto Hyman

Many of our graduates had jobs or job offers in a chemistry-related field before graduation, and the following are attending graduate school programs this Fall:

- **Kassandra Castaldi** – Chemistry at Yale University
- **Victoria Schmidt** – Medicinal Chemistry at SUNY Buffalo

2022 Chemistry Department Awards

This year's student recipients of Chemistry Department Awards were:

- CRC Chemistry Achievement Award – **Katelyn Ebersol**
- Cecil M. Upton Organic Chemistry Award – **Betel Erkalo**
- Polymer Education Undergraduate Award – **Rebecca Drager**
- Murley Summer Undergraduate Research Fellowship – **Aaron Maynard & Emma Witmer**
- American Institute of Chemists Award – **Landon Kurtz & Lucia Martin**
- MU ACS Student Chapter Award – **Landon Kurtz**

American Chemical Society Division Undergraduate Awards in:

- Analytical Chemistry – **Aaron Maynard**
- Inorganic Chemistry – **Kassandra Castaldi**
- Organic Chemistry – **Kassandra Castaldi**
- Physical Chemistry – **Kassandra Castaldi**

ACS Southeastern PA Section Award:

Outstanding Senior Chemistry Major - **Kassandra Castaldi**



Kassandra Castaldi

CHEMISTRY

H i g h l i g h t s

2022 Chemistry Department Scholarships

- Richard Sasin Endowed Scholarship in Chemistry – **Megan Malecki & Dylan Tull**
- Gerald S. Weiss Chemistry Scholarship – **Katelyn Ebensol**
- Yvonne and Sandra L Turchi Biochemistry Scholarship – **Taylor Hoefner**
- Sandra A. Yeager, Ph.D. Chemistry Scholarship – **Amanda McKee**
- Dr. R. Edward Rajaseelan Excellence in Chemistry Scholarship – **Betel Erkalo**

Notable Alumni Achievements/Updates

1. **Dr. Michael Gau** (MU-2011) was promoted to Director of the x-ray crystallography facility at U. Penn.
2. **Dr. Jon Shue** (MU-2013) is an orthodontic resident (with a University Fellowship) at Ohio State University.
3. **Dr. Amy Fraley** (MU-2014) completed her Ph.D. in Medicinal Chemistry from the University of Michigan in 2019. Currently, she is a postdoctoral fellow and lecturer at the ETH Zurich (Swiss Federal Institute of Technology).
4. **Dr. Taylor Keller** (MU-2015) completed her Ph.D. in Inorganic Chemistry from Temple University in spring 2022. Her graduate work was completed under Dr. Mike Zdilla (MU-2000). She is now a post-doctoral associate and staff crystallographer at U. Penn.
5. **Dr. Nikki Wolford** (MU-2016) completed her Ph.D. in Chemistry from the University of Rochester in December 2021. Currently at Los Alamos National Laboratory as a Postdoctoral Researcher.
6. **Eric Breeden, PharmD** (MU-2017) graduated from Marshall University School of Pharmacy in Huntington, WV in 2021. He is now a staff pharmacist with the GIANT Company.
7. **Joy Thames** (MU-2018) has completed her 4th year of Ph.D. candidacy at UMBC. She was selected as a fellow for the CBI program at UMBC and has published 4 review articles. Her lab is working as part of a group that received one of nine Antiviral Drug Development awards from the NIAID. Joy also received the Post Candidacy Outstanding graduate student award!
8. **Joel Trout** (MU-2018) currently works for Johnson Matthey as an Analytical Chemist in the Quality Control Laboratory of their PGM refinery / Chemical Plant in West Deptford, New Jersey.
9. **Gillian (Good) Hoover** (MU-2019) earned her Master's degree from Univ. WI – Madison in 2021. She was recently promoted to Manager at Labcorp Drug Development (formerly Covance) in Denver, PA where she does vaccine studies.



Eric Breeden, PharmD, 2021

Fall 2022 – Seminar Series

The Fall 2022 Seminar Series, hosted this year by **Dr. Melissa Mullen Davis**, includes speakers from UMBC, U. Penn, Dow, Penn State, U. of Maryland as well as this year's Murley student presenters. Seminars take place on Mondays from 4-5 pm, in Roddy 149. The complete list of seminars can be found here: <https://www.millersville.edu/chemistry/curriculum/seminars.php>

We are very proud of the successes of all our graduates over the years. Our alumni reflect our efforts, dedication, and quality of teaching. ***You are Millersville Chemistry, and we celebrate you this and every year. Thank you!*** We are always delighted to hear from you. Please stop by and visit us when you are in the area or send us an update.

Alums! We LOVE to hear from you!

Update your contact information online at: <http://www.millersville.edu/chemistry/alumni/index.php>

Click on "Updates" on the bottom of the page.

Then click on "Update Now" to update your information for us.