

Periodic Times

Wittenberg University Department of Chemistry
Catalyzing Student Success

VOL. 14

ACADEMIC YEAR 2020-2021

Top stories in this newsletter



Department purchases new equipment with gift money



Chemistry Alumni Aid Capital Campaign (p.2)



Visiting Professor wins Teaching Award (p.3)



Wittenberg professors contribute to *Journal of Chemical Education* special editions (p.3)



Two ceremonies held on Edwards-Maurer field for class of 2021. (p.7)

Department Makes Adjustments for Teaching under COVID Guidelines

Wittenberg University began the 2020 fall semester with in-person classes. A COVID response team was formed that put together guidelines for the campus, including reduced occupancy in classrooms and cleaning protocols. Most classes on campus were conducted in-person with some accommodations for remote learning. Tents were used for outdoor learning and meeting spaces. The Chemistry Department held all classes in-person (with the exception of a few days of remote instruction), utilizing larger classrooms as necessary. General chemistry students were spread out into two adjacent labs, and equipment and reagents were provided at each student station to limit sharing of equipment. Some unexpected improvements in efficiency were discovered: students never had to wait in line for a balance, and in classes for which pre-lab lectures were replaced with videos to be watched in advance, students often finished lab early. The seminar program benefitted from our new expertise with Zoom technology. We had two Zoom speakers for seminar as well as a virtual alumni panel, featuring alumni from the East and West coasts.

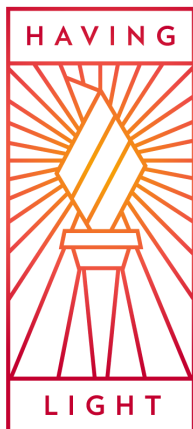
New Equipment Enhances Teaching Labs and Research

The department had been planning to purchase a new infrared spectrometer, and a computer failure on the former instrument prompted us to accelerate this purchase. Thankfully, funds generously provided by alumni and friends were available to purchase this instrument. Our new Fourier Transform infrared (FTIR) spectrometer includes a diamond attenuated total reflectance (ATR) accessory that allows for quick acquisition of spectra and can be used for samples that are otherwise difficult due to their physical nature. Samples are simply placed on the small crystal and a device presses down on the sample to ensure a good contact. After the spectrum is acquired, the crystal is easily wiped clean and ready for the next student. Students in organic chemistry lab have found the instrument easy to learn. A research student with organic lab experience was able to train another student on the instrument this summer and was also able to obtain an infrared spectrum of her diazonium salt reaction mixture, a feat not possible with the previous instrument.

Additionally, a new shaker bath was purchased with gift money for incubating cell cultures and has been essential for Dr. Marous' research on antibiotic resistance and it will also be used in Biochemistry/Molecular Biology lab courses.

The department is fortunate to be in a position to provide modern equipment for hands-on use by students.

Capital Campaign Receives Support from Chemistry Alumni & Friends



Founder's Day, March 11, 2021 marked the launch of [Having Light: The Campaign for Wittenberg University](#). This campaign is the largest in Wittenberg's history, with a goal of raising \$100 M. The campaign raised over \$560K on Founders Day and as of August 20 has raised \$85 M. Professor Daniel Marous, class of 2009, served as a campaign ambassador, and reached out to over 600 alumni. We appreciate all who have contributed to the Campaign.

The Chemistry Department is fortunate to have many loyal supporters. Our endowment earnings have been used this year for equipment (see p. 1), to fund the summer research program (see p. 5), for Chemistry Special Interest awards (p. 6) and for need-based awards for our majors. We are especially glad to have been able to provide need-based awards ("Virginia E. Franta Chemistry Awards") to current majors, given the economic hardships faced by many families at this time. Ten students in fall 2020 and 11 in spring 2021 received these awards totaling over \$60K.

Thank you to our Recent Donors

The department received generous gifts in the past year from the following:

Sartoris Fund: Dr. William H. Bunnelle & Ms. Leslie V. Evans
AbbVie Foundation
Mr. Douglas S. Arbuckle Mrs. Sandra J. Arbuckle
Schwab Charitable Fund

Glasoe Fund: Dr. Timothy K. Knilans & Mrs. Teri M. Knilans

Chemistry Department Gift Account:

Dr. Richard S. Bellows
Caterpillar Foundation
Dr. Lynn N. Carlton & Mrs. Betty Lou Carlton
Ms. Linda J. Crosby & Mr. Bradley L. Crosby
Dr. Vincent J. Davisson & Mrs. Antoinette Davisson
Mrs. Jennifer DeCerbo & Mr. Anthony DeCerbo
Dr. Thomas A. Gallo
Dr. Lydia M. Kisley
Mrs. Wendy D. Miller
Mr. Robert Mitchell and Mrs. Sheila Noonan Mitchell
Vanguard Charitable Endowment Program
Dr. Terrence L. Pansino & Dr. Elizabeth A. Prosser
Mr. Robert J. Hrebek
Mr. Brad D. Snider & Mrs. Tina Snider
Dr. Richard L. Sorensen & Mrs. Dawn Sorensen
Ms. Lynn A. Werner & Mr. Mark C. Werner

To contribute to the chemistry department and/or the Wittenberg Fund, [click here](#):

Or mail donations to:
Wittenberg Fund
Wittenberg University
PO Box 720
Springfield, OH 45504

Teaching Award Announced



Dr. Stephanie Eveland Parrott has been named the 2021 recipient of the Provost Award for Outstanding Teaching which "recognizes the highest level of teaching excellence by a visiting or adjunct faculty member at Wittenberg University". This award is based upon nominations from the faculty and selected by the members of the Faculty Development Board in consultation with the Provost. Stephanie has served as a Visiting Assistant Professor in the Chemistry Department since Fall 2019, teaching inorganic chemistry, general chemistry and chemistry for nursing majors. We are proud to have a second recipient of this award from the Chemistry Department (Daniel Marous won in 2019).

Department Publications & Presentations

Despite the pandemic, Wittenberg faculty and students have continued to publish and present their work. Notably, Professor Emeritus Dave Finster authored/co-authored three articles in a special safety edition of the *Journal of Chemical Education (JCE)*, and Professor Justin Houseknecht's work with co-author Lucy Bates('22) was published in a special JCE issue on teaching during the pandemic. Dr. Houseknecht's work was featured in both *Chemical World* and *Chemical and Engineering News*. BMB major Michael Bates ('22) won an award for his poster at the Kentucky Academy of Science.



Lucy Bates ('22) and Prof. Houseknecht

Department Publications

Finster, D. C., RAMP: A Safety Tool for Chemists and Chemistry Students. *Journal of Chemical Education* **2021**, *98* (1), 19-24.

Finster, D. C.; Jackson, P., Comprehensive Undergraduate Safety Instruction. *Journal of Chemical Education* **2021**, *98* (1), 39-44.

Finster, D. C.; Murphy, K. L., Writing the 2019 ACS Exam for Chemical Health and Safety. *Journal of Chemical Education* **2021**, *98* (1), 7-8.

Houseknecht, J. B. and Bates, L. K. Transition to Remote Instruction Using Hybrid Just-in-Time Teaching, Collaborative Learning, and Specifications Grading for Organic Chemistry 2. *J. Chem. Educ.*, **2020**, *97*, 3230-3234, DOI: 10.1021/acs.jchemed.0c00749.

Houseknecht, J. B.; Bachinski, G. J.; Miller, M. H.; White, S. A.; Andrews, D. M. Effectiveness of the Active Learning in Organic Chemistry Faculty Development Workshops. *Chem. Educ. Res. Pract.*, **2020**, *21*, 387-398, DOI: 10.1039/C9RP00137A

Presentations

Investigating Grafting of 5-Amino-8-Hydroxyquinoline to Glassy Carbon Electrodes for the Detection of Metal Ions, Rachel Kaiser, Kristin K. Cline, Pittcon (virtual) March 2021.

Grafting and Adsorption of Nitroaniline to Gold Electrodes, Caroline E. Barth, Kristin K. Cline, Pittcon (virtual) March 2021.

Heavy Metals in Avian Eggshells and Yolks, Jillian Poska and Ray Dudek, American Chemical Society National Meeting (virtual), March 2021.

Investigation and Development of Models for Bacterial Resistance. Rachel Boyette and Daniel Marous. American Chemical Society National Spring Meeting (virtual), April, 2021.

An Exploration into the Antimicrobial Resistance of E. coli Toward Essential Oils, Michael Bates* and Daniel Marous, Kentucky Academy of Science Annual Meeting (virtual), November, 2020. *Student Competition Winner.

Can our understanding of antibiotics limit the spread of bacterial resistance? Rachel Boyette and Daniel Marous, American Lutheran College Faculty Conference (virtual), October, 2020.

Alumni Updates

The 2020 Chemistry and Biochemistry/Molecular Biology (BMB) alumni panel, held over Zoom this year, featured Ali Thompson ('10), Erik Werstler ('12), Justin Unternaehner ('19), Taylor Bushman ('20), and Jennifer Kaiser ('10). Panelists shared their insights into careers in medicine, public health, industry and education.

Kia Armstrong Bryant ('05) presented a seminar to the department over Zoom on October 6, 2020: "Public Health: Saving the World One Population at a Time". Kia works for the CDC in the Data Management and Implementation Team, Clinical Research Branch, Division of Tuberculosis Elimination.

Rusmir Niksic ('96) visited Wittenberg in March and gave a presentation "Specialty Chemicals-Life After Wittenberg" describing work in the chemical industry at Clariant, where he is their head of the Business Unit Oil & Mining Services. His son, Amor, graduated this year with a BMB major.

Zach Miller ('10) is a scientist at NeuBase Therapeutics in Pittsburgh, developing medicines for rare diseases. We apologize for not including Zach's information sent last year—during the pandemic, Zach worked remotely for South College, developing online organic chemistry courses including online lab experiences. He taught six courses online during the pandemic while also doing volunteer tutoring via Zoom. He was employed as a Subject Matter Expert in Organic Chemistry for University of New England, creating online content.

Tabi Thompson ('06) works as a freelance proofreader and copyeditor, specializing in academic and scientific writing, in her new business, TT Editing.

Iris Qiu ('15) defended her PhD thesis in 2020 at Kansas University and accepted a job at AbbVie in Chicago where she is part of the LC-MS protein quantification and biomarker group in the drug metabolism and pharmacokinetics - bioanalysis department.

Emily Duderstadt ('16) defended her PhD thesis in April 2021. Many Wittenberg alumni and some faculty and staff were present on the Zoom defense. She is now a Postdoctoral Research Associate at Cincinnati Children's Hospital Medical Center.

Justin Unternaehner ('19) is working towards a Masters in Public Health at Johns Hopkins Bloomberg School of Public Health.

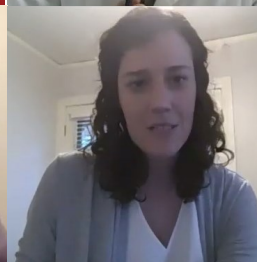
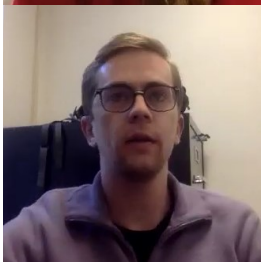
Andrew Palmer ('03) is now a Senior Corporate EHS Engineer at Crown Equipment Corporation .

Jonathan Umbel ('07) received the Outstanding Young Alumnus Award from Wittenberg in 2020.

To include your updates in the next department newsletter or to volunteer for serving on the alumni panel or presenting a seminar, send information to Mary Kelly at kellym21@wittenberg.edu



Rusmir Niksic ('96)



Kia Bryant ('05)

Alumni Panelists, top (l-r) Ali Thompson ('10), Erik Werstler ('12), bottom: Justin Unternaehner ('19), Jennifer Kaiser ('10).

Summer 2021 Research



Summer researchers, top row, l-to-r: Claire DeWeese, Rachel Boyette, Alex Callahan.
Bottom row: Amanda Lam, Mya Wolfe, Lucy Bates, Saqib Rasheed

Name (class year)	Hometown	Major(s)	Summer Project
Lucy Bates ('22)	Brownsburg, IN	BMB	Antibiotic Resistance in E. Coli: Tracking Plasmid Stability
Rachel Boyette ('22)	Lakewood, OH	Chemistry & Japanese	Honeybee DNA Extraction and Investigation of Primers for Identification, Comparison, and Mapping
Alex Callahan ('24)	Beavercreek, OH	Chemistry	Extraction, Characterization, and Purification of Oleuropein
Claire DeWeese ('22)	Indianapolis, IN	Chemistry & Biology	Development of a Model for Bacterial Antibiotic Resistance in E. Coli
Amanda Lam ('22)	Westerville, OH	Chemistry	Renovating Gen. Chem. II Lab: Prelab Adventures, Metacognitive Assessments, and a Forensics Capstone
Saqib Rasheed ('22)	Springfield, OH	Biology	Creating and Implementing Substance Analysis and Determination Experiments as a Part of a Forensics Capstone Lab for Chemistry 162
Mya Wolfe ('23)	Lebanon, OH	BMB	Electrode modification by Diazonium Grafting Tested in Copper Solutions

Department Drafts Anti-Racism Statement

The Chemistry Department held conversations over the past year about what we can do to make our department a more inclusive environment. We decided that one step was to communicate our intentions with the statement below. We have been working on this for the last year with the help of current majors, alumni, and on-campus experts. We would appreciate additional alumni feedback before posting it publicly. Please send comments to jhouseknecht@wittenberg.edu.

The Wittenberg Chemistry Department is aware of and dismayed by the under-representation of Black, indigenous, and persons of color (BIPOC) within our department, the field of Chemistry, and science more broadly. We endeavor to be more effectively anti-racist by working to better understand how our own unconscious biases contribute to this inequity and how we can contribute to overcoming this injustice. We will:

1. Continue reflection on our own biases,
2. Actively confront racism and microaggressions within our sphere of influence,
3. Post information about support and development opportunities in writing and online,
4. Financially support BIPOC students through work study, summer research, and Franta Scholarship programs,
5. Discuss racism in STEM as part of the seminar program,
6. Invite at least one BIPOC chemist to present their research in our seminar program annually,
7. Highlight the contributions of BIPOC chemists to our field,
8. Assess our students' perception of the racial climate within chemistry classes at Wittenberg annually,
9. Provide children in predominately Black BIPOC Springfield communities the opportunity to interact with Chemistry,
10. Implement hiring and mentorship practices to optimize BIPOC faculty and staff success.

2021 Student Award Winners

Sartoris Award for Outstanding Senior Chemistry Major: Christina Thompson

Outstanding Senior BMB Major: Amor Niksic

Patterson Award for Outstanding Junior Chemistry Major: Rachel Kaiser

James T. Gregory Award: Caroline Barth

Organic Award: Alexander Zysik

General Chemistry Award: Olivia Norbut, Emma Lindsey, Paige Kaiser

Franta Chemistry Interest Scholarship: Sophia Garcia, Grace Kennedy, Emma Lindsey, Connor Runyan, Elizabeth Schexnaider, Jessica Flick, Jessica Wells, Emma Ruby



Award winners (l to r):
Caroline Barth, Christina
Thompson, Rachel Kaiser

Class of 2021



Chemistry graduates, left-to-right: Nick Weissman, Christina Thompson, Abbi Vina, Caroline Barth.



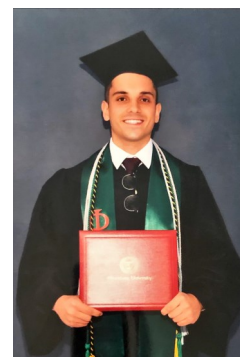
Ethan Belknap



Meseker Tefera



Jillian Poska



Amor Niksik

Chemistry and BMB Graduates

Wittenberg held two commencement ceremonies for the class of 2021, with science majors participating in the morning ceremony. Because we were unable to celebrate commencement in 2020, the department held a special “jacket ceremony” for our class of 2020 graduates in January 2021 (see photo, last page).

Post graduation plans for our Biochemistry/Molecular Biology majors:

Amor Niksic is working as a Medical Assistant at Blue Fish Pediatrics in Houston, Texas.

Jillian Poska is a University Fellow in the Ohio State Biochemistry graduate program.

Meseker Tefera is working for Titan laboratories in Tucson, Arizona as a Chemist testing for cannabis safety.

Ethan Belknap and Sydney Perry have not shared their plans with us.

Post graduation plans for our Chemistry majors:

Caroline Barth is attending Bowling Green State University in the Masters of Science in Biology program.

Christina Thompson is a student in the chemistry Ph.D. program at the University of Kentucky.

Abbi Vina is working as a Scientist at JFR America in Audubon, Pennsylvania.

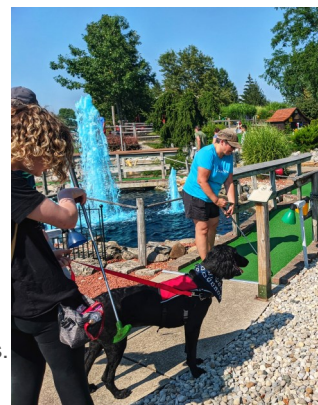
Nick Weissman is attending the University of Cincinnati College of Medicine.



Prof. Emeritus Dave Finster returned to teach fire safety to general chemistry students.



Class of 2020 members Katie Robinson, Caitlyn Hum and Reyna Ayala receive department jackets.



Dr. Ray Dudek (left) and Dr. Stephen Dudek (right) after Stephen's department seminar.



Summer research outing to Youngs.

Wittenberg Homecoming—October 8-10

BMB and Chemistry Alumni Panel tentatively 4:30-5:30 p.m. in room 248 of the Barbara Deer Kuss Science Center. See [Homecoming web page](#) for schedule of events and other information.

Wittenberg University Department of Chemistry

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www.wittenberg.edu/chemistry



Check out the department postings on [YouTube](#), Instagram and [Facebook](#).



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