



Periodic Times

Wittenberg University Department of Chemistry
Catalyzing Student Success

2015-16 Highlights:

Department welcomes Erin Neely, new administrative assistant, replacing Ginny Harkins who retired this year.

Chemist John Warner presents IBM lecture.

Justin Houseknecht wins teaching award.

Anna Gutridge ('17) wins poster award at local ACS meeting.

Leo Vo ('17) presents at National ACS meeting.

Franta fund growth sparks plan for chemistry scholarships.

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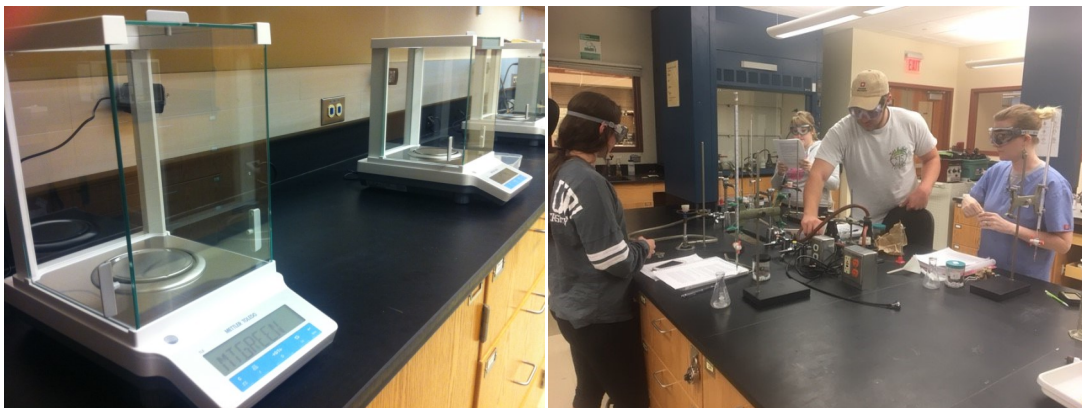
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Volume X

Summer 2016

Dr. Justin Houseknecht Wins Wittenberg Teaching Award

Congratulations to Dr. Justin Houseknecht, who was named winner of Wittenberg's Collegium Award for Excellence and Innovation in Teaching. Candidates for this annual award are nominated by other faculty, and the recipient is chosen by a faculty committee who reviews nomination materials from the finalists. Justin's recent teaching innovations include a "flipped classroom" approach –in which students view his videos on course concepts before class and work during class in groups to solve and record solutions to problems using iPads. His newly developed course on toxicology has students presenting content to the class throughout the semester. The committee that evaluated the award nominees praised Justin's commitment to outstanding teaching, thoroughness in class preparation, and willingness to introduce new approaches in the classroom.



Department Spends Summer on General Chemistry Lab Revisions

In addition to the usual research activity in the department this summer, faculty met weekly to revise the general chemistry lab experience, following up on our Strategic Plan initiative to improve student performance in introductory courses. Changes being implemented this fall include having students work individually more often, and gathering students together at the end of lab for calculations and for discussion of results. These revisions are designed to promote better real-time understanding of experiments and to reinforce their connection to course material. Thanks to generous donations from alumni and friends, the department was able to purchase equipment, including several additional analytical balances, to make these lab changes possible.

Summer Research 2016



Top: Keaton Wood, Nick Rigel, Leo Vo, Braden Crouse.
Middle: Barbara Lafranzo, Brandon Miner, Sarah White, Riley Alexander; Bottom: Sabrina Davis, Natalie Nguyen, Kayla Burkhardt, Jessica Skogland.

Name (class year)	Hometown	Major	Summer Project
Riley Alexander ('17)	Zionsville, IN	Chemistry	Solid Phase Extraction of Lead (II) from Aqueous Solution Using Modified & Unmodified Carbon Particles & Investigation of Lead in Soil Samples
Kayla Burkhardt ('18)	Novi, MI	Chemistry	Comparing Heat Capacities of Ions in Aqueous Solutions Heated in Microwave Ovens versus Conventional Methods
Braden Crouse ('17)	Cleve, OH	Chemistry	Solid Phase Extraction: A Method for the Pre-Concentration of Copper Ions from Buffered Solutions Using Modified Carbon Particles
Sabrina Davis ('18)	Upper Arlington, OH	BMB	Using Thermodynamic Integration to Calculate ΔG Binding of Glucose for Asp \rightarrow Cys-236 Mutated GGBP
Barbara Lafranzo ('18)	Oswego, IL	Chemistry	Nucleophilic Aromatic Substitution Reactions and their Development and Importance in the Context of Undergraduate Level Education
Brandon Miner ('17)	Hamilton, OH	BMB	A Sequence Comparison of Cytochrome Oxidase I in <i>Hadenococcus cumberlandicus</i> Populations Found in the Sloans Valley Cave System, Pulaski County, Kentucky
Natalie Nguyen ('17)	San Jose, CA	BMB	Measuring the Free Energy Change of Binding of Glucose to Glucose-Galactose Binding Protein
Nick Rigel ('18)	Springfield, OH	Chemistry	Measuring the Free Energy Change of a Mutated GGBP using Umbrella Sampling with Limited Position Restraints
Jessica Skogland ('18)	Westerville, OH	Chemistry	Determination of Adulterated Extra Virgin Olive Oils using Principal Component Analysis of Infrared Spectra
"Leo" Phuc Vo ('17)	Ho Chi Minh City, Vietnam	Chemistry	Investigations into the Effect of SMD Solvent on Nucleophilic Substitution Reactions and with M06-2X
Sarah White ('18)	Norton, OH	Chemistry	Did the 2015 Active Learning in Organic Chemistry Mini Workshop Change Anything?
Keaton Wood ('18)	Mansfield, OH	BMB	Analyzing the Effects of a Better Leaving group for Nucleophilic Acyl Substitution

Alumni Notes

Editor's note: We apologize if any alumni notes were lost in the transition of our administrative staff. Please send your updates again for next year if you do not see them here!

Virginia Ellis Franta ('36) celebrated her 102nd birthday in July.

Sean Murphy ('15) is a Laboratory Technician at Sure-Tech in Indianapolis, IN.

Rachel Saylor ('10) received her PhD in Chemistry from the University of Kansas in May 2016.

Lydia Kisley ('10) is working as a postdoctoral researcher at the University of Illinois.

Craig Westphal ('99) joined SABIC in Nov, 2015 as a Senior Manager in Corporate Technology and Innovation at its Albany, NY site, where he leads a team of scientists as part of the company's global analytical organization. Craig was previously with Chemours via the DuPont spin-off, where he was a Principal Investigator and lab manager in the Titanium Technologies business.

The following alumni stopped by the department in the past year and signed our guest book:

Nicole Perry ('14), graduate student at Vanderbilt (alumni panelist).
 Jonny Price ('13), dental student at The Ohio State University (alumni panelist).
 Tom Mori ('13), graduate student at the University of Tennessee (alumni panelist).
 Garrhett Via ('15), medical student at The Ohio State University (alumni panelist).
 Travis Green ('15), graduate student at Bowling Green State University.
 Stephanie Smith ('15) teacher at Springfield's Global Impact Academy.
 Rachel Saylor ('10), postdoctoral researcher at the University of South Carolina.
 Brigitte Tolbert Smith ('89).
 John Paes ('97), Physician Endocrinologist in Columbus.

To include your
 updates in the next
 department newsletter
 and/or to send
 changes in
 e-mail addresses,
 write to
neelye@wittenberg.edu



October 2, 2015 Alumni Panel. L to R: Garrhett Via '15, Tom Mori '13, Nicki Perry '14 and Jonny Price '13.

Witt Communication Students Produce "Why Chemistry" Video

Four alumni— Tom Mori, Nicole Perry, Jonny Price and Garrhett Via —are featured in a new video describing their experiences as Wittenberg Chemistry majors. As part of our strategic plan initiative to advertise the chemistry major to current and prospective students, Dr. Amil Anderson recruited the Wittenberg Media Corps—a group of Communications majors—to produce a video highlighting the benefits of majoring in Chemistry. See the "success stories" link on the Wittenberg Chemistry web site (www.wittenberg.edu/chemistry) to view it.

Chemistry & BMB Majors Receive Department and University Awards 2015-16

Sartoris Award for the Outstanding Senior Chemistry Major: Chelsea Horvath

Outstanding Senior BMB Major: Emily Duderstadt

Patterson Award for Outstanding Junior: Phuc (Leo) Vo

James T. Gregory Award: Phuc (Leo) Vo

Organic Award: Keaton Wood

General Chemistry Award: Karen Wildemann

Presidential Scholar: Phuc (Leo) Vo



At left: Leo Vo at Honors Convocation with Interim President Dick Helton

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or go to:
www.wittenberg.edu
and, under Alumni,
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Thanks to these recent chemistry department contributors

The department received generous gifts and bequests the past year from the following:

Franta Fund: Mrs. Virginia Franta

Glasoe Fund: Dr. Timothy and Mrs. Teri Knilians

Sartoris Fund: Dr. William H. Bunnelle & Ms. Leslie V. Evans

Biochemistry Gift Account: Mr. Christopher L. McCoy, Ms. Madelyn H. Miller

Chemistry Department Gift Account:

Dr. David L. Brown &
Ms. Andrea R. Adams
Mrs. Mary Anne Felker
Dr. Jessica S. Hoane &
Mr. Anthony Holman
Ms. Lydia M. Kisley
Mr. Nestor L. Melnyk
Ms. Cassandra M. Clement
Mrs. Laura J. Merchak
Ms. Carrie S. Miller

Drs. Nicholas & Elizabeth Pierson
Dr. Jessica Louise Pizzuli
Dr. Richard L. Sorensen
Mrs. Dawn Sorensen
Mr. David Lee Wackerow
Dr. Kimberly Anne Walker &
Mr. Paul J. Banta
Mr. Erik M. Werstler
Mr. Harrison J. Wood

We also express our appreciation to all of our alumni and friends who have contributed to Wittenberg University in other ways.

Faculty & Staff Notes



Amil Anderson continues to teach general chemistry and biochemistry. Three students worked with Amil this summer to extend his research project on the energetics of sugars binding to proteins using molecular dynamics simulations. At the end of July, Amil and his students traveled to the MERCURY Undergraduate Computational Chemistry conference at Bucknell University where the students presented their results. He continues to oversee Wittenberg's scientific computing cluster. He took a week long vacation in August to the Southwest, specifically Prescott, AZ and Las Cruces, NM. This past academic year, Amil spent a lot of time on college visits and financial aid matters as his son Aidan worked towards graduation from high school in May. Aidan is following the family tradition of liberal arts education by heading to Vassar College in the fall. His daughter Amelia, a junior at Davidson College, will be studying abroad in Peru this fall as a part of her Latin American Studies major. In his spare time, Amil continues his study of the classical guitar.



Kristin Cline continues to enjoy not being department chair. She taught in the First Year Seminar program for the first time last year. She and two research students traveled to Atlanta over spring break to present electrochemistry and solid phase extraction projects at Pittcon. She is taking a fall sabbatical leave and will return to teaching general and analytical chemistry in January. Daughter Merrill is a high school junior, with marching band, musicals, and Air Force Jr. ROTC drill team keeping her busy. Rachael entered 5th grade and loves reading and baking. Both girls enjoy sunfish sailing in the summer. Husband Matt stays busy filming and editing with his cinematography business.

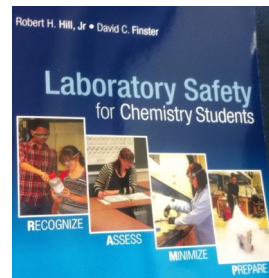


Ray Dudek mentored two research students this summer. He is heavily involved in the freshman seminar program in addition to teaching the usual general chemistry and physical chemistry courses.

Faculty & Staff Notes



Dave Finster was on half-time administrative leave during 2015-16 to address the documentation of safety policies and practices in the Chemistry Department. He taught general chemistry in the fall and inorganic chemistry in the spring. Dave is the chair of the Education Subcommittee of the ACS Committee on Chemical Safety and also the chair of the (new) Safety Committee in the Division of Chemical Education. These roles get him to both the fall and spring ACS national meetings (and he is happy to connect with Witt alumni at these meetings). In spring 2016 the second edition of *Laboratory Safety for Chemistry Students* was published. Dave volunteers for Miami Township Fire-Rescue in Yellow Springs and plays bass in a bluegrass band (<http://madriverrailroad.com/>) and euphonium in the Yellow Springs Community Band. He also plays with Al D. Hyde and the Key Tones at the BCCE conferences.



Pete Hanson has enjoyed teaching a new course for students in the Nursing program, using a blended classroom/online format. He has also kept busy within the faculty governance system. Outside of Witt, he volunteers at the Dayton Society of Natural History, helps to coordinate a local beekeeping club, and enjoys raising both chickens and bees.



Justin Houseknecht continues to develop active learning pedagogies. He led several professional development workshops in the last year helping other faculty to adopt these teaching strategies, and he published an article and two book chapters in this area. Wittenberg acknowledged his efforts in the classroom with the 2016 Collegium Award for Excellence and Innovation in Teaching. His research students use computational chemistry to examine the effects of aqueous solvent on organic reactions and have begun to examine the effectiveness of the professional development workshops that he facilitates. He has served as chair of the department since July 2015. The family continues to do well with everyone getting more interested in rock climbing. Anna is also exploring her musical ability with choir, clarinet, bassoon, and guitar while Nate is staying in perpetual motion with basketball and baseball. Justin and Valerie continue to enjoy running, biking, and swimming, though not as competitively as a few years ago...



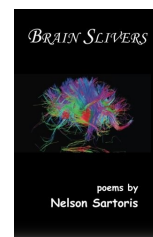
Erin Neely accepted her position at Wittenberg in February of this year as the departmental assistant for Chemistry, Physics, and the BMB program. She came with 10 years of experience in fundraising and development, but decided to reduce her hours and take advantage of having the summer off to spend more time with her children, Mallory (8) and Evan (5). Erin and her family attend Maiden Lane Church of God and try to stay involved and engaged in community activities.



Dick York has stayed busy keeping our instrumentation running smoothly. He had to find replacement computers for a couple of older instruments. He made a load test platform for electrophoresis power supplies that allowed recording the output waveforms. In summer 2016 he and Emily Duderstadt ('16) added labels to our lab supply bottles to include the new GHS (Globally Harmonized System) label format. This will allow us to incorporate these labels into our safety training. He is working along with the general chemistry faculty to revise the Chemistry 121 lab program. A shift toward working singly in lab rather than in pairs will require a bit more in equipment and supplies, but we hope it will allow for more individual growth in students. Richard continues to perform as clarinetist with the Springfield Symphony, with the Triple Bond Trio, and with a newly reactivated Wittenberg Woodwind Quintet.



Professor Emeritus Nelson Sartoris recently published a book of his poetry *Brain Slivers*, available on Amazon, is described as "a collection of poetry that serves as a personal milestone for a fledgling poet inspired by many muses." Nelson and Mary Lou reside in Asheville, NC.





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2016 Chemistry Graduates

Emma Brems plans to take a year off from school and find employment before going to graduate school to get her Masters in Higher Education.

Chelsea Horvath received graduate school offers in forensic science from several universities. She recently accepted a chemist position in the analytical development section of West-Ward Pharmaceuticals in Columbus.

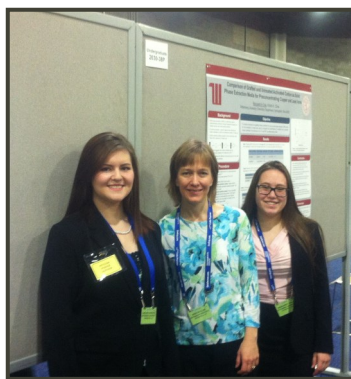
Sophia Melnyk accepted a Clinical Research Coordinator II position at Cincinnati Children's Hospital Medical Center.

Drew Schaller took courses to complete his degree over the summer.

Rebecca Shreffler spent the summer at Camp Wesley. She is seeking employment.



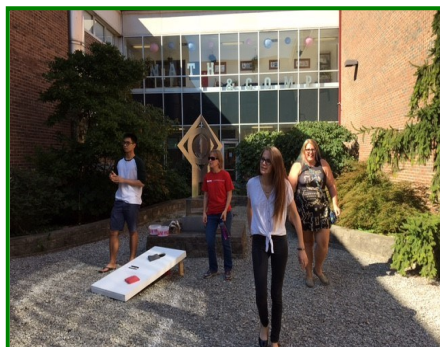
Chemistry majors, left to right: Rebecca Shreffler, Emma Brems, Chelsea Horvath, Sophia Melnyk, Drew Schaller



Chelsea Horvath, Dr. Cline and Maggie Cole at Pittcon.



Anna Gutridge, Bradon Miner, Rebecca Holmes, Maggie Cole, and Leo Vo at the Dayton ACS poster session



Chem Club's
Ice Cream
Social

2016 Biochemistry/Molecular Biology Graduates



BMB majors, with Ginny Harkins (center).

Left to right:
Chris McCoy, Brandon Cottman, Brooke Brauer, Waverly Hebert, Rebecca Holmes, Madelyn Miller, Margaret White, Chi Nguyen, Margaret Cole, Emily Duderstadt, Kyra Peczkowski, Luke Mullins

Brooke Brauer has been accepted to graduate school at Dartmouth College in the Experimental and Molecular Medicine Program.

Ross Cirincione has been accepted to graduate school at Xavier University in Health Service Administration and Business Administration.

Margaret Cole is working at Procter & Gamble as an Analytical Enzyme Analyst.

Brandon Cottman has not shared his plans.

Emily Duderstadt is attending the University of Louisville to pursue a PhD in Biochemistry and Molecular Genetics.

Waverly Hebert has not shared her plans.

Madelyn Miller has been accepted to the PhD Program in Biomedical Sciences at the University of Central Florida.

Rebecca Holmes has not shared her plans.

Christopher McCoy is enrolled at Wright State University Boonshoft School of Medicine.

Steven Luke Mullins is studying for the PCAT.

Chi Nguyen was accepted to dental schools, but for now is a graduate student at Boston University studying Computer Information Systems.

Kyra Peczkowski is a graduate student in the Human Genetics program at Virginia Commonwealth University.

Margaret White is a student in the Pharmacology MS program at the University of Cincinnati.



At left: Jessica Skogland ('18) at the Girl Scouts Science Night sponsored by the Witt Chemistry Club



Above: John Warner (right), Perkin Medalist and founder of the Warner Babcock Institute for Green Chemistry, and Wittenberg's 2016 IBM lecturer, meets with Dr. Finster's Inorganic Chemistry class. Dr Warner gave two lectures at Wittenberg on February 18, describing his journey and some of his many recent green chemistry innovations.



Above: Emily Duderstadt '16 and her dog Lena