

Spring 2018

Division of Natural Sciences Spring 2018 Newsletter

Bridgewater College

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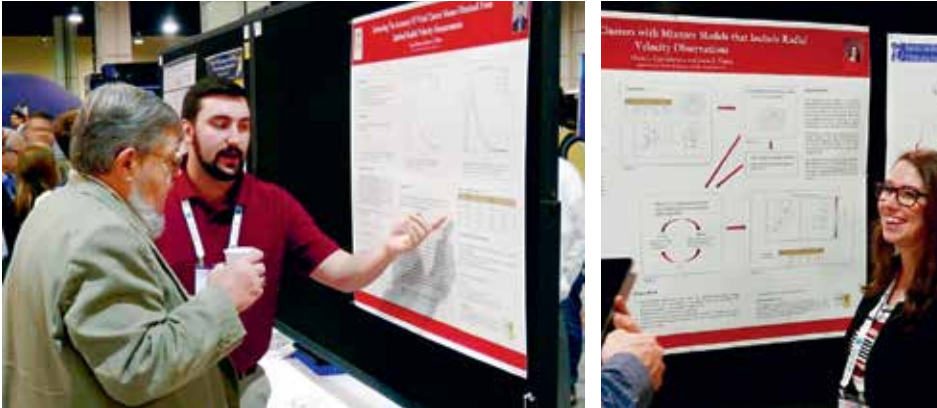
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NEWSLETTER

BIOLOGY | CHEMISTRY | MATHEMATICS AND COMPUTER SCIENCE |
PHYSICS | PSYCHOLOGY

SPRING 2018



Physics Majors Present Research at American Astronomical Society

On January 11, physics majors **Alexis Czarnatowicz** and **Sean Alberts** presented their research at the American Astronomical Society meeting in Washington, D.C. Both students spent last summer working on astrostatistics projects with **Dr. Jason E. Ybarra**, Assistant Professor of Physics. Alexis received the Virginia Foundation for Independent Colleges (VFIC) Undergraduate Science Research Fellowship, and her project was “Identifying clusters with mixture models that include radial velocity observations.” Sean received a grant from The Research Experience @ Bridgewater (TREB), and he presented “Estimating the accuracy of virial cluster masses obtained from limited radial velocity measurements.”



Dr. Moshe Khurgel, Associate Professor of Biology, works on research with a student.



MESSAGE FROM THE DIVISION HEAD

Greetings, Alumni and Friends!

We are nearing the end of another busy academic year. While our students and faculty devote much of their energy to academic work, we are also enthusiastic about other activities that enhance our community. Our faculty are passionate educators who also mentor students and give of themselves in countless ways so that we learn from each other what it means to live in community.

When I look back at the activity in our division, I'm struck by the number of ways our community serves. We take seriously our commitment to bring up the next generation of scientists, but we also strive to develop scientists who live as engaged and connected people. Whether we serve the next generation of Eagles, our disciplines, our current students, or each other, all that we give strengthens our community.

Best,

Phil

Dr. Phil Spickler
pspickle@bridgewater.edu

FACULTY NEWS

Congratulations to **Dr. Tamara Johnstone-Yellin**, Assistant Professor of Environmental Science, for being awarded tenure and promoted to Associate Professor in the Department of Biology. Dr. Johnstone-Yellin earned her Ph.D. in Environmental and Natural Resource Sciences (Wildlife Ecology) from Washington State University and teaches a variety of environmental science and biology courses at Bridgewater. Dr. Johnstone-Yellin is an active scholar, with a joint venture research agreement with the United States Forest Service studying the diet of white-tailed deer. She also serves in leadership positions in professional organizations, including serving as the current chair of the Scientific Advisory Committee for the Wildlife Center of Virginia.

Dr. Joseph Crockett, Professor of Chemistry, has been appointed to a new committee of the American Chemical Society (ACS) Division of Chemical Education's Examinations Institute. This committee is charged with preparing the 2019 Chemical Safety Examination, and appointments to it are made from those individuals who have acquired skill and expertise in chemical safety issues.

Dr. Erin Miller, Associate Professor of Psychology, has been awarded a Bridgewater College Faculty Research Grant for the 2017-2018 academic year. Her study, "The Relationship between Theory-Based Reasoning and Conceptions of Athletic Ability," will expand the knowledge base regarding how individuals conceptualize their athletic ability and will be of interest to teachers and coaches as they develop plans to motivate individuals to meet their athletic potential.

Dr. Ellen Mitchell, Associate Professor of Chemistry, co-authored a paper that appeared in the peer-reviewed journal *Physical Chemistry Chemical Physics*. The article, "Atmospheric chemistry of CH_3CHO : the hydrolysis of CH_3CHO catalyzed by H_2SO_4 " described research from a collaboration begun during Dr. Mitchell's year-long sabbatical several years ago at Tsinghua University in Beijing, China.



Serving the Next Generation

So what does a scientist look like? If images of someone wearing a lab coat with messy hair, thick glasses and a pocket protector crammed with every pen imaginable come to mind, you're probably not alone. **Dr. Sara Fitzgerald**, Associate Professor of Chemistry, bases her first-year seminar course on a theme that explores some myths developed from the "bad press" associated with science's failures. These myths manifest themselves in a variety of ways, sometimes making it seem that science is incomprehensible, or only understood by particular individuals.

"In reality, a strong sense of curiosity and a willingness to hypothesize, test and observe are all that's necessary, and it would be great if all types of learners could see themselves as scientists."

Dr. Fitzgerald explored this idea with her first-year class, and they developed a service project designed to help a group of elementary school students develop a positive image of science and combat the myth that science is only for "certain types" of kids. "In reality, a strong sense of curiosity and a willingness to hypothesize, test and observe are all that's necessary, and it would be great if all types of learners could see themselves as scientists," said Dr. Fitzgerald.

Changing culture is a tall order, but sometimes the smallest changes can be profound. Dr. Fitzgerald's class worked together with the BC Chemistry Club and connected with

Amaris Meredith (mother of BC chemistry major Wesley Meredith), who teaches second-grade science in the Giles County Public School system. Fitzgerald's class raised funds and purchased items that emphasized exploration of various topics in science, including star charts, periodic tables, seed packets and instructions for home experiments. The BC students packed these items into 33 backpacks and wrote a personally addressed note to each of the second graders whose bag they packed. The backpacks were delivered just before the holiday break in December. Although the excitement and smiles were the immediate reward, this project has planted the seeds of curiosity and confidence that may encourage these students to consider becoming part of the next generation of scientists.

Psychology Graduate School Fair

The second-annual "Psychological Services and Helping Professions" career fair was held in October 2017 on BC's campus. This event was co-sponsored by BC's Career Services, the Department of Psychology and the Virginia



Association for Psychological Science. Students were able to explore various opportunities for further studies in the "helping professions," which include a wide variety of careers such as those in

"There are a lot of different branches in the field of psychology, and it's great to see all the different opportunities one may take. The representatives were very friendly, and created a warm atmosphere for nervous college students not knowing where to go next."

social work, case management, behavior analysis, life coaching and addiction treatment.

One student commented, "There are a lot of different branches in the field of psychology, and it's great to see all the different opportunities one may take. The representatives were very friendly, and created a warm atmosphere for nervous college students not knowing where to go next."

EAST ROCKINGHAM HIGH SCHOOL STUDENTS VISIT BC CHEMISTRY DEPARTMENT

On February 16, approximately 30 students from East Rockingham High School visited the Department of Chemistry at BC. Led by their chemistry teacher, Tola Ogundipe, the students observed some demonstrations and participated in two hands-on analytical experiments. Half of the students were tasked with generating and measuring a spectroscopic calibration curve, while the other half analyzed unique mixtures of organic solvents in a simulated forensics experiment using gas chromatography. The field trip ended with an opportunity to talk to several BC chemistry majors and eat pizza.



The Heisey, Neher, Ulrich Endowed Fund

The Heisey, Neher, Ulrich Endowed Fund has been established in honor of three longtime *emeritus* faculty members from the Department of Chemistry and the Department of Physics. The fund honors **Dr. Lowell V. Heisey**, Professor of Chemistry, *Emeritus* (1950-1985); **Dr. Dean R. Neher**, Professor of Computer Science and Physics, *Emeritus* (1961-1994); and **Dr. Dale V. Ulrich**, Provost, Dean and Professor of Physics, *Emeritus* (1958-1961; 1964-1999); for their investment in their students' experience in and out of the classroom. Thanks to the generosity of three alumni, **Dr. Moses Chan** (Physics, '67), **Dr. Harold Furr** (Chemistry, '68) and **Prof. Larry White** (Chemistry, '65), this fund will ensure that our students continue to have access to high-impact learning practices outside of the classroom. Students will benefit from the fund as they attend conferences, conduct research and participate in other activities that will foster their development and success.

To learn more about this fund and ways to support it, please contact the Office of Institutional Advancement at bcadvancement@bridgewater.edu or 540-828-5448.

► NATURAL SCIENCES 2018 COLLEGE AWARD WINNERS

BIOLOGY

Excellence in Biology Award

Chandler Parker, Haley Roddy, Erin Moberly

Excellence in Environmental Science Award

Rachel McCuller

Outstanding Research Award in Biology

Jared Beuschlein

CHEMISTRY

First-Year Chemistry Award

Sarah Wampler

John W. Martin Award for Organic Chemistry

Chris Cavero

Garland L. Reed Endowed Chemistry Award

Mary Shingler

The Dr. Stuart R. Suter Endowed Scholarship

Cheyenne Mitchell, Wesley Meredith

The American Chemical Society Outstanding Senior Award

Carleigh Studtmann

MATHEMATICS AND COMPUTER SCIENCE

Outstanding Senior in Mathematics Award

Nicole Hylton

Outstanding Senior in Computer Science Award

Austin Lane

Outstanding Senior in Information Systems Management Award

Joseph Hays

PHYSICS

The Dale V. Ulrich Endowed Physics Scholarship

Jeremy R. Gingrich

PSYCHOLOGY

Donald R. Witters Psychology Awards:

Outstanding Academic Award

Katherine Weeks

Outstanding Research Award

Zachary Wall

Outstanding Leadership Award

Christina Herbert

save
the
date

SATURDAY, OCTOBER 13
H O M E C O M I N G

10 a.m.–Noon Meet with your academic department on the mall!



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