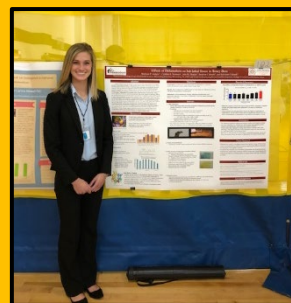
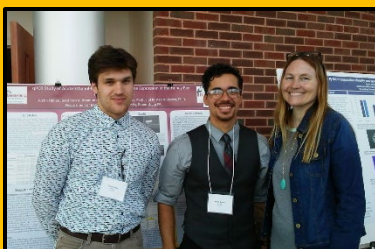


DEPARTMENT OF BIOLOGICAL AND ALLIED HEALTH SCIENCES

ANNUAL REPORT

2018



COLLEGE OF
SCIENCE &
TECHNOLOGY

**Bloomsburg
University**
OF PENNSYLVANIA

Bloomsburg University of Pennsylvania

Biological and Allied Health Sciences

Annual Report 2018 - Table of Contents

Chairperson Remarks.....1

Department Faculty

Joseph P. Ardizzi.....4

Kate A. Beishline.....5

Kristen D. Brubaker.....6

George P. Chamuris.....7

William L. Coleman.....8

Clay E. Corbin.....10

George T. Davis.....11

Lauri Green.....12

Carl Hansen.....13

Abby Hare-Harris.....14

Karl W. Henry, Jr.16

Angela R. Hess.....17

John M. Hranitz.....19

Judith A. Kipe-Nolt.....21

Thomas Scott Klinger.....22

Candice M. Klingerman.....24

Barry N. Nolt.....25

Steven T. Rier.....26

William F. Schwindinger.....28

Cynthia Surmaz.....29

Jennifer J. Venditti.....31

Kevin J. Williams.....32

Marianna D. Wood.....33

Temporary Faculty

Zareen Amin.....34

Jonathan Bobek.....34

Deborah Heitzman.....35

Sean Hartzell.....35

Alex Hoke.....37

Evan Houston.....37

Department Staff

Melinda S. Diltz.....38

Amy Hettinger.....38

Department Programs

Graduate Program.....39

ABLE.....48

Tri Beta.....49

BAHS Club.....50

Seminar Series.....51

2018 Graduates.....54

Donors.....56

Alumni Speakers.....57

BioSynthesis.....58

Support BAHS:

<https://giving.bloomu.edu/biology>

Department of Biological and Allied Health Sciences

Chairperson Remarks

Angela R. Hess



This annual report highlights many of the accomplishments of our faculty and students during 2018. We had a very exciting year and I am delighted to share with you all that has been happening. Please feel free to contact me – ahess2@bloomu.edu for more details. I am always happy to talk with you about our programs, our faculty, and the success of our students.

Vision Statement –

The Department of Biological and Allied Health Sciences aspires to:

- provide broad-based and contemporary curricula in biological and allied health sciences, preparing undergraduate and graduate students for related careers and advanced study. The curricula facilitate integration of scientific knowledge, concepts, skills, and practical applications; and cultivation of student capabilities in critical thinking and problem solving.
- foster a collaborative learning and research environment.
- offer all undergraduate students opportunities to incorporate an understanding of biological concepts and information into their general education in such a way as to contribute to their success in a diverse and rapidly changing world.

Degree Programs –

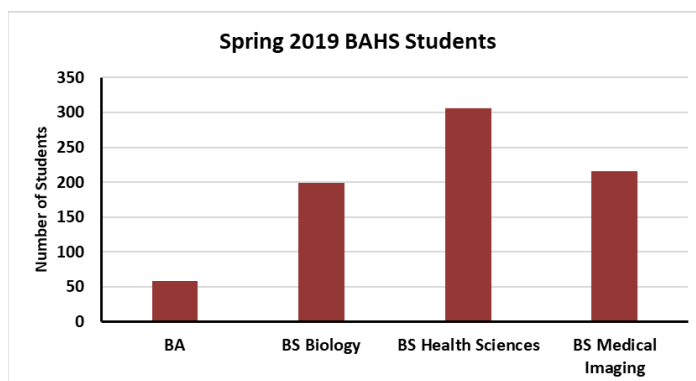
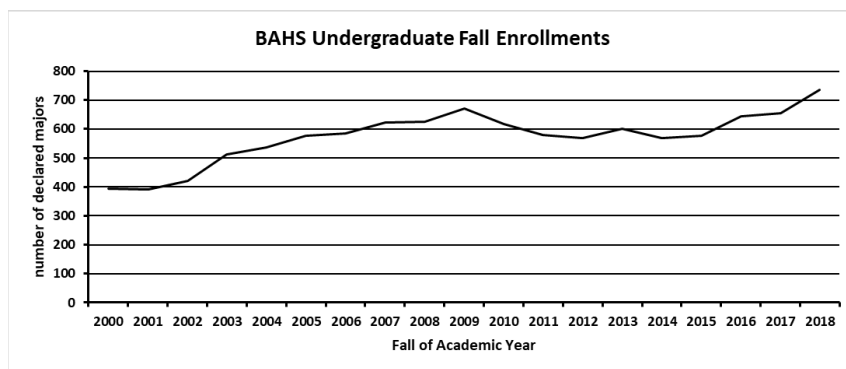
We offer five degree programs, encompassing a total of 14 different undergraduate and one graduate program of study, as well as a Certificate in Medical Genomics and Counseling:

BS Medical Imaging	BS Health Sciences
BS Biology	General
Environmental Biology	Medical Genomics and Counseling
Molecular Biology	Medical Laboratory Science
Pre-Medical Sciences	Pre-Accelerated 2 nd Degree Nursing
BA Biology	Pre-Pharmacy
Natural History	Pre-Physical Therapy
MS Biology	Pre-Physician Assistant

We recently launched an accelerated Master's degree program. This program, designed to be completed in five years will allow graduates to earn both a Bachelor's and Master's degree. This is an exciting opportunity for biology majors. A seamless progression of coursework that awards two degrees in just five years is extremely attractive to the best students. This option affords these students the opportunity to pursue graduate level work early in their academic career, allowing them to enter the job market with credentials much higher than graduates entering the workforce with just a Bachelor's degree. This option makes it more likely for our students to secure positions and advance their careers.

Enrollment –

The number of declared BAHS undergraduate majors has experienced a steady increase since fall 2014. This growth is attributed to several things including an increase in incoming freshman and transfer students, as well as an increasing number of internal transfer students. We are excited to see our program grow and look forward to steady increases in the future.



Departmental Seminar Series –

Under the direction of Dr. Thomas Klinger, the department continues to offer a regular seminar series. We started this effort in the fall 2017 and has grown in popularity. We outgrew our original location in an 80-seat lecture hall and now hold our weekly seminar in the large 240 seat Auditorium in Hartline Science Center! Seminars are offered nearly every Friday afternoon through the fall 2018 and spring 2019 semesters. Speakers include BAHS faculty, BAHS graduate students, BAHS alumni, and invited speakers. The seminar series is well attended by faculty and students and continues to promotes a culture of academia within the department.

Farwell to Dr. Zareen Amin

At the end of the fall 2018 semester Dr. Amin retired from the department. Dr. Amin has been an adjunct faculty member in our department for 20+ years. Dr. Amin earned her BS, MBBS in Medicine and Surgery at Dhaka University in Dhaka, Bangladesh and her M.Ed. in Community Health Education, Kent State



University. During her time with us, she taught Anatomy & Physiology I and II laboratories and lectures, Introduction to Nutrition, Human Sexuality, Human Biology and Medical Terminology. Dr. Amin has interacted with thousands of students over the years. She was a dedicated teacher who truly enjoyed stepping into the classroom every day. Her warm and friendly demeanor created a supportive learning environment in her classroom. She gave much of her time to mentoring and helping students become successful. Dr. Amin has been a wonderful colleague and we will miss her dearly. We wish her many happy years in retirement!



Joseph P. Ardizzi
Associate Professor

Ph.D. Cornell University
Genetics

Teaching

Genetics, Cell Biology laboratories, and Writing in Biology

Research Interests

I have worked on and am interested in the role of microtubules and related structures in meiosis and ascospore development in the fungus *Neurospora*, the genetic components of sexual phase development in this fungus, and the effects of mitotic and actin-myosin inhibitors on ascus development.

Service Activities

My most significant activities and contributions over this past year involve my work as Co-Chair of the Pre-Professional Student Advisory Committee, an interdepartmental group of advisors who work closely with students preparing for admission into the medical, dental, veterinary, optometry, and chiropractic professions. In fall 2018, we introduced our newer students to the roles of the Pre-Professional Advisory Committee in their career development and gave them advice and background on what is expected for pre-medical science students. I am also advisor for the Pre-Medical Sciences Club. This club coordinates visits from professional school admissions personnel, informational presentations by medical professionals, and outreach efforts to undergraduates interested in the medical sciences. The number of requests for meeting our students has been increasing as has the geographic area represented by these professional schools contacting BU.

Focus on Students

We have continued to enjoy the success of our students. Several of our current applicants have had early interviews and acceptances, and we hope and wish for our students' continued success. I and the other members of the Pre-Professional Student Advisory Committee are pleased that we have achieved an overall 90% acceptance rate for the period 1997 to 2018.



Kate A. Beishline

Assistant Professor

Jessica S. and Stephen R Kozloff Faculty

Fellow

Ph.D. Drexel University College of Medicine

Biochemistry

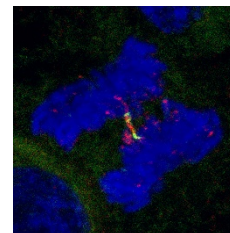
Teaching

Anatomy and Physiology I (Bio173) Laboratory

Cell Biology (Bio271) Lecture and Laboratory

Research Interests

My current research interests our focusing on pathways which regulate the transcription and replication of eukaryotic telomeres. More specifically I am focused on the mechanism by which the genome binding factor CTCF, and its only paralog BORIS are participating in the maintenance of telomere structures and how these functions may be important in cancer and normal cellular aging. I am currently working on two main projects with students. First we are interested in identifying the mechanism by which CTCF binding at the telomere is regulating telomere replication. Two undergraduate honors students, Lauren Bunnell (Junior HS/BS) and Kyle Mausteller (Junior Bio/BS), addressing different experimental aspects of this question. A former student, Justin Salak began this work in the laboratory in the summer of 2018. In addition, a graduate student, Ian Whiteside and several other undergraduates, including Tara Full (Chem/BS), will be continuing work on addressing the role of BORIS in telomere regulation beginning this summer.



Publications

Beishline K, Vladimirova O, Tutton S, Wang Z, Lieberman PM. CTCF Driven TERRA Transcription Facilitates Completion of Telomere DNA Replication. *Nat Commun.* 2017 Dec 13; 8(1): 2114.

Torabi B, Flashner, S, Beishline K, Sowash A, Donovan K, Bassett G, Azizkhan-Clifford J. “Caspase cleavage of transcription factor Sp1 enhances apoptosis in response to DNA damage.” 2018 Jan;23 (1):65-78.

Presentations

Beishline K. Maintaining our cellular instruction manual: Walking that fine line between cancer and aging. Beta Beta Beta Rho Chi Chapter new member Initiation. Bloomsburg, PA. October 2018.

Beishline K. Guardian of the Genome. The Conference of the Academy. Bloomsburg University. Bloomsburg, PA. August 2018.

Funding

Bloomsburg Faculty Research and Scholarship Award, Fall 2018-Spring 2019

Service Activities

- BAHS Awards and Activities Committee
- BAHS Equipment and Facilities Committee
- BAHS Planning and Assessment Committee



Kristen D. Brubaker
Associate Professor

Ph.D. Pennsylvania State University
Molecular & Cell Biology

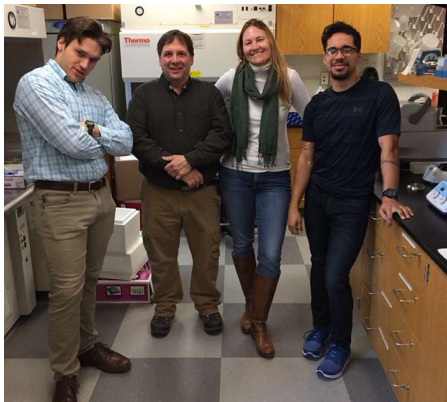
Teaching

Cell Biology lecture and laboratories; Molecular Biology laboratory; Immunology; Animal Cell Physiology, Cancer Biology and Cells, Genes & Molecules

Research Interests

My research interests lie in the regulation of the stress response in bees. I have been studying transcription factors that aid in the survival of invasive bees in conditions where honey bees would normally not survive. Students working under my supervisions have cloned, sequenced and characterized expression of factors linked to stress response and survival, *daf-16*, *hsf-1*, and *nrf2* in *Megachile rotundata*, a solitary thermotolerant bee. Summer of 2017, we also looked at expression of a hypoxia related factor, *hif1 α* , in response to heat stress. This past year, in collaboration with Dr. John Hranitz, we conducted experiments to verify changes in genes linked to stress, behavior and metabolism in honey bees in response to ethanol.

In 2016, I applied for a yearlong sabbatical, which was approved for the Spring/Fall 2018 semesters. In fall of 2017, my students and I treated honey bees with ethanol (or control) and isolated RNA for real time PCR experiments. We conducted these experiments to study gene expression changes indicated by an initial microarray experiment. In the spring/fall 2018 semesters, my students and I conducted real-time PCR experiments to verify gene expression changes in *hsc70-4*, *nrf2*, *egln1* and *foxp2* to name a few genes, in the ethanol treated bee samples. One of my students, Justin Heller, decided to work with me on his Master's degree pursuing genes in alcohol tolerance starting the fall 2018 semester.



Lab members pictured left to right:
Justin Heller, Drs Hranitz and Brubaker
and Jared Harris.



George P. Chamuris
Professor

Ph.D. SUNY College of Environmental Science and Forestry
Environmental and Forest Biology

Teaching

Dendrology, Comparative Biology of Plants, Human Genetics, Evolution, Human Evolutionary Genetics

Research Interests

Bark Ecology, Botany, Environmental Education

Over the past year I have made considerable progress on the Flora of Ricketts Glen State Park project. I am working toward two main project outcomes.

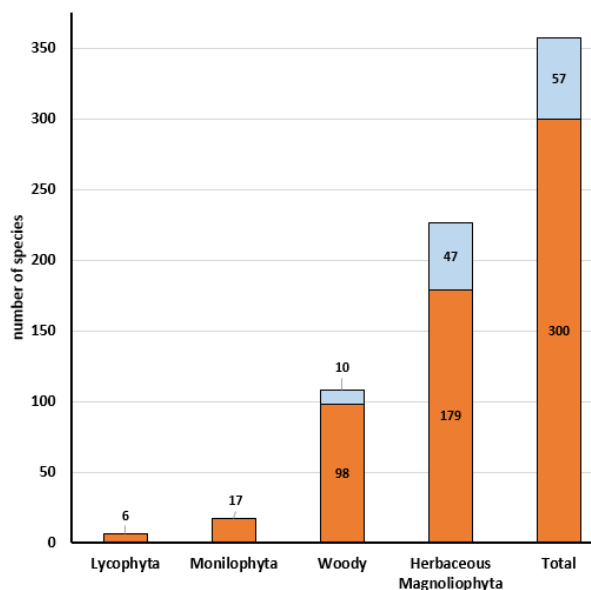
1. A full-color field guide to the vascular plants of Ricketts Glen State Park, excluding grasses. Most of the inventory and photography has been completed, and now the layout of the book is being planned. Also, the search for a publisher is in progress.

2. A paper presenting species occurrence data, taxonomic representation, wetland status, occurrence of non-native and invasive species is in preparation for submission to the journal *Northeast Naturalist*. As of November 2018, I have identified 357 species of vascular plants, excluding grasses. 300 of these are native plants, and 13 are important invasive species in Pennsylvania.

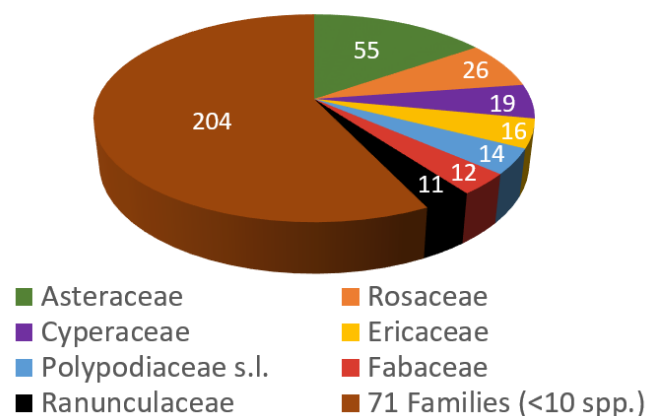
The 357 species are classified in 78 families, seven of which include at least 10 species and 22 of which include at least five species in the Park. Twenty-six new records of species occurrence in either or both Luzerne and Sullivan counties are being reported to the USDA Plant Database and other database lists. Two of the previously unreported species are invasive species.

More information can be found at http://department.bloomu.edu/biology/ricketts/flora_index.html

Vascular Plants at Ricketts Glen State Park
(357 Species, Excluding Grasses)



Number of Species by Family





William L. Coleman
Associate Professor

Ph.D. Lehigh University
Molecular Biology

Teaching

Neurophysiology for the Audiologist, Neurophysiology, Integrated Physiology Laboratory, Anatomy and Physiology Lecture and Laboratory, Human Physiology, Internship in Biology / Allied Health Science

Research Interests

Synaptic Physiology, Molecular Regulation of Cellular Secretion

Scholarly Activity

Conference Abstracts/Presentations:

- Ilgenfritz MJ and **Coleman WL**. “Investigating the Functional Role of GABAergic Signaling at the Lumbricus terrestris Neuromuscular Junction Using Synaptogreen C4 Dye and Confocal Microscopy.” Bloomsburg University COST Research Day, Fall 2018.
- Shultz E and **Coleman WL**. “Induction of Experimental Autoimmune Encephalomyelitis (EAE) in earthworms as a model for Multiple Sclerosis and its effect on muscle contraction.” Bloomsburg University COST Research Day, Spring 2018.
- Gala DN and **Coleman WL**. “Investigation of the distribution of the GABA-A receptor at the earthworm body wall muscle using immunohistochemistry and the confocal microscope.” Bloomsburg University COST Research Day, Spring 2018.
- Jeffreys K and **Coleman WL**. “Investigation of GABAergic signaling on vesicle pool dynamics at the earthworm neuromuscular synapse.” Bloomsburg University COST Research Day, Spring 2017.
- Chamberlin LL, Venditti JJ, and **Coleman WL**. “Investigating the presence of synapsin III in human sperm cells.” Bloomsburg University COST Research Day, Spring 2017.
- Knepley KD and **Coleman WL**. “Distribution of and colocalization of synapsin I, II, and III, and rab3a within the earthworm nervous system.” Susquehanna Valley Undergraduate Research Symposium abstract, 2016.
- Bartra SK, **Coleman WL**, and Venditti JJ. “Investigating the role of synapsin I during human sperm capacitation and acrosome reaction.” Bloomsburg University COST Research Day, Spring 2016, and Susquehanna Valley Undergraduate Research Symposium abstract, 2016.

Funded Grants:

Henry Carver Margin of Excellence Grant

“Investigating the Reproductive Role of Synapsin Proteins Using a Hamster In Vitro Fertilization Model System.”

Principal Investigator: Jennifer J. Venditti

Co-Investigator: **William L. Coleman**

Amount Funded: \$10,000 (May 2018-May 2019)

Research and Scholarship Research Mini Grant

“Investigating the Functional Distributions of Synapsin I, II, and III in Human Sperm.”

Principal Investigator: **William L. Coleman**

Co-Investigator: Jennifer J. Venditti

Amount Funded: \$4000 (ended May 2018)

Service:

-Elected to the University Wide Tenure Committee, Fall 2018

-BU IACUC



Clay E. Corbin
Professor

Ph.D. Ohio University
Biology

Teaching

Ornithology, Comparative Vertebrate Anatomy, Field Zoology, Vertebrate Zoology, Vertebrate Histology, Anatomy and Physiology laboratories

Research Interests

Evolutionary Ecology, Foraging Ecology, Functional Anatomy

In 2018, Dr. Corbin continued his student-based research program by mentoring Masters and undergraduate students in projects including museum collections, ecological morphology, foraging ecology, and birds and West Nile virus.

Publications / Presentations

- Maywald S, Corbin C, Williams L. 2019 (Pending). Potential environmental predictors of an important West Nile virus vector (*Culex restuans*) in Ruffed Grouse habitat. 2019 PA Wildlife Rehabilitation and Education Conference.
- Maywald S, Corbin C, 2019 (Pending). First-year results of a mosquito surveillance program in Ruffed Grouse habitats. 2019 PA Wildlife Society
- Paoletti, J and Corbin C. 2018. Inventory and condition of bird and mammal specimens at the regional vertebrate collection of Bloomsburg University. 2018 COST research day.
- In Preparation: The special case of bite force and head morphology in southern African birds. The Lark.
- In Press: Rico-Guevara A, Sustaita D, Gussekloo S, Olsen A, Bright J, Corbin C, Dudley R. 2019. Chapter 17. Feeding in Birds: Thriving in Terrestrial, Aquatic, and Aerial Niches. *In* Bels, V. et al (eds) Feeding in Vertebrates. Springer Verlag.
- Hager et al. 2017. Continent-wide analysis of how urbanization affects bird-window collision mortality in North America. *Biological Conservation* 212:209-215.
- Tucker Serniak L, Corbin CE, Pitt AL, Rier ST. 2017. Effects of Japanese Knotweed on avian diversity and function in riparian habitats. *Journal of Ornithology* 158:311-321.



Beginning Birding Mini-Course offered at
BU Continuing Education Program



Marine Ecology at the Chincoteague Bay Field Station



George T. Davis
Associate Professor

Ph.D. University of Illinois at Champaign-Urbana
Plant Molecular Biology

Teaching

Cells, Genes, and Molecules; Ecology and Evolution; Molecular Biology

Research Interests:

Genetic engineering of crop species. My lab has identified and functionally confirmed an iron transporter from oats (*Avena*). This transporter is the basis for the development of a means of delivering growth effector molecules with specificity to a target species. Using molecular methods, we have modified the transporter through mutagenesis to alter its structure, function, and specificity. This may increase the variety of molecules recognized and taken up. We have obtained confirmation that a synthetic iron chelator functions as well as its native counterpart. This is significant in that the new molecule (SA analog) is cheaper and easier to synthesize and may be a valuable supplement for application in iron poor soils. We have also continued research in the use of antibodies as tools for affecting plant growth and have obtained a patent for this technology.

In 2018, Dr. Davis continued his student-based research program by mentoring one Graduate Student (Jerome Betz). We have identified a region of an iron transporter protein isolated from oats (*Avena*) that contributes to the specificity of recognition iron and its cognate carrier and are in the process of mutagenizing this region. This may allow us to identify amino acids that are critical to the recognition and transport process. It will also allow us to expand the repertoire of transporters in furtherance of the main focus of the Davis lab, namely the use of this iron uptake strategy to develop a targeted delivery system of growth effector molecules to appropriately engineered crop species. We have engineered AvsYS1 into tomatoes, *Arabidopsis*, and have secured funding to move it into soybean. We have identified a unique iron chelating molecule that may have potential as a supplement under iron-limiting soil conditions. We have also isolated and partially sequenced the DNA encoding an antibody that will recognize and bind to an iron transporter in *Arabidopsis*.

Awards 2016-2018:

Patent awarded April, 2017, for invention: "A 'Trojan Horse' targeted delivery system for crop species"

Provisional Patent awarded April 2018 for Invention: "Compositions and Methods for Delivery of Molecules to Plants." This patent covers the use of engineering plants to make antibodies to affect plant growth and development

Fall 2018- Funding through BU President Hanna and the BU Foundation to engineer AvsYS1 into soybean

2016-2018—Multiple grants (~\$20,000) from Bloomsburg University and the BU Foundation to support our research



Lauri Green
Assistant Professor

Ph.D. University of California, Los Angeles

Scholarly Interests

My current project will investigate the role of artificial wetlands on the foraging behavior and reproductive success of Tree Swallows. Most of my previous research focused on quantifying the effects of eutrophication and applying models to reduce nutrient loads into aquatic ecosystems.

Publications

- 2018 Calle, L., **Green, L.**, Strong, A., Gawlik, D. Time-integrated habitat availability is a resource attribute that informs patterns of use in intertidal areas. *Ecological Monographs*. 1-21
- 2016 Calle, L., Gawlik, D., Xie, Z., **Green, L.**, Lapointe, B., Strong, A. Tidal periodicities and foraging time-constraints give insight into mechanisms driving a wading bird numerical response to changes in habitat. *The Auk*. 133(3): 378-396
- 2015 **Green, L.**, Fong, P. The good, the bad and the *Ulva*: The density dependent role of macroalgal subsidies in influencing diversity and trophic structure of an estuarine community. *Oikos*. 125: 988-1000. DOI: 10.1111/oik.02860
- 2015 **Green, L.**, Gawlik, D., Lapointe, B., Calle, L. Relative effects of physical and small-scale factors on the distribution of tropical seagrasses in the Great White Heron National Wildlife Refuge, Lower Florida Keys. *Aquatic Botany*. 124: 45-53
- 2015 **Green, L.**, Lapointe, B., Gawlik, D. Winter nutrient pulse and seagrass epiphyte bloom: Evidence of anthropogenic enrichment or natural fluctuations in the Lower Florida Keys? *Estuaries and Coasts*. 8(6): 1854-1871. DOI: 10.1007/s12237-015-9940-8

Presentations

- 2016 Can a model transferability framework improve ecosystem service estimates? A case study of Soil forest carbon sequestration in Tillamook Bay, OR, USA. A Community on Ecosystem Services Conference, Jacksonville, FL. December 5-9.

Funding

Oak Ridge Institute for Science and Education, Developing a Transferability Framework for Ecosystem Service Models, 1/1/2015-6/23/2017, (\$211,744)

Teaching

Biodiversity and Conservation (Biology 103)
Concepts in Biology 1 lab (Biology 114) and Concepts in Biology II lab (Biology 115)
Marine Ecology (Marine Science 260)
Biodiversity and Conservation (Biology 103)
Current Topics (Biology 489/589)
Research Biology 1 (Biology 390)

Service Activities

Curriculum committee, Environmental Biology Committee, Safety Committee, Thesis committees, co-director Environmental Science Learning Community, Husky Decision Day, Tri-Beta Mock interviews.



Carl Hansen
Professor

Ph.D. Penn State Hershey
Physiology

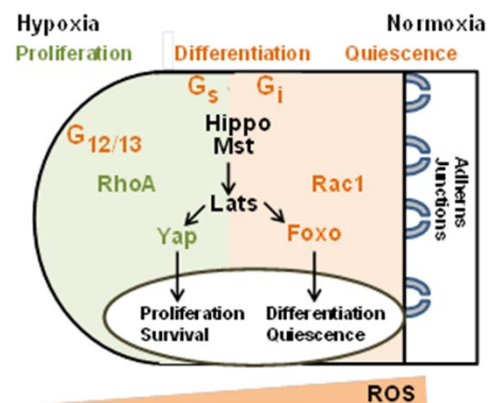
Teaching

Spring 2018 Sabbatical at Florida Atlantic University, Boca Raton, Florida
Fall 2018 Human Physiology, Developmental Biology, Integrated Physiology Laboratory

Current Research Project: G-protein mediated signaling inputs regulating angiogenesis

Angiogenesis is the process whereby new blood vessels sprout from preexisting vessels. This process requires endothelial cells to make cell fate decisions regulating growth, maturation, and quiescence of the newly formed vessels. Although important for physiologic situations such as wound healing, dysregulation of the signaling cascades underlying the angiogenic process contribute to many pathologic conditions including retinopathy, atherosclerosis, pulmonary dysfunction, and cancer. A growing body of evidence supports the involvement of G-proteins as both positive and negative regulators of the angiogenic process. Interestingly, *Gng11*^{-/-} mice lacking the G- $\alpha\beta\gamma$ 11 protein exhibit vessel overgrowth in the mouse retinopathy model.

Endothelial cells lacking the G- $\alpha\beta\gamma$ 11 protein exhibit delayed cell cycle exit and resumption of the quiescent state. These cell cycle changes are associated with altered Yap/Taz and Foxo1/3 transcriptional networks that control the switch between proliferation and quiescence. Based on these and other data, we hypothesize the G- $\alpha\beta\gamma$ 11 protein functions as an angiostatic switch to promote and maintain endothelial quiescence. Although largely dispensable under homeostatic conditions, we speculate that the G- $\alpha\beta\gamma$ 11 protein is critical for applying the “brake” that prevents pathologic angiogenesis.



Manuscript in Preparations:

Restraining Angiogenesis: A cell signaling pathway mediated through the G- $\alpha\beta\gamma$ 11 heterotrimer.

Service: Middle States Subworking Group
Chair, Department Promotion Committee



Abby Hare-Harris
Assistant Professor

Ph.D. Rutgers University
Microbiology and Molecular Genetics

Teaching

- Anatomy and Physiology 1 (Laboratory)
- Anatomy and Physiology 2 (Laboratory)
- Bioinformatics
- Concepts in Biology I (Laboratory)
- Freshman Seminar
- Current Topics in Biology: Medical Genomics

Research Interests

Genetics of Neurodevelopmental Disorders, Human Genetics, Bioinformatics

Funding

- BU Undergraduate Research, Scholarly & Creative Activity Award – Mikayla Ulicny, Summer 2018
- Commonwealth of Pennsylvania University Biologists Research in Biology Student Grant – Kyle Flannery, October 2018
- Faculty and Professional Development Travel Award, Conference Travel, 2017/2018
- Bloomsburg University Research & Scholarship Start-up Grant, May 2018
- Bloomsburg University COST Faculty Scholarly Activity Award, Start-up Funding, December 2017

Presentations

- A.E. Hare-Harris, et al.. Characterization of obesity in individuals with 16p11.2 deletions using electronic health record derived phenotypes in the DiscovEHR cohort. American Society of Human Genetics, San Diego, CA. October 2018 [poster]
- M.A. Ulicny, B.M. Finucane, V. Troiani, A.E. Hare-Harris. Evaluating the Neurological Phenotype of the 15q13.3 Deletion. Susquehanna Valley Undergraduate Research Symposium. Bucknell University, Lewisburg, PA. August 1, 2018 [poster]
- K.P. Flannery, A.L. Morehouse, A.E. Hare-Harris. Evaluation of increased BMI in individuals with 16p11.2 deletions. College of Science and Technology Research Day, Bloomsburg, PA. April 13, 2018 [poster]
- M.A. Ulicny, A.E. Hare-Harris. Evaluating the Neurological Phenotype of the 15q13.3 Deletion. College of Science and Technology Research Day, Bloomsburg, PA. April 13, 2018 [poster]
- Hare-Harris, Characterization of the 16p11.2 Deletion Phenotype. BAHS Departmental Seminar, Bloomsburg University, December 1, 2017
- Hare-Harris, Genetic Variants and Human Diseases. Human Genetics Guest Lecture, Bloomsburg University, October 31, 2017
- Hare-Harris, Genetics Is The Spice Of Life. Tri Beta Induction Ceremony, Bloomsburg University, October 22, 2017

Service Activities

- Beta Beta Beta Honor Society Co-Advisor
- Classroom Observation Subcommittee
- Equipment and Facilities Committee
- Planning and Assessment Committee
- COST Pathways In Science Career Panel Moderator
- APSCUF Coffee Nights
- LGBTQA Ally
- Tri Beta Mock Interviews
- BU Family Thanksgiving Volunteer
- Susquehanna Undergraduate Research Symposium Judge
- BU Science Iditarod Quizmaster
- Professional U Orientation Panelist
- Biology MS Thesis Committee Member



Karl W. Henry, Jr.
Assistant Professor

Ph.D. Medical College of Pennsylvania and Hahnemann
University Microbiology and Immunology

Teaching

Introductory Microbiology, Medical Parasitology, Medical Microbiology, Microbiology laboratory, Freshman Seminar

Research Interests

Regulation of multidrug resistance genes in pathogenic *Candida* species and the model yeast *Saccharomyces cerevisiae*.

Genetic regulation of hypha formation in *Candida albicans*.

Antimicrobial activity of fungal metabolites.



In addition to continuing his research investigating the spectrum of antimicrobial activity of fungal metabolites produced by the oyster mushroom *Pleurotus ostreatus*, Dr. Henry is also examining the genetic basis for hypha formation in *Candida albicans* in responses to environmental signals.

In 2018, Dr. Henry started serving as a liaison between Bloomsburg University and the Geisinger Medical Center (GMC). In this role, he has helped his Medical Laboratory Science students by coordinating field trips to the clinical laboratories, laboratory career presentations, and alerting students of employment or internship opportunities at GMC.

Service Activities

Commonwealth of Pennsylvania University Biologists, Bloomsburg University Director

Institutional Biosafety Committee, Chairperson

BAHS Tenure Committee, Chairperson

BAHS Pre-Professional Committee, Member

Bloomsburg University – Geisinger Medical Center medical laboratory science liaison



Angela R. Hess
Associate Professor and Department Chairperson

Ph.D. University of Iowa
Anatomy and Cell Biology
Focus: Molecular Medicine

Teaching

Anatomy and Physiology I and II lecture and laboratories, Introduction to Nutrition, Medical Terminology, Cancer Biology.

Research Interests

My lab explores the molecular mechanisms that promote melanoma development and progression to a metastatic phenotype. I focus specifically on the receptor tyrosine kinase, EphA2, whose expression is increased in highly aggressive melanomas. Current research projects are aimed at investigating the role of melanoma tumor cell plasticity and EphA2 in mediating resistance to the clinical inhibitors vemurafenib and dabrafenib.

Students engaged in research projects over the last year: Claire Pressimone and Kayla Sompel (undergraduates). Rebecca Price and Stephanie Buczkowski (graduate students).

Funding

2018: Pennsylvania Academy of Sciences research grant to Ms. Stephanie Buczkowski

2018: Pennsylvania Academy of Sciences research grant to Ms. Rebecca Price

2018: Margin of Excellence Grant - Analyzing Eph/ephrin expression in human and mouse melanoma using quantitative polymerase chain reaction (PCR) methods

2018: R&S mini grant - Elucidating the molecular mechanisms for increased EphA2 expression in melanoma

2017: CPUB student research grant to Stephanie Buczkowski

2017: R&S mini grant – Adoption of a mouse model to study malignant melanoma.

2016: Acquisition of a Zeiss Laser Scanning Confocal Microscope to advance research and enhance academic excellence at Bloomsburg University. Co- Principal Investigator

2016: CPUB student research grant to Rebecca Price

Presentations:

- Buczkowski, S and **A.R. Hess** 2018 Identifying factors contributing to aggressive melanoma in a mouse model. Bloomsburg University College of Science and Technology Research Day.
- Pressimone, C. and **A.R. Hess** 2018 Investigating the role of EphB4 and ephrin-B2 in promoting an aggressive melanoma phenotype. Bloomsburg University College of Science and Technology Research Day.
- Buczkowski, S. and **A.R. Hess** 2018 Identifying characteristics contributing the aggressiveness seen in murine melanoma. Annual meeting of the Commonwealth of Pennsylvania University Biologist.
- Price, R.M. and **A.R. Hess** 2018 Elucidating the roles of EphA2 and MAPK pathway and how they contribute to melanoma pathogenesis. Annual meeting of the Commonwealth of Pennsylvania University Biologist.

Book Chapters

Hess, A.R. 2017. Chapter 4 – The integumentary system. In: Anatomy and Physiology in Context. Ebook. TopHat Publishing, Toronto, Ontario, Canada. <https://app.tophat.com/e/350597/assigned>

Hess, A.R. 2017. Chapter 23 – Nutrition and Metabolism. In: Anatomy and Physiology in Context. Ebook. TopHat Publishing, Toronto, Ontario, Canada. <https://app.tophat.com/e/350597/assigned>

Internships

Faculty supervisor for 11 students conducting internships in Medical Imaging at various Geisinger Medical Center locations during 2018.

Service Activities

University Faculty Professional Development Committee

University Wide Promotion Committee – Asst. Chairperson

Academic Biology Learning Environment (ABLE) - Co-Director

Middle States Standards Sub-working group member

BU Faculty representative on PASSHE Faculty Professional Development Committee

Faculty advisor – Biological and Allied Health Science Club

Geisinger School of Radiologic Technology – member of advisory committee

Science Fair Judge – Bloomsburg Area Middle School and the Bloomsburg Children's Museum



John M. Hranitz
Professor

Ph.D. Mississippi State University
Biology

Teaching

Anatomy and Physiology of the Head Neck and Thorax (Biology 366), Biology of Aging (Biology 231), Field Zoology (Biology 250, individualized instruction), and NSF REU program

Scholarly Interests

My research expertise is in the ecological genetics and physiological ecology of animals. I study amphibians, reptiles and bees, but I also collaborate to study other taxa, providing expertise in ecological genetics or physiological ecology. I use numerous techniques (allozyme genetics, microsatellite DNA genotyping, mtDNA sequencing, western blotting, ELISA, and skeletochronology) to study heterozygosity-fitness relationships, population genetic structure, and the abundance, distribution, and the physiological ecology of animals. Currently, studies by my students and I investigate island dwarfism and coastal ecology of amphibians, island pollination systems, host-vector relationships for West Nile Virus, and stress responses in bees.

Publications (Students in Bold)

- Gonzalez VH, **Olsen A**, **Mallula M**, Tosunoglu A, Cakmak I, Hranitz J, Barthell J. 2017. Bee visitors of *Centaurea solstitialis* L. (Asteraceae) in an urban environment in northwestern Turkey. *Arthropod-Plant Interactions* 11:403-409.
- Gunes N, Aydin L, **Belenli D**, Hranitz JM, **Mengilig S**, **Selova S**. 2017. Stress responses of honey bees to organic acid and essential oil treatments against *Varroa* mites. *Journal of Apicultural Research* 56:175-81. doi: 10.1080/00218839.2017.1291229.
- Gonzalez VH, **KE Park**, I Cakmak, JM Hranitz, JF Barthell. 2016. Pan traps and bee body size in unmanaged urban habitats. *Journal of Hymenoptera Research* 51:241-247.

Presentations (Students in Bold)

2018 Pennsylvania Vector Association in Harrisburg, PA, 26 Oct.

Anderson H, Hutchinson M, Hranitz JM. Molecular techniques to identify avian hosts in blood meals of mosquito vectors of West Nile Virus in Pennsylvania.

2018 Meeting of The Society For Integrative And Comparative Biology, San Francisco, Ca, 3-7 Jan.

Brown E, **Fernandez A**, **Metzler E**, **Pavlick C**, **Rivera-Figueroa V**, **Salaguinto T**, Gonzalez V, Agosto-Rivera J, Hranitz JM, Petanidou T, Tscheulin T, Barthell, JF. 2018a. Carpenter bee foraging patterns at chasteberry bushes (*Vitex agnus-castus* L.) on the Greek island of Lesbos. *Integrative and Comparative Biology* 58:E283-E283.

Brown ER, **Pavlick CR**, Petanidou T, Tscheulin T, Gonzalez VH, Agosto-Rivera JL, Hranitz JM, Barthell JF. 2018b. Temporal niches of two pollinating bees of field bindweed (*Convolvulus arvensis*, Convolvulaceae). *Integrative and Comparative Biology* 58:E282-E282.

Fernandez A, Petanidou T, Tscheulin T, Gonzalez VH, Hranitz JM, Agosto J, Barthell JF. 2018. Pollen dynamics of field bindweed and competitive release in pollen loads of a generalist pollinator in the Mediterranean. *Integrative and Comparative Biology* 58:E315-E315.

Metzler EJ, **Figueroa VR**, **Salaguinto TC**, Gonzalez VH, Petanidou T, Tscheulin T, Rivera JLA, Hranitz JM, Barthell JF. 2018. Foraging behaviors support dietary niche separation of a generalist bee and specialist bee on field bindweed. *Integrative and Comparative Biology* 58:E378-E378.

Ohlinger BD, Klinger TS, Davis GT, Hranitz JM. 2018. Innate flower color choice and flower constancy in a solitary bee and a social bee. *Integrative and Comparative Biology* 58:E390-E390.

- Pavlick CR, Emily BR, Erika MJ, Rivera-Figueroa V, Salaguinto TC, Fernandez A, Hranitz JM, Gonzalez VH, Petanidou T, Tcheulin T, Barthell, JF.** 2018. Removal of a specialist pollinator on field bindweed reveals competitive release for a generalist pollinator. *Integrative and Comparative Biology* 58:E393-E393.
- Petersheim JJ, Llewellyn HJ, Surmacz CA, Hranitz JM.** 2018. Motor responses in honey bees are impaired following exposure to sublethal doses of imidacloprid. *Integrative and Comparative Biology* 58:E395-E395.
- Rivera-Figueroa V, Loubriel D, Johnson M, Tscheulin T, Petanidou T, Oskay D, Gonzalez VH, Hranitz JM, Barthell JF, Agosto-Rivera JL.** 2018. Comparison of the circadian rhythms of two bee pollinators, a generalist and a specialist, of field bindweed. *Integrative and Comparative Biology* 58:E407-E407.
- Salaguinto TC, Rivera V, Gonzalez VH, Rivera JL, Tscheulin T, Petanidou T, Hranitz JM, Barthell JF.** 2018. Nectar dynamics of *Convolvulus arvensis* in the Mediterranean ecoregion. *Integrative and Comparative Biology* 58:E412-E412.
- 2017 Meeting of the Society for Integrative and Comparative Biology, New Orleans, LA, 4-8 Jan.
- Anderson S, Cruz P, Folks N, Johnson M, Loubriel D, Niedzialek O, Perez M, Travis D, Gonzalez V, Hranitz J, Barthell, J.** 2017a. Mark-recapture studies of pollinator species on the Greek island of Lesbos. *Integrative and Comparative Biology* 57:E6-E6.
- Anderson S, Travis D, Hranitz JM, Gonzalez VH, Barthell JF.** 2017b. Nectar dynamics and population biology of a specialist pollinator of field bindweed. *Integrative and Comparative Biology* 57:E6-E6.
- Andre B, Surmacz CA, Hranitz JM, Cakmak I, Cakmak S.** 2017. Sublethal stress associated with apiary treatments for *Varroa* mites. *Integrative and Comparative Biology* 57:E6-E6.
- Belles AP, Huckans J, Klinger TS, Hranitz JM.** 2017. Call characteristics of island and mainland Fowler's toad. *Integrative and Comparative Biology* 57:E12-E12.
- Cruz P, Folks N, Anderson S, Travis D, Gonzalez VH, Hranitz JM, Barthell JF.** 2017. Attractiveness of the dark central floret in wild carrots in western Turkey. *Integrative and Comparative Biology* 57:E36-E36.
- Folks NY, Cruz P, Hranitz J, Barthell J, Gonzalez VH.** 2017. A field test of the pollinator pesticide avoidance hypothesis in fallow agricultural fields. *Integrative and Comparative Biology* 57:E53-E53.
- 2016 meeting of the Society for Integrative and Comparative Biology, Portland OR, 3-7 Jan.
- Klempay BL, Lim I, Mallula ML, Olsen AM, Park KE, Silva DH, Gonzalez VH, Hranitz JM, Petanidou T, Barthell JF.** 2016. The effect of introducing differing color floral morphs on bee visitation in a native population of *Vitex agnus-castus* on the Greek island of Lesbos. *Integrative and Comparative Biology* 56:E316-E316.
- Olsen AM, Mallula ML, Tosunoglu A, Cakmak I, Hranitz J, Barthell J, Gonzalez V.** 2016. Bee visitation patterns of *Centaurea solstitialis* L. (Asteraceae) in an urban environment in northwestern Turkey. *Integrative and Comparative Biology* 56:E344-E344.
- Park KE, Cakmak I, Hranitz J, Barthell J, Gonzalez VH.** 2016. Avoidance by bees and flies to field-realistic concentrations of four types of pesticides. *Integrative and Comparative Biology* 56:E347-E347.
- Silva DH, Cakmak I, Hranitz JM, Barthell JF, Gonzalez VH.** 2016. Pollinator composition in three types of unmanaged urban habitats. *Integrative and Comparative Biology* 56:E370-E370.

2016-2018 Research Funding

- BU Mini-Grant. 2018-2019. Research and Development of DNA Sequencing Techniques to Identify Birds Species in Blood Meals of Mosquito Vectors of the West Nile Virus. \$3,048. Funded. (Hannah Anderson, Samantha Maywald, Graduate Students).
- BU Research and Scholarship Grant. 2017-2018. Does Acute Sublethal Pesticide Intoxication Alter the Honey Bee (Brain) Transcriptome? \$8,314. Drs. John M. Hranitz (PI), Cindy A. Surmacz (Co-PI), and Heather J. Llewellyn (MS Biology Graduate Student). Funded.
- 2016-2017: COST FSA Funding from Dean Aronstam to support start-up supplies for my research lab. \$3,000.
- 2017-present: COST PEG Funding for coastal studies of vernal pools and pollination systems by students (Emily Myers, Lakota Wagadena).
- 2016-2020. NSF-International REU Grant: Synergistic Studies of Honey Bees in the Republic of Turkey. John F. Barthell (PI), Charles Abramson (Co-PI), Victor H. Gonzalez (Senior Personnel), John M. Hranitz (Senior Personnel). Funded (\$396,640)

Service Activities

- Council of Undergraduate Research (CUR) - Research Experiences for Undergraduates Symposium (REUS) Planning Committee (2016-present)



Judith A. Kipe-Nolt
Professor
Allied Health Coordinator

Ph.D. Penn State University
Microbiology

Teaching

Microbiology lecture and laboratories, BAHS Freshman Seminar

Research Interests

Soil and environmental microbiology, symbiotic nitrogen fixation, composting, manure odors and anaerobic digestion

Activities and Service

Student interest in Medical Imaging and Medical Laboratory Science programs remains strong. Recruitment and retention activities demanded a significant time commitment. Fifty-nine MI and MLS students began clinical programs in 17 different hospitals in 2018. Expanding clinical options involved communication with program directors, and on site visits. A group of students visited the Johns Hopkins Hospital Schools of MI in the fall.

Various health professionals and graduate program representatives were invited to give presentations and meet with students to share experiences, information and insights. We thank the following individuals who participated in our Freshmen Seminar series this year: Ken Roszel, Geisinger Radiography; Stephanie McDaniels and Doreen Morgan, Lackawanna Sonography; Stacy Adams, Veterinary Medicine; Dr. Martin, Temple Podiatric Medicine; Kevin Zajac, PCOM Physician Assistant, Pharmacy, and Medical School; Kristen Douglass, Geisinger Physician Assistant; Matt Oetjens, Geisinger Medical Genomics; Emily Palen, Geisinger Genetic Counseling; Coulter Ward, Binghamton University Pharmacy, Jason Stack, Duquesne University Pharmacy; and Richard Fritsky, PA Game Commission Biologist.

Service at the University and Community level included work as Assistant Dean (COST) in the spring semester; participation on a Middle States Self-Study working group and Financial Aid Assistant Director search and screen committee. I also serve on the Columbia County Farmland Preservation Board.



Thomas Scott Klinger
Professor

Graduate Coordinator for the Department of Biological
and Allied Health Sciences

Ph.D. University of South Florida
Biology

Teaching

Human Sexuality, Concepts in Biology 1 (Laboratory), Honors Research in Biology, Internship in Biology, and Human Biology.

Research Interests

Invertebrate Zoology, Marine Biology, Nutritional Behavior and Ecology, Aquaculture, Impacts of Climate Change on Marine Ecosystems, Conservation.

My investigations have related to the functional aspects of invertebrate zoology. Most of these studies have focused upon physiological, behavioral, and ecological aspects of nutrition of echinoderms. Recent studies have emphasized impacts of climate change, particularly elevated sea surface temperatures and ocean acidification. This work upon novel challenges to sea animals has led to increased involvement in environmental policy and conservation efforts. In addition to these long standing areas of research, a new interest in the impacts of anthropogenic challenges, such as species introductions and climate change, upon the crayfish of Northeastern Pennsylvania has been fostered by ongoing collaborations with S. M. Hartzell.

Highlights of 2018 were helping to organize the celebration of the 50th Anniversary of the Marine Science Consortium at the Chincoteague Bay Field Station at Wallops Island and hosting the visit of Dr. James B. McClintock, Endowed University Professor of Polar and Marine Biology at the University of Alabama at Birmingham, who presented lectures and met with the greater Bloomsburg University community to discuss his work documenting climate change.

Presentations by my students:

Wadena, L. V., T. S. Klinger, and S. M. Hartzell. 2018. Autumn diet of Allegheny crayfish (*Faxonius [Orconectes] obscurus*) in an eastern Pennsylvania stream. Proceedings of the Commonwealth of Pennsylvania University Biologists 20, 97. Presented at the 49th Annual Meeting of the Commonwealth of Pennsylvania University Biologists, April 6-8, Mansfield University of Pennsylvania:



With Dr. James B. McClintock at
Museum of Comparative Zoology at
Harvard University.



2018 saw the 50th Anniversary of the
founding of the Marine Science Consortium.

Service Activities

Organized the BAHS Weekly Departmental Seminar Series.

Mace Bearer at the spring and the fall Graduate Commencement Convocations.

Departmental APSCUF Representative.

Represented Bloomsburg University Graduate Programs at the 49th Annual Meeting of the Commonwealth of Pennsylvania University Biologists at Mansfield University

Represented Bloomsburg University Graduate Programs at discussions of formalizing an articulation with Felician University

Represented Bloomsburg University Graduate Programs at the Susquehanna Valley Undergraduate Research Symposium at Bucknell University

Organized a crowd-funding campaign to support travel of future students to the Chincoteague Bay Field Station at Wallops Island



Candice M. Klingerman
Assistant Professor

Ph.D. Lehigh University
Integrative Biology

Teaching:

Introduction to Nutrition (Biology 205), Anatomy and Physiology I (Biology 173) Labs, Anatomy and Physiology II Labs (Biology 174), Internship in Biology (Biology 490), Special Topics: Hormones and Obesity (Biology 4/589).

Research Interests:

My research laboratory is dedicated to understanding the neuroendocrine mechanisms underlying diseases of energy dysregulation (e.g. obesity, anorexia). These mechanisms are studied from an evolutionary perspective – traits evolve if they increase reproductive success. Therefore, we examine both ingestive as well as reproductive behaviors simultaneously, using zebrafish as our animal model.

Research Grants:

- 2018-present BU COST Faculty Scholarly Activity Award. Effects of the CB1 agonist, anandamide, on the behavior of zebrafish (*Danio rerio*).
- 2015-2018 BU Research and Scholarship Grant. Food restriction affects reproductive and ingestive behaviors in zebrafish (*Danio rerio*).

Publications:

- Burroughs, S.E., W. Schwindinger, J. Venditti, T. Trautwein, A. Dalsania, and C.M. Klingerman. (2018). “Prokineticin-2 robustly and reliably influences the sexual and ingestive behaviors of female Syrian hamsters.” *Horm Behav.* 106:135-143.
- Schneider, J., Benton, N., Russo, K., Klingerman, C., Williams, W., Simberlund, J., Abdulhay, A., Brozek, J., and Kriegsfeld, L. (2017) RFamide-related Peptide-3 and the Trade-off Between Reproductive and Ingestive Behavior. *Integr Comp Biol.* 57:1225-1239.

Presentations:

- Poling, J. and Klingerman, C.M. Effects of environmental neurotoxins on the memory, cognitive ability, and social behavior of zebrafish (*Danio rerio*). (talk) Graduate Student Thesis Defense. Bloomsburg University. Bloomsburg, PA. 2018.
- Burroughs, S., Trautwein, T., Dalsania, A., Schwindinger, W., Venditti, J., and Klingerman, C.M. “Effects of prokineticin-2 on the sexual and ingestive behaviors of female Syrian hamsters.” (poster) Interdisciplinary Neuroscience Conference at Lehigh University. Bethlehem, PA. 2017.
- Poling, J. and Klingerman C.M. “Effects of arsenic and thimerosal on the learning and memory of zebrafish.” (talk) Graduate Thesis Proposal at the College of Science and Technology Research Day. Bloomsburg University. Bloomsburg, PA. 2017.



Barry L. Nolt
Assistant Professor

Ph.D. Pennsylvania State University
Plant Pathology

Teaching

Concept 1 laboratories, Microbiology laboratories, Virology

Activities

My research interests include identifying and characterizing *Pythium* species pathogenic on ornamental flower crops. Species identification using morphological features alone is difficult, however PCR-based rRNA sequencing offers a rapid and accurate alternative. The relative pathogenicity of isolated *Pythium* species can be assessed using cucumber seed germination assays.

In 2018, Daniel Deignan completed an independent research project investigating the diversity of *Pythium* species in fungicide-treated and untreated greenhouse soils. We identified three *Pythium* species: *P. splendens* (most abundant), *P. intermedium*, and *P. macrosporum*. All three species were shown to be potential pathogens of ornamental lilies.

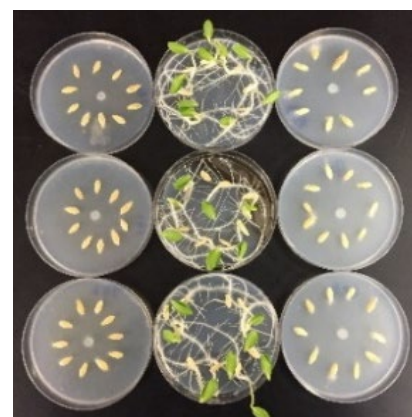
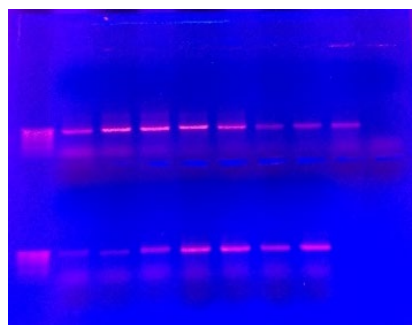
Our medical imaging internship partnership with Geisinger Medical Center continues to grow, allowing more of our majors the chance to gain valuable hands-on clinical experience in radiologic technology. Internship opportunities are available to qualified students throughout

the academic year.

The selection of and acceptance

into a medical imaging clinical program is an important step in becoming a radiologic technologist.

To assist with the clinical search process, we routinely organize visits and accompany students to open houses and recruitment events. These students visited the Johns Hopkins Schools of Medical Imaging in the fall.





Steven T. Rier
Professor

Ph.D. University of Louisville
Environmental Biology

Teaching

Ecology and Evolution, Global Change Biology, Limnology, Freshman Seminar in Biology, Concepts 1 laboratory, Concepts 2 laboratory

Research Interests

Stream Ecosystem Ecology, Algal and Microbial Ecology, Water Pollution

Dr. Rier mentored four Master's Students. Projects included:

- High resolution monitoring of phosphorus dynamics in Fishing Creek
- Phosphorus pulses and polyphosphate dynamics in streams
- Agriculture impacts on stream ecosystem function and the development of rapid functional indicators
- Measuring performance of best management practices installed as part of the implementing precision conservation in the Susquehanna River Watershed
- Algal priming of coarse particulate organic matter decomposition in streams

Publications

- Hartzell, S.M. and S.T. Rier. 2017. A crayfish survey of the fishing creek watershed in northeastern Pennsylvania suggests widespread prevalence of a nonindigenous species and the absence of a native congener. *Journal of the Pennsylvania Academy of Science* 91:1-10.
- Rier, S.T., K.C. Kinek, S.E. Hay and S.N. Francoeur. 2016. Polyphosphate plays a vital role in the phosphorus dynamics of stream periphyton. *Freshwater Science* 35:490-502.
- Tucker-Serniak, L., C. Corbin, A. Pitt, S. Rier. 2016. The effects of Japanese Knotweed on avian diversity and function in riparian habitats. *Journal of Ornithology*.

Grants

- Measuring performance of best management practices installed as part of the implementing precision conservation in the Susquehanna River Watershed. National Fish and Wildlife Federation, project in second year (\$115,000, BU budget)
- Water quality investigations at Bloomsburg University: Summer 2018. Degenstein Foundation (\$25,000)
- Pending: Precision conservation for buffer restoration. Pennsylvania Department of Environmental Protection Growing Greener (\$19,081, BU budget)

Invited scientific talks

Stroud Water Research Center, August 2018

Susquehanna University, April 2018

Presentations at Scientific meetings (2018 only, bold denotes BU student mentored by STR)

- **Ashberry E. L.** Understanding the environmental context of ^[13C] algal priming of coarse particulate organic matter decomposition in streams. Susquehanna River Symposium, Lewisburg, PA. October 2018.
- **Soohy, J. A.** A survey of algal productivity and nutrient concentrations across a land-use gradient using pulse-amplitude modulated (pam) fluorometry as a rapid assessment and measure of ecosystem function on a spatial and temporal scale. Susquehanna River Symposium, Lewisburg, PA. October 2018.
- **Gordon-Weaver A.** Polyphosphate storage dynamics across a gradient of phosphorous enrichment. Susquehanna River Symposium, Lewisburg, PA. October 2018
- Rier, S.T., **J. A. Soohy**, **C. J. Conville** and **A. Gordon-Weaver**. Periphyton functional parameters as indicators of phosphorus enrichment along an agricultural impact gradient in central Pennsylvania. *Society for Freshwater Science*, May 2018. Detroit, MI





William F. Schwindinger
Assistant Professor

MD Albert Einstein College of Medicine
PhD Albert Einstein College of Medicine
Biochemistry

Teaching

Anatomy and Physiology laboratories, Pharmacology for the Health Sciences, Medical Terminology, Pre-Med Seminar

Research Interests

My research interest is in G-protein coupled signal transduction. G-proteins initiate the cellular response to activation of cell surface receptors for numerous signals including hormones, neurotransmitters, paracrine factors, odorants, and light. G-proteins are composed of three subunits, an α -subunit and a $\beta\gamma$ -dimer; each of these subunits is encoded by a gene family. My aim is discover the specific roles of individual G-protein γ -subunits in signal transduction.

Publications

Burroughs S, Schwindinger WF, Venditti JJ, Trautwein T, Dalsania A, Klingerman CM. Prokineticin-2 and ghrelin robustly influence the sexual and ingestive behaviors of female Syrian hamsters. *Horm Behav.* 2018 Nov;106:135-143.

Mentored Student Presentations

Sidhu HS and Schwindinger WF (2018) CRISPR-Cas9 targeting of GNG11 gene in CHO-K1 Cell Line. 8th Annual Susquehanna Undergraduate Research Symposium, Bucknell University.

Maneval, Jr. GA and Schwindinger WF (2018) Knockdown and detection of GNG4 using CRISPR/Cas9 in Chinese hamster ovary cells. 49th Annual Meeting Commonwealth of Pennsylvania University Biologists, Mansfield University.

Grants

Bloomsburg University, Research and Scholarship Mini-Grant, May 2017 - May 2018, \$4000

Service Activities

Institutional Review Board for Human Subjects Research

COST Curriculum Committee

BAHS Pre-professional Committee

Figure 1. T7 Endonuclease I analysis of PCR amplified DNA from pools of CHO-K1 cells treated with CRISPR-Cas9 and two different guide RNAs. (1) 100 bp ladder (4) and (7) arrows show lanes with faint bands below indicating proper targeting of GNG11. (5) PCR product not treated with T7E1, (6) water blank.





Cynthia Surmacz
Professor

Ph.D. Pennsylvania State University, College of Medicine
Physiology

Teaching

Concepts in Biology 1 lecture, Anatomy and Physiology lectures and laboratories, Cell Biology Lecture

Research Interests

Investigating physiological, behavioral, and cellular stress responses in honey bees

Pesticides have been shown to cause sublethal effects in honey bees, impairing memory, mobility, and foraging behavior that may affect hive health and contribute to the decline of honey bee populations. We are collaborating with Dr. Hranitz to investigate the effects of commonly used neonicotinoid pesticides as indicators of sublethal stress in honey bees. This year's work has investigated the potential use of oxidative enzymes to gauge oxidative stress in bees exposed to neonicotinoids. This research has involved BAHS undergraduates Erin Smith and Andrew Cross. Graduate student Heather Llewellyn has continued her thesis research on the effects of pesticides on the honey bee transcriptome.



Cindy Surmacz and Joshua Petersheim at the 2018 meeting of the Society for Comparative & Integrative Biology



National Geographic.com

Grants (2018)

- Bloomsburg University Mini-Grant. Assessing oxidative stress in honey bees exposed to sublethal doses of neonicotinoid pesticides. Award: \$3,915. C. Surmacz, J. Hranitz and E. Smith.
- Pearson Education. Learning to Study Smart: Building Metacognitive Skills using Evidence-Based Study Practices. Award: \$5,000. Collaborators: C. Davis, J. Jensen, G. Lindbeck, K. Murphy, C. Surmacz.
- Sponsored Student Research Grants. BU Professional Experience Grants: Erin Smith, Andrew Cross, and Heather Llewellyn; Commonwealth of PA University Biologists, Andrew Cross; Tri-Beta Biology Honor Society Research Scholarship, Andrew Cross.

Presentations (2018)

- Society for Integrative and Comparative Biology. Annual Meeting, San Francisco, CA. January 2018. J. Petersheim, H. Llewellyn, J. Hranitz, and C. Surmacz. Motor responses in honey bees are impaired following exposure to sublethal doses of imidacloprid.
- Biology Leadership Conference: Shaping the Future of Introductory Biology. Orlando FL. February 2018, Oral Presentation: Learning to study smart: Building metacognitive skills using evidence-based study practices. Poster: Enhancing student success in large introductory biology classes: Taking it to the dorms!
- BAHS Seminar Series. September 2018. C. Surmacz. Thriving in First-Year Science Courses: A Tale of 2 Studies.

Campus and Community Service Activities:

- Co-Adviser, Tri-Beta Biology Honor Society
- Secretary, The Honor Society of Phi Kappa Phi
- Honors Program Advisory Committee
- Health Sciences Symposium Committee
- Instructor, The Great STEM Adventure Camp Girl Scout Badge College, Breathe
- Reviewer , *The American Biology Teacher*
- Praxis National Advisory Committee for Biology, Educational Testing Service
- Delegate, Honor Society of Phi Kappa Phi Annual Convention, Minneapolis, MN. August 2018.



Jennifer J. Venditti
Associate Professor
Director, Health Sciences Learning Community

Ph.D. Lehigh University
Molecular Biology

Teaching

Human Biology, Introduction to Health Care Practice, Health Care Practicum, Health Sciences Seminar

Research Interests

andrology, fertilization, sperm architecture/morphology

Student Research Presentations

- Bartra SK, Coleman WL, and Venditti JJ. “Investigating the role of synapsin I during human sperm capacitation and acrosome reaction.” Bloomsburg University COST Research Day (April 2016), Susquehanna Valley Undergraduate Research Symposium (July 2016), Beta Beta Beta Regional Meeting (April 2017).
- Burroughs, S, Trautwein, T, Dalsania, A, Schwindinger, W, Venditti J, and Klingerman, C. (April 2017). “Effects of Prokineticin 2 on the Sexual and Ingestive Behaviors of the Female Syrian Hamster”. Lehigh University Interdisciplinary Neuroscience Symposium.
- Chamberlin LL, Venditti JJ, and Coleman WL. “Investigating the presence of synapsin III in human sperm cells.” Bloomsburg University COST Research Day (April 2017).

Publications

- Burroughs S, Schwindinger WF, **Venditti JJ**, Trautwein T, Dalsania A, Klingerman CM. 2018. *Prokineticin-2 and ghrelin robustly influence the sexual and ingestive behaviors of female Syrian hamsters*. Hormones and Behavior 106: 135-143.
- Cumberledge EA, Dixon CB, **Venditti JJ**, and Andreacci, JL. 2018. *The effect of the menstrual cycle on the reliability of contact-electrode bioelectrical impedance analyzers*. International Journal of Exercise Science 11(4): 625 - 632.
- Coleman WL, Kulp AC, **Venditti JJ**. 2015. *Functional distribution of synapsin I in human sperm*. FEBS Open Bio 5: 801-8.

Funding

- Bloomsburg University Margin of Excellence Grant to Drs. Venditti and Coleman 2018 “Investigating the Reproductive Role of Synapsin Proteins Using a Hamster In Vitro Fertilization Model System”. \$10,000.
- Bloomsburg University Research and Scholarship Grant to Drs. Venditti and Coleman 2017 “Investigating the functional distributions of synapsins I, II, and III in Human Sperm”. \$4000

Service Activities

- Biology Club Faculty Co-Advisor
- Science Programming: Children’s Museum, Danville Primary School, Liberty Valley Elementary, Girl Scouts of America
- Science Fair Judge, Bloomsburg Area Middle School, Bloomsburg, PA



Kevin J. Williams
Assistant Professor

Ph.D. Syracuse University
Physiological Ecology

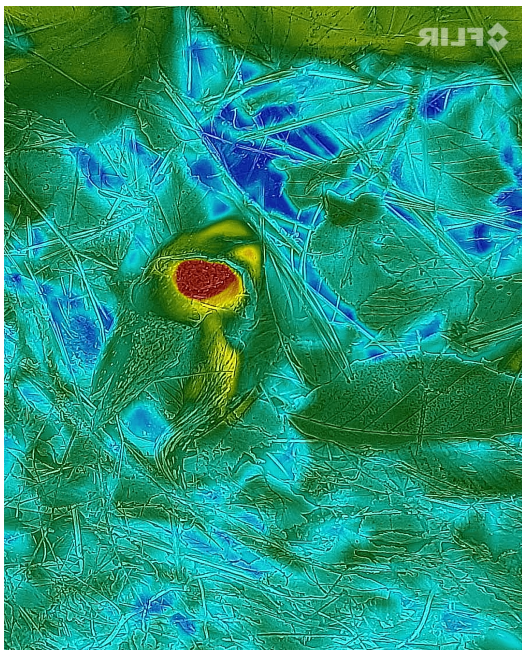
Teaching

Ecology lecture and laboratories, Concepts in Biology 2 laboratories, Integrated Physiology Laboratory, Plant Physiology.

Research Interests

Plant ecology and plant physiological ecology, with a focus on plant responses to defoliation and stress.

During 2018 Dr. Williams has been working on studying the ability of skunk cabbage to be exothermic



An infrared-image of a Skunk cabbage. The flowering core is red because it is 2-5-degrees C warmer than the rest of the plant.

Service

Dr. Williams served on the Commonwealth of Pennsylvania University Biology (CPUB). committee that reviews student grant application and awarded in excess of \$2000 grants to Biologist enrolled in PASSHE schools in 2016. He also chairs the department curriculum committee.



Marianna D. Wood
Associate Professor

Ph.D. University of Kansas
Biology

Teaching

Ecology lecture and laboratories, Concepts in Biology 1 laboratories, Conservation Biology

Research Interests

Foraging Behavior, Mammalogy, Forest Ecology, Biology Education

In 2018, Dr. Wood collaborated with undergraduate students on projects to assess learning gains in biology courses, to measure decomposition in forest soils and contribute to a global decomposition database, and to document behavior and space use by grey squirrels and eastern chipmunks on campus.

Publication

Wood MD and Wood JM. 2018. Saving time, increasing learning: Using checklists to help students perform disciplinary writing conventions. *Journal on Excellence in College Teaching* 29(2):19-42.

The research in this publication was featured in a commentary by Maryellen Weimer on the development of students' self-assessment skills in the December 2018 issue of The Teaching Professor.

Temporary Faculty



Zareen Amin

Instructor

BS, MBBS Medicine and Surgery, Dhaka University

MEd Community Health Education, Kent State University

Teaching

Anatomy and Physiology I laboratories

Research Interests

Human Anatomy and Physiology; Human Biology; Disease, Health and Wellness; Health Education.

Service Activities

Involved with students outside class at ABLE, the Academic Biology Learning Environment center, where resources like books, lab manuals, microscopes, slides, bones, models are available. Guiding individual or groups of students needing extra help with their course. I have also done review sessions at ABLE, for students, before an exam.



Jonathan Bobek

Instructor

M.S. Biology, Arizona State University

Teaching

Anatomy and Physiology I Laboratories

Research Interests

Insect Forager Behavior, Behavioral Genetics, Oncology, Cancer Care Delivery Research, Health Education.

Current Employment

Clinical Trials Project Coordinator, Geisinger Cancer Institute



Deborah Heitzman
Instructor

M.S. Biology, Bucknell
University

Teaching

Courses and Labs that I taught at Bloomsburg University include the following: Nutrition, Anatomy and Physiology I & II labs, Concepts in Biology I lab and Anatomy and Physiology of the Head, Neck and Thorax lab.

Service Activities

I provide academic support every semester for ABLE which is an Academic Biology Learning Environment located at Columbia Hall 's Living and Learning Community. ABLE faculty members provide tutoring in Anatomy and Physiology I, Anatomy and Physiology II and Concepts in Biology 1. Additionally, there are many laboratory models, microscopy slides and books that serve as a source of review before laboratory exams. I participate in AP I Lab and APII lab review sessions for students when needed. I also support the Biology department with my participation with Mock interviews for students.



Sean Hartzell
Instructor

M.S. Biology, Bloomsburg University

Teaching

Anatomy and Physiology, I Labs, Concepts in Biology 2 Labs

Scholarly Interests

Herpetology, Freshwater Ecology, Crayfish, Invasive Species, Freshwater Invertebrates, Natural History & Collections Based Research.

Select Recent Publications

- Hartzell, S.M. 2019. Sexual Dichromatism of "Rusty" Spots in a Population of *Faxonius rusticus* (Girard). *Freshwater Crayfish* 24(1):(in press)

- Hartzell, S.M. 2019. A Salamander Survey of the Turkey Hill Oxbow, Columbia County, Pennsylvania, with Comparison to Historic Records from an Institutional Collection. *Bios.* (in Press).
- Hartzell, S.M. 2018. A Blue Color Morph of the Northern Clearwater Crayfish (*Faxonius propinquus*, Girard) in Pennsylvania. *Crayfish News*. 40(3):8.
- Hartzell, S.M. and Urban, C.A. 2018. *Ambystoma tigrinum* (Eastern Tiger Salamander). Yawning Behavior. *Herpetological Review*. 49(4):696.
- Hartzell, S.M. 2017. A Bilaterally Partitioned Colour Variant of the Appalachian Brook Crayfish (*Cambarus bartonii bartonii*), from Eastern Pennsylvania. *Canadian Field Naturalist*. 131(4):335-337.
- Hartzell, S.M. 2017. Ontogenetic Color Change in the Crayfish *Cambarus b. bartonii* and *Faxonius obscurus*: A Test of Ortmann's Hypotheses. *Freshwater Crayfish*. 23(1):59-63.
- Pitt, A.L., Shinskie, J.L., Tavano, J.T. Hartzell, S.M., Delahunty, T., and Spear, S.F. 2017. Decline of a Giant Salamander assessed with Historical Records, Environmental DNA and Multi-Scale Habitat Data. *Freshwater Biology*. 62(6):967-1116
- Hartzell, S.M. and Rier, S.T. 2017. A Crayfish Survey of the Fishing Creek Watershed in Northeastern Pennsylvania Suggests Widespread Prevalence of a Non-Indigenous Species and the Absence of a Native Congener. *Journal of the Pennsylvania Academy of Science*. 91(1):1-10.

Recent Presentations

- Hartzell, S.M. and Corbin, C.E. 2018. Analysis of Plumage Coloration in African Blue Flycatcher (*Elmina longicauda*) Subspecies Suggests Subspecies Integrity. Commonwealth of Pennsylvania University Biologists Meeting. Mansfield, PA.
- Wadena, L.V., Klinger, T.S. and Hartzell, S.M. 2018. Autumn Diet of Allegheny Crayfish (*Faxonius [Orconectes] obscurus*) in an Eastern Pennsylvania Stream. Commonwealth of Pennsylvania University Biologists Meeting. Mansfield, PA.
- Pitt, A.L., Hartzell, S.M. and Davis, S. 2018. Invasive Rusty Crayfish (*Faxonius [Orconectes] obscurus*) can serve as Prey of Eastern Hellbenders (*Cryptobranchus alleganiensis alleganiensis*). 41st Annual Herpetology Conference, Florida Museum of Natural History. Gainesville, FL.
- Hartzell, S.M., Pitt, A.L., Davis, S. and Rier, S.T. 2018. Invasive Rusty Crayfish (*Orconectes rusticus*) are more Active Diurnally than a Native Congener (*Orconectes limosus*). Society for Integrative and Comparative Biology Meeting, San Francisco, CA.



Alex Hoke
Instructor

M.S. Bloomsburg University

Teaching

Concepts in Biology I labs

Research interests:

His research interests center around reptiles and amphibians with respect to how temperature affects performance and physiology.



Evan Houston
Instructor

Ph.D. University of Washington.
Immunology

Teaching

Cell Biology laboratories, Anatomy and Physiology laboratories and Immunology

Research Interests

Immunology, Avian biology, Evidence-based learning

DEPARTMENT STAFF



Melinda S. Diltz
Biology Laboratory Coordinator / Instructor

M.S. Millersville University of PA
Biology

Duties

Train and supervise *Anatomy & Physiology*, *Microbiology*, and *Concepts* undergraduate student lab assistants. Train and supervise graduate assistants in laboratory prep duties and teaching assistant duties. Supervise and complete the set-up, testing, and teardown of *Anatomy & Physiology I and II*, *Anatomy and Physiology of the Head, Neck Thorax*, and *Concepts in Biology I* laboratories. Supervise and complete the preparation of sterile media, equipment and supplies for *Introductory Microbiology*, *Microbiology*, and *Medical Microbiology* laboratories. Maintain and inventory all laboratory equipment and perform routine maintenance on equipment including follow-up on equipment sent out for repair. Assist with set-up and teardown of lab exams. Proctor lecture and laboratory exams. Supervise and assist in the maintenance of living specimens such as frogs, fish, worms, crayfish, snakes, lizards, hamsters, and turtles. Determine need, find vendors, and place orders for laboratory supplies and keep a record of receipt of supplies. Coordinate the disposal of chemical wastes, preservatives, and medical wastes. Inventory laboratory equipment in the department. Inventory equipment containing refrigeration in the department. Carry out other special assignments for the Department Chairperson and the Dean of the College of Science and Technology as required.

Teaching

Anatomy and Physiology laboratories, *Concepts in Biology I* laboratories

Service Activities

Space and Facility Committee, Bloomsburg University of Pennsylvania 2006 to present.



Amy Hettinger
Department Secretary

MEd Student Affairs
Kutztown University of PA

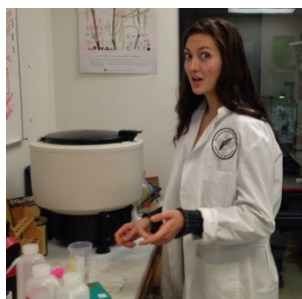
A special thank you to our student workers –

Brooke Kremer, Cassandra Razzis, Jacquelynn Formosa, Clifford Jones, Kayla Sompel, Aaron Gordon-Weaver, Brooke Malore

Graduate Program in Biology

The past year has been a period of sustained growth for the Master of Science in Biology Program. Through the maturation of new program initiatives and continuing recruitment efforts, we have experienced sustained increases in both applications and admissions. The Accelerated Combined Master's and Bachelor's Degree Program has sparked tremendous interest. The first cohort of Accelerated students is currently in the middle of their curriculum of study. The Department of Biological and Allied Health Sciences and the Department of Environmental, Geographical and Geological Sciences continue to developing means to allow Environmental Geoscience students to seamlessly join the Master of Science in Biology Program. Our first paleobiology student joined the Master of Science in Biology Program this year. We have been able to recruit more Graduate Assistants, who now fill more diverse and more visible roles in the Department. These Graduate Assistants, while still filling their tradition roles as laboratory assistants and tutors, have now been able to accept additional duties research assistants to faculty, mentors to undergraduate researchers, organizers of regularly scheduled study groups, curators and collections developers, recruiters, and etc. Having these graduate students engaged across the spectrum of efforts of the Department has increased the effectiveness of undergraduate education in foundational courses and has provided undergraduate students with readily accessible examples of the next steps in the progression of a career in biology. Graduate student research continues to be the life-blood sustaining research programs in the biological and allied health sciences. Graduate students published and presented numerous scholarly works in 2018, clearly illustrating the sustained productivity of our graduate students and their faculty mentors.

Current Graduate students



Hannah Anderson

Hannah Anderson was first hooked onto research when she began working in the parasitology lab during her undergraduate studies at the University of Nebraska at Lincoln. Her initial task of examining fecal samples for coccidia did not seem as glamorous as the foot-long tapeworms she had hoped for until she came to her senses and realized coccidia are cool too. Since then, she has been sucked into research on mosquitoes with Dr. Hranitz at Bloomsburg University. Regardless of the project, however, her favorite part of science always remains: asking questions and searching for their answers. Through a collaboration with the Pennsylvania Department of Environmental Protection (PA DEP), Hannah is investigating host preferences of *Culex pipiens* and *Culex restuans* mosquitoes in urban Pennsylvania areas.



Emily Ashberry

Emily Ashberry is from Shippensburg, Pennsylvania. She received her Bachelor's degree in biology from Bloomsburg University. She has always enjoyed spending time in nature through camping, hiking, and boating with her family. These interests led Emily to biology, and her research interests are in stream ecology. Her thesis research is looking at the environmental conditions in which algae may speed up the decomposition of leaf litter in streams. Her thesis has included field manipulations across Central Pennsylvania as well as lab manipulations in a series of artificial streams. Understanding the environmental context of algal priming of leaf litter decomposition will help provide a better picture of carbon cycling in streams.



Jerome Betz III

Jerome Betz comes to us from Tamaqua, Pennsylvania. He began his research as an undergraduate at Bloomsburg University. He has continued his research on the molecular biology of iron absorption by plants and fungi in his Thesis Research. An avid musician, Jerome frequently juggles his passion for science and his love of center stage.



Caitlyn Collins

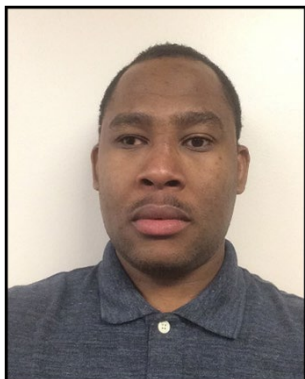
Caitlyn Collins is from Philadelphia, Pennsylvania. She received her Bachelor's degrees in Marine Science and General Biology from East Stroudsburg University. Her interests in marine invertebrates and climate change started during her undergraduate career, when she conducted research on how starfish respond to varying degrees of hypoxia. Her thesis research is looking at the thermal tolerance of sea urchins and how it affects their feeding rates and absorption efficiencies. She is doing this by comparing two different species of sea urchins. This is being done in the laboratory at Bloomsburg University, as well as in the field in Lesvos, Greece. This will help predict how sea urchins may impact their environments in near future ocean temperatures.



Keara Drummer

Keara drummer is from Catasauqua, Pennsylvania. She received her Bachelor's degree in Environmental Geoscience from Bloomsburg University of Pennsylvania. She assists in the care of the biological, geological and paleontological collections at BU. She is working towards her Master's Degree in Biology to become more qualified to work with more variety of natural history collections. Her thesis is investigating hypotheses of sexual selection and polyphenism in extinct trilobites. She will look into the possibility that the genus *Walliserops* represents one species exhibiting sexual polyphenism with major and minor males morphs and that their

exaggerate "fork" structure was used in intraspecific combat. She will performing biomechanical and morphometric measurements using photogrammetry. This research may help clarify one of many evolutionary mysteries from the Paleozoic era.



Rodelin Duteste

Rodelin Duteste received his Bachelor of Science in Biology from Shippensburg University. He is planning on working with Dr. Schwindinger on questions in biomedical science.



Kyle Flannery

Kyle Flannery is from Blandon, Pennsylvania. He received his Bachelor's degree in Health Sciences from Bloomsburg University where he took great interest researching in medical genomics and computational biology during his senior year. Kyle has always had very diverse interests in his studies. His current thesis research is an interdisciplinary project aimed to characterize developmental milestones of language in Autism Spectrum Disorder (ASD). This is performed by analyzing standardized psychometric assessments for patterns that may indicate a developmental difference in an individual. This could provide clinicians with a diagnostic aid to more accurately assess patients with ASD and other neurodevelopmental disorders.



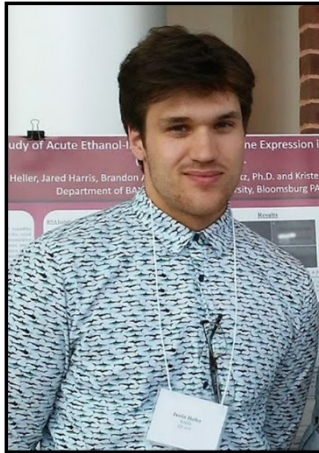
Kate Freeman

Kate Freeman hails from Danville, Pennsylvania. She graduated from West Chester University with a degree in microbiology, which she fell in love with during her junior year. At Bloomsburg, Kate keeps the microbiology teaching laboratories humming. Kate hopes one day to working for the Center for Disease Control.



Aaron Gordon-Weaver

Aaron Gordon-Weaver is from Hershey, Pennsylvania. He received his bachelor's degree in Environmental Biology from Bloomsburg University of Pennsylvania. He has loved streams, rivers, and kayaking since he was young and that is what sparked his interest in aquatic ecology. His current Thesis research investigates how pulses of anthropogenic phosphorous effects the growth patterns of algae. This research is being done using an artificial stream in the basement of Hartline Science Center. Aaron's research may help us understand how nutrients like fertilizer runoff can affect stream ecosystems.



Justin Heller

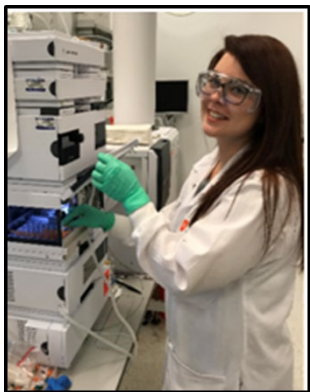
Justin Heller relocated to Bloomsburg from Poconos, Pennsylvania. He completed a B.S. in Health Science at Bloomsburg University in May 2018. Justin's academic interests are focused on molecular biology and pathology. For his thesis he is building off of his undergraduate research and diving deeper into acute alcohol intoxication effects on gene expression of alcohol-related genes adducin and hang(hangover). The study is performed in *Apis mellifera* (Western Honey Bee) due to their natural exposure to alcohol and their eusocial behavior which other commonly used models lack.



Heather Llewellyn

Heather Llewellyn earned her undergraduate degree in Biology from Lock Haven University. She received clinical training in Medical Laboratory Science and is employed in the laboratory at Evangelical Community Hospital in Lewisburg, PA. Heather's thesis research examines "The Acute Sub-lethal Effects of the Neonicotinoid Pesticide Imidacloprid on the Honey Bee Transcriptome." Honeybees are important pollinators of a wide variety of crops and are experiencing global declines. The losses of honey bee populations have been linked to a disorder known as Colony Collapse Disorder (CCD). In this phenomenon, worker bees disappear from the colony, leaving the brood unattended. While there is no single cause of

CCD, sublethal doses of pesticides cause physiological and behavioral changes that adversely affect hive health.



MacKenzie McDowell

MacKenzie McDowell comes to us from Hellertown, Pennsylvania. She is a graduate of Bloomsburg University, where as an undergraduate she was President of the Biology and Allied Health Sciences Club and was initiated into the Tri-Beta Biology National Honor Society. MacKenzie served for 3 years as a mentor for the Health Sciences Learning Community and was a Cooperative Education Intern at the Glaxo Smith Kline pharmaceutical research laboratory. She currently works in Dr. Venditti's laboratory studying developmental biology and fertility.



Samantha Maywald

Samantha Maywald received her B. S. in Biology from Arcadia University in 2017. She is a Graduate Assistant and is currently conducting research on West Nile Virus. Her interest is in Wildlife, and her ultimate goal is to join the Pennsylvania Game Commission as a Biologist. Ms. Maywald's Thesis research consists of determining landscape properties of the mosquito *Culex restuans* in Northeast Pennsylvania where there is Ruffed Grouse present. These mosquitoes are being tested to determine the host which gave them their last blood meal, and to determine if the mosquitoes carry West Nile Virus. Ms. Maywald is partnering with the Pennsylvania Game Commission, the Pennsylvania State University, and the Department of Environmental

Protection in order to carry out her Thesis research.

Thomas O'Rourke (picture not provided)

Tommy was born in Kenilworth, NJ but moved to Jim Thorpe, PA when he was three years old. Being surrounded by the natural beauty of the Poconos, Tommy rapidly developed an interest in the natural world, and eventually became an Eagle Scout. Toward the end of High School, he also became interested in mathematics. Tommy attended Rutgers University in New Brunswick, NJ where he studied philosophy (especially epistemology and the philosophy of Science) and Genetics, receiving a major in the former and a minor in the latter. After a meandering journey that included a semester of law school and 2 years working as a librarian, Tommy decided to return to graduate school and work in the field of computational biology. He is presently programming an invasive species simulation for the Asian Hornet, a major predator of honeybees.



Benjamin Paul

Ben Paul is from Elizabethville, PA. He attended Upper Dauphin Area School District from kindergarten through high school before coming to Bloomsburg University and earning his Bachelor's degree in Environmental Biology. He is currently in Bloomsburg University's Master's program for Biology. Growing up on his family's fruit farm, he enjoyed playing in the creeks and streams by his home. Turning over rocks and collecting salamanders, crayfish and tadpoles were some of his favorite things to do. This gave him a love for the outdoors and made him want to become a

biologist. Ben's thesis work involves playing in streams and turning over rocks looking for

macroinvertebrates to see how they are influenced by their environment. His research is focused on the way different periphyton influences these aquatic invertebrates and changes their distributions, densities, and community structure. His love for the outdoors continues to grow as he hopes to become a biologist for a governmental organization focusing on the conservation of our natural water systems.

Jessica Popolow (picture not provided)

Living in Danville, Pennsylvania, Jessica Popolow is a graduate of the Pre-Medial Science program at Bloomsburg University. She developed a passion for biochemical research as an undergraduate, and is continuing her research under the guidance of Dr. Trumbo Bell.



Rebecca Price

Rebecca received her Bachelor of Science in Biology with a concentration in Spanish from Albright College in Reading, Pennsylvania. Her Thesis research focuses on the signal transduction mechanisms of aggressive forms of cutaneous melanoma. Her research will investigate the roles the EphA2 receptor and the Ras-Raf-Mek1/2-Erk1/2 signal transduction pathway have in melanoma development. Understanding how the EphA2 receptor and Erk1/2 signaling pathway regulate aggressive cutaneous melanoma will help provide new knowledge about melanoma pathogenesis and potential therapeutic interventions. She was awarded a student research grant from The Commonwealth of Pennsylvania University Biologists (CPUB) for her

Thesis work. She presented a poster presentation at the Pennsylvania Academy of Science at Delaware Valley University, and has given a research talk at the Health Sciences Symposium at Bloomsburg University. She currently works in healthcare operations research as a Project Manager and helps manage federally funded research studies. In the past, she has worked on healthcare research studies which focused on population health, outcomes research and the epidemiology of diseases such as rheumatoid arthritis, chronic hepatitis, coronary heart disease, and a veteran's health study which studied post-traumatic stress disorders.



Victoria Roper

Victoria Roper is from New Orleans, Louisiana. She received her Bachelor's degree in Biology from the University of New Orleans. Her current Thesis research is studying the effectiveness of artificial wetlands in supporting reproducing populations of Tree Swallows. Tree Swallows, Barn Swallows, and swifts are among a group of birds collectively known as "aerial insectivores" because they feed by capturing insects on the wing. Over the last 5-10 years, it has become apparent that populations of most species in this group are in significant-often dramatic- decline, but conservation biologist have yet to fully understand the factors behind the declines. Victoria is hoping her work will be a piece in the puzzle in understanding the decline populations of Tree Swallows, a model species to study aerial insectivores.



Alex Shaffer

Alex Shaffer is a native of Danville, Pennsylvania. A graduate of Bloomsburg University, he has joined Dr. Klingerman's laboratory and is studying the impact of hormones on feeding behavior of zebra fish.



Elyse Shultz

Coming to Bloomsburg University from Elizabethtown, Pennsylvania, Elyse Shultz completed her Bachelor of Science degree last year. While an undergraduate, Elyse worked at Student Recreation Center, where she was recognized as employee of the month because of her dedication. A member of the Dean's List for academic excellence, she was elected both Vice President and President of the Biology and Allied Health Sciences Club. Elyse's research career began as a volunteer in the laboratory of Dr. Coleman. She has continued this research as a Master of Science student, currently inducing Experimental Autoimmune Encephalomyelitis (EAE) in earthworms to study Multiple Sclerosis (MS) in a simple animal model.



Soohi (Tuomisto), Jennifer

A resident of Watsonstown, Pennsylvania, Jennifer Tuomisto Soohi completed a Bachelor's Degree in Communication at Eastern University before coming to Bloomsburg University to focus on environmental science. Jennifer participated in research on oceanic plankton at the Bermuda Biological Station. She is currently finishing her studies of the effects of nutrient input on the algae of streams with Dr. Rier's research team.

Theses completed in 2018:

Buczkowski, Stephanie. Investigating EPHA2 Expression and Melanoma Aggressiveness in a Murine Model.

Conville, Corey. Comparison of Macroinvertebrate Bioindicators to Ecosystem Function Across a Gradient of Agricultural Impairment.

Hoke, Alex. Effects of Varying Temperature on *Rana catesbeiana* Tadpole's Escape Response.

Poling, John. Effects of Environmental Neurotoxins on Zebrafish Behavior.

Published Abstracts of Oral and Poster Presentations by Graduate Student at Professional Meetings in 2018:

Presentations at the Annual Meeting of the Society for Integrative and Comparative Biology, January 3-7, 2019, Tampa, Florida:

Llewellyn, Heather J., Erin Smith, Cynthia Surmacz and John M. Hranitz. 2019. Sublethal effects of the neonicotinoid imidacloprid on cellular stress in the honey bee brain. 59(suppl. 1): e245.

Presentations at the 49th Annual Meeting of the Commonwealth of Pennsylvania University Biologists, April 6-8, Mansfield University of Pennsylvania:

Betz, Jerome E., III and G.T. Davis. 2018. Functional and structural analysis of AvsYS1: a ferric iron phyto siderophore transport protein. Proceedings of the Commonwealth of Pennsylvania University Biologists 20, 40-41.

Buczkowski, Stephanie and A. R. Hess. 2018. Identifying characteristics contributing to the aggressiveness seen in murine melanoma. Proceedings of the Commonwealth of Pennsylvania University Biologists 20, 43.

Llewellyn, Heather J., J. I. Petersheim, C. A. Surmacz, and J. M. Hranitz. 2018. Acute sublethal effects of imidacloprid on the honey bee brain: Preliminary Findings. Proceedings of the Commonwealth of Pennsylvania University Biologists 20, 70-71.

Price, Rebecca M. and A. R. Hess. 2018. Elucidating the roles of epha2 and the MAPK pathway and how they contribute to melanoma pathogenesis. Proceedings of the Commonwealth of Pennsylvania University Biologists 20, 84-85.

Presentations at the Annual Meeting of the Society for Integrative and Comparative Biology, January 3-7, 2018, San Francisco, California:

Hartzell, Sean M., Pitt, A. L., Davis, S. and Rier, S. T. 2018. Invasive Rusty Crayfish (*Orconectes rusticus*) are More Active Diurnally than a Native Congener (*Orconectes limosus*). Integrative and Comparative Biology. 58(suppl. 1): e334.

Grants Secured by Graduate Students in 2018:

Buczkowski, Stephanie. Pennsylvania Academy of Sciences student research grant. “Interpreting the roles of EphA2 in mediating aggressiveness in a mouse melanoma model”. Faculty mentor: Dr. Angela R. Hess. (2018)

Price, Rebecca. Pennsylvania Academy of Sciences student research grant. “Understanding how EphA2 and the MAPK pathway contribute to melanoma pathogenesis”. Faculty mentor: Dr. Angela R. Hess
Buczkowski, Stephanie. Commonwealth of Pennsylvania University Biologists Student Research Grant “Interpreting the roles of EphA2 in promoting an aggressive phenotype using a mouse melanoma model.” Faculty Mentor: Dr. Angela R. Hess. (2018)

Llewellyn, Heather J. Bloomsburg University Disciplinary Research Grant Entitled: “Acute sub-lethal effects of the neonicotinoid imidacloprid on the honey bee brain transcriptome.” With Faculty Mentors: J. Hranitz, C. Surmacz.

Llewellyn, Heather J. Bloomsburg University Professional Experience Grant covering travel to the Annual Meeting of the Society for Integrative and Comparative Biology, January, 2019, Tampa, Florida.

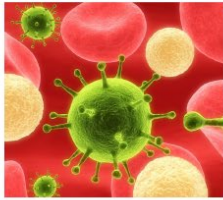
Honors and Awards Received by Graduate Students during 2018:

Llewellyn, Heather J. Second Prize, Graduate Poster Division, for presentation at the 49th Annual Meeting of the Commonwealth of Pennsylvania University Biologists.

Llewellyn, Heather J. Inducted into the Honor Society of Phi Kappa Phi.



Academic Biology Learning Environment



ABLE, short for **Academic Biology Learning Environment**, is a resource area in the Health Science Living-Learning Community Room on the first floor of Columbia Residence Hall. ABLE provides a place and resources for students in introductory biology courses to study individually and in groups. Daily tutoring is provided by graduate assistants in our masters program and by Tri-Beta, the biology honor society. BAHS faculty lead review sessions and workshops at ABLE throughout the semester. ABLE kicked off the academic year with an Open House on September 10, 2018 to a standing room only crowd. Students had the opportunity to view ABLE resources and facilities, meet faculty and tutors, learn about ABLE workshops, office hours, and study sessions, and of course have some snacks.. ABLE is supported by the Dept of



Support for students in Introductory Biology Classes! Come to the ABLE Open House



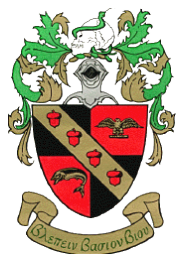
Monday, September 10, 2018
5:00 p.m.

Living Learning Community Room
Columbia Residence Hall, First Floor

Food!
Prizes!

Tour!
Meet faculty
and tutors!





Tri Beta Biology Honor Society



The BAHS chapter of Beta Beta Beta (Tri-Beta) has been very active this year! Tri-Beta is an honor society for biology students who achieve superior academic records and who display an interest in the life sciences. Its mission is to stimulate scholarship, to disseminate scientific knowledge, and to promote biological research. Leading Tri-Beta during spring semester 2018 were: President Jade Hunsinger; Vice-President Nathan Feiertag; Secretary: Elizabeth Kester; Treasurer, Jamie Davis; and Historian Adrienne Yordy. Leading Tri-Beta in fall semester 2018 were: President Kaitlyn Gresko, Vice-President Rachael Ryver; Secretary: Elizabeth Kester; Treasurer, Allison Mc; and Historians Andrew Cross and Michaela Roth. Drs. Surmacz and Hare-Harris are co-advisors of Tri-Beta.

Some of the chapter's activities this year include weekly tutoring to students in introductory biology courses at ABLE, sponsoring Mock Interviews for biology and allied health science majors, visiting the Mutter Museum in Philadelphia, hosting several Biology Trivia contests, holding a Halloween bake sale, participating in the Big Event, providing vital capacity screenings at the Health Sciences Symposium, honoring seniors at an outdoor reception, and providing coffee and donuts to Hartline students, staff and faculty during finals week. The group collaborated with the BAHS club to hold a Merit Badge Workshop for area Girl Scouts and a graduation reception. Thirty new members were initiated during an October ceremony. Dr. Kate Beishline, the keynote speaker, addressed *Maintaining our Cellular Instruction Manual: Walking the fine line between cancer and aging*.

The mission of Tri-Beta includes the promotion and dissemination of biological research. Andrew Cross received a Tri-Beta Undergraduate Research grant to investigate the effects of neonicotinoid pesticides on oxidative enzymes in honey bees as a way to determine levels of cellular stress. Our Bloomsburg University chapter will host the Northeast District 2 Tri-Beta Convention in 2019. It was indeed a great year for Tri-Beta!

BIOLOGY

TRIVIA NIGHT

Weds, September 19, 2018
6:00 pm in G38 Hartline

FREE PIZZA & SNACKS
Everyone welcome!
Sign-up outside 146 Hartline.

Hosted by TriBeta



Biological and Allied Health Sciences Club

The Biological and Allied Health Science club is open to all majors in Biology, Health Science, and Medical Imaging. The club meets twice a month. Members have been very active again this year hosting biology related activities at the Bloomsburg Children's Museum, Danville Elementary School, for Cub Scout Pack 24 and the Girl Scouts. This year the club also held a holiday ornament contest and collected food for the food pantry at the Columbia County Volunteers in Medicine free clinic located in Mifflinville, PA. Members also enjoyed a bus trip to the Mütter Museum in Philadelphia.

Faculty Advisors: Angela R. Hess and Jennifer Venditti

2017/2018 Club Officers:

President: Elyse Shultz
Vice President: Alexandra Ostman
Secretary: Julianna Hernandez
Treasurer: Emily Noll
PR Officer: Robert Kilpatrick

2018/2019 Club Officers:

President: Tyler Carroll
Vice President: Hannah Byorick
Secretary: Mitchel Liddick
Treasurer: Oliva Horman
PR officer: Juliette Gudknecht



BAHS Departmental Seminar Series

The Seminar Series of the Department of Biological and Allied Health Sciences continues to be very successful in attracting eminent scholars in a variety of disciplines to speak at regularly scheduled weekly seminars. This past year's seminars showcased authorities who traveled to Bloomsburg to share their expertise, Bloomsburg University faculty sharing their current research with their colleagues and students, and graduate students displaying the culmination of their Thesis research.

Invited speakers who came to Bloomsburg University included:

DATE	INVITED PRESENTER	AFFILIATION	TITLE OF PRESENTATION
February 16, 2018	J. B. Moon, Ph.D.	Biology Department, Franklin and Marshall College	<i>Wetlands in the landscape: Quantifying the effects on structure and function</i>
March 2, 2018	Robert Smith, Ph.D.	Department of Biology and the Clean Water Institute of Lycoming College	<i>The Stream, the Network, and the Landscape: A Story About Dispersal by Stream Organisms</i>
March 23, 2018	David N. Proctor, Ph.D.	Pennsylvania State University College of Health and Human Development	<i>Rejuvenating Aging Bodies and Blood Vessels: One Beet at a Time</i>
April 6, 2018	Neil Sullivan, Ph.D.	Department of Microbiology and Immunology and the Center for Molecular Virology and Translational Neuroscience Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine	<i>Design and validation of broad-spectrum guide RNAs for CRISPR/Cas9-mediated gene-editing therapeutics for HIV-1 elimination and cure</i>
April 27, 2018	Sara Campbell, Ph.D.	The Department of Kinesiology and Health at The School	<i>Can Your Workout Impact Your Gut Health? Yes—And Here's Why</i>

of Arts and Sciences,
Rutgers University

September 14, 2018	Bette Grey, RRT, CPFT	Grey Medical Advocate, LLC, Columbia County Volunteers in Medicine Clinic, Inc., Heart and Soul Ministry, Berwick Christian Church	<i>How to avoid the rabbit hole of healthcare: The importance of patient advocacy!</i>
September 28, 2018	Carol Mapes, Ph.D.	Department of Biology, Kutztown University	<i>Insect and Mite-Induced Plant Galls of the Northeast</i>
October 12, 2018	Ed Stafanowicz, MBA	Geisinger Neuroscience Institute	<i>Applications of Medical 3D Imaging</i>
October 26, 2018	Brendon Juengst	Department of Plant Science, Pennsylvania State University	<i>FRO3 Involvement in both Mitochondrial and Whole Plant Iron Homeostasis in Arabidopsis</i>
November 9, 2018	Marc Peipoch, Ph.D.	Ecosystem Ecology Group Stroud Water Research Center	<i>The Ecological Legacy of Historic Mining in a Montane River Basin</i>
November 16, 2018	James B. McClintock, Ph.D.	Endowed University Professor of Polar and Marine Biology University of Alabama at Birmingham	<i>Drug Discovery in Antarctic Seas</i>

Drs. Proctor and Campbell were brought to campus in collaboration with the Department of Exercise Science, underscoring the interdisciplinary nature of scientific research for all who attended.

Bloomsburg University faculty who shared their ongoing scholarship included:

DATE	FACULTY PRESENTER	TITLE OF PRESENTATION
February 9, 2018	Lauri Green, Ph.D.	<i>What the Muck? Eutrophication from the Academic, State and Federal Perspectives.</i>

February 23, 2018	Sean Hartzell, M.S.	<i>Snaky Trails and Salamander Tales: Notes on Local Amphibians and Reptiles and Ties to our Institutional Collection</i>
September 7, 2018	Cynthia Surmacz, Ph.D.	<i>Thriving in First-Year Science Courses: A Tale of Two Studies</i>
September 21, 2018	Carl Hansen, Ph.D.	<i>Regulating Angiogenesis: Novel G-Protein mediated input</i>
November 2, 2018	Kevin Ball, Ph.D.	<i>The Converging Neural Circuits of Stress and Relapse</i>

Highlighting student research continues to be a staple of the Seminar Series. Formal Defenses of Master of Science Theses which were delivered as part of our regularly scheduled Seminar Series were:

DATE	PRESENTING MASTER OF SCIENCE CANDIDATE	THESIS ADVISOR	THESIS TITLE
May 11, 2018	Alex Hoke	C. Corbin	<i>Effects of Varying Temperature on <u>Rana catesbeiana</u> Tadpole's Escape Response</i>
May 11, 2018	Corey Conville	S. Rier	<i>Comparison of Macroinvertebrate Bioindicators to Ecosystem Function Across a Gradient of Agricultural Impairment</i>
November 30, 2018	John Poling	C. Klingerman	<i>Effects of Environmental Neurotoxins on Zebrafish Behavior</i>
December 7, 2018	Stephanie Buczowski	A. Hess	<i>Investigating EPHA2 Expression and Melanoma Aggressiveness in a Murine Model</i>

Throughout the year, students and faculty were able to hear speakers during their formal presentations, and they were also able to discuss research over scheduled lunches and during receptions held after each talk. Many of our speakers also visited classrooms to talk with students as they learned about the researchers areas of specialization. These opportunities for faculty and students to share ideas with leading researchers in a variety of fields continue to help researchers in the Department of Biological and Allied Health Sciences to maintain crucial professional networks. This weekly showcase of scholarly investigations, both on and off campus, continues to provide students with abundant opportunities for exploring the diversity of options for professional development within the biological sciences. The BAHS Departmental Seminar Series is continuing into 2019 with an abundance of exciting speakers already scheduled to share their work.

Congratulations to Our 2018 Graduates!

B.S. Biology

Alina Allgyer
Emily Ashberry
Raeann Ehrhardt
Kristen Jensen
MacKenzie McDowell
Abigail Pool

Environmental Science

Mary Anthony
Benjamin Paul

Molecular Biology

Amber Bogdanowicz
Glenn Maneval
Ian Whiteside

Pre-Medical Sciences

Madison Aungst
Daniel Deignan
Laura Encarnacion
Nathan Feriertag
Cristian Gaete
Kyle Gainard
Dhir Gala
Christopher Haas
Jared Harris
Juliana Hernandez
George Kilpatrick
Alexandria Ostman
Jessica Popolow
Sarah Ritter
Elyse Shultz
Harsimrat Sidhu
Phoebe Slavens
Erin Smith
Justin Synder
Michaela Wagner
Alexander Wehr
Ozlem Yilmaz
Adrienne Yordy

B.A. Biology

David Carney
Grace Fronheiser
Erin Hagan
Seres Zdanavage

Natural History

Sarah Cantymagli
Daniella Emes
Marcus Roberts

B.S Health Sciences

Lindsey Carbaugh
Davone Cornish
Abigail Crawford
Danielle DelGiorno
Morgan Ditty
Searah Kennedy
Gabriella Lutz
Constance Medura
Damon Meyer
Stacy Nocero
Katie Rooney
Ryan Schmeck
Dalton Schechterly
Chriscene Turner
Brianna Wiscourt

Medical Lab Science

Torrey Brubaker
Lauren Damiter
Timothy Duceman
Rebecca Goldstein
Paige Maloney
Kari Wells
Megan Zoltowski

Medical Genomics and Counseling

Kyle Flannery

Pre-Accelerated 2nd degree Nursing

Brianna Dunlap
Alyssa Green
Maria Kelly
Megan Meehan
Natalie Ortman
Madison Readler
Kaitlyn Siegle
Andrew Slick
Mary Toner
Jennifer Wechsler
Stephanie Yoder

Pre-Pharmacy

Blake Remensnyder
Jacklyn Rispin
Samantha Toscano

Pre-Physician Assistant

Jonathan Adamchick
Daniel Brown
Samantha Campbell
Jessica Comstock
Jamie Davis
Hasby Firdauz
Lindsay Gehman
Justin Heller
Jade Hensinger
Brianna Konyves
Deja Lloyd
Brooke Malore
Marissa McCann
Emily Noll
Claire Pressimone
Alexander Shaffer
Arianna Shuster
Gabriella Tammaro
Autumn Temple
Alyssa Woodruff

Pre- Physical Therapist

Colton Arizini
Cameron Brown
Christiana Cragwell
Valerie Davi
Ian King
Noel Mangino
Nicole Scutti
Max Strickler
Rachel Sullivan

B.S. Medical Imaging

Emily Barrett
Cassandra Becker
Alec Braun
Gabriella Cicerchia
Tonya Copello
Tessa Eckman
Ryan Faust
Kelsey Follweiler

Hannah Funk
Tara Galada
Kyler Hall
Nicole Haselbarth
Chelsea Harlan
Jade Hoffman
Justin Howal
Joshua Howard
Kaitlin Juran
Brandi Kennedy
Eleanor Kirby
Paige Kirkner
Kayla Kocha
Brooke Kufrovich
Laura Long
Lily Mehalick
Tiffany Mulligan
Maisie Orendorf
Bobby Paul
Madison Quinn
Jamie Rosencranse
Danielle Savino

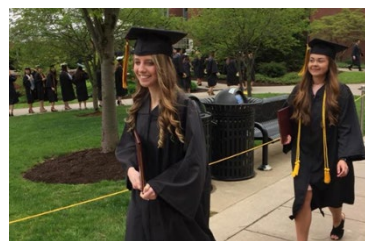
Samantha Sharo
Doronella Simon
John Skulski
Megan Sorber
Brina Jo Sotelo
Renee Staudt
Rebecca Stalvey
Morgan Stauffer
Devan Sweeney
Madison Venditto
Gregory Yerk
Samantha Yuschock

Master's Degree in Biology

Corey Conville
Alex Hoke
John Poling

Dear BAHS alumni –

We want to hear from you! Please contact us and let us know of all the wonderful things you have been doing since you left BU. We are always interested in having our alumni come back to speak to our students during the College of Science and Technology Pathways in Science and Technology day or for a Freshman Career Seminar. This is an excellent opportunity for you to share your career success with our current students. If you are interested in participating as a speaker for our weekly seminar series we would love to hear from you! We are very proud of all of our alumni – please keep in touch!





A special thank you to our donors!

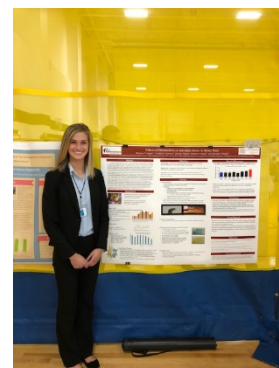
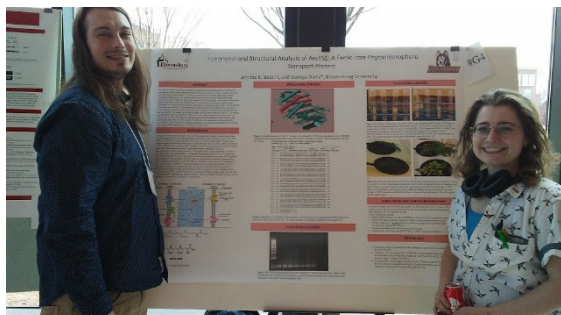
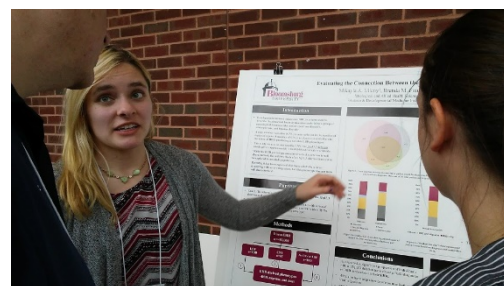
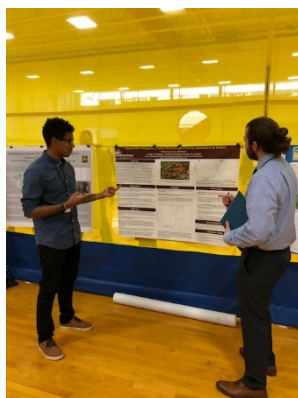
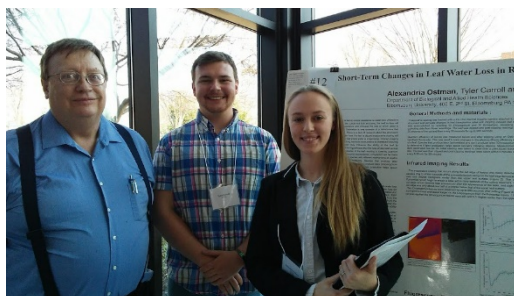
Mr. Jonathan Adamchick
Ms. Caitlin Barr
Ms. Diona Brown
Ms. Angela Ciucci
Ms. Aubrey Cole
Ms. Jaclyn Cortellessa
Ms. Molly Crawford
Mr. Matthew Derkits
Dr. Phillip A. Farber

Mr. Robert Gilday
Ms. Deborah Heitzman
Dr. Angela Hess
Mr. Oswald Mancini
Dr. Rachel Melnick
Ms. Allison Milite
Mr. Michael Morrow
Ms. Madeline Moser

Mr. Keith Orendorf
Ms. Alexandria Ostman
Dr. John Pyne
Ms. Michelle Stranix
Dr. Cynthia Surmacz
Dr. Jennifer Venditti

We greatly appreciate your contributions! Generous support from donors like you allow students majoring in biology or allied health fields to participate in many educational opportunities they might not otherwise have. Funds are used to support student lab assistants, student research projects, BAHS research seminar series, student travel to professional meetings, and educational field trips for our student-lead organizations. For more information about what our students are involved in please visit our department blog: [Biosynthesis](#).

A sample of students presenting results of independent research projects at various meetings. Students from BAHS presented at a variety of meetings in 2017 including: College of Science and Technology research day, Society for Integrative Biology annual meeting, Susquehanna Valley Undergraduate Research Symposium, The Pennsylvania Academy of Sciences annual meeting, Society for Freshwater Science and the Tri Beta Northeast District 2 Convention.





A special thank you to our alumni speakers!

Pathways in Science & Technology - 2018

Biology Panel

- **Jean-Nicole Place**, B.S., Biochemist, Eurofins
- **Paige Ricci**, B.S., Industrial Sanitation Supervisor, Leclerc Foods
- **Holly Miller**, B.S., District Manager & Agriculture Conservation Technician, Sullivan County Conservation District
- **Steven Price**, B.A., Owner/Pharmaceutical Consultant - Iaculis Oncology Consulting; Merck - Global Disease Lead - Hematology for Keytruda; Imclone - Associate Vice President, New Product Planning; Enzon - National Director Sales and Marketing-Oncology; Immunex - Sr Director, Oncology; Janssen Pharmaceutica - Sales rep, Sales Manager, Market Access
- **Jeanne Kron**, B.S., M.S., Independent Contractor/Consultant – Quality and Regulatory Consulting for FDA Regulated Industries

Allied Health Sciences Panel

- **Kim Warren**, B.S.M.T, ASCP, Microbiology Assistant Supervisor, UHS
- **Neil Sullivan**, Ph.D., Postdoctoral Research Associate, University of Pennsylvania
- **Mikala Britt**, MSPAS, PA-C, Christiana Care Hospitalist Partners
- **Ashlin Stecz**, R.T. (R), Radiologic Technology – Orthopedic Care, Student Shadowing Coordinator, St. Luke's University Health Network
- **Michael Stecz**, PT, DPT, Physical Therapist, Lehigh Valley Health Network
- **Jennifer Horvath**, RT(R), MR, Geisinger Wyoming Valley
- **Christopher Bastardi**, BSN Accelerated Second Degree Student, Bloomsburg University

Freshman Career Seminars – 2018

- **Ken Roszel**, M.S., R.T. (R) Radiographer, Director of the School of Radiologic Technology at Geisinger Medical Center
- **Stacy Adams**, D.V.M., Veterinarian, Loyalsock Animal Hospital
- **Jason Nolt**, D.O., Physician, University of Alabama Birmingham Anesthesia

BioSynthesis

<https://bloomsbiosynthesis.blogspot.com>

Access *BioSynthesis*, the online newsletter of the Department of Biological and Allied Health Sciences, to stay informed of department activities, clubs and organizations, upcoming events, research, alumni features, faculty and student achievements, and more! Have news to share? Please drop a line to Cindy Surmacz at csurmacz@bloomu.edu

