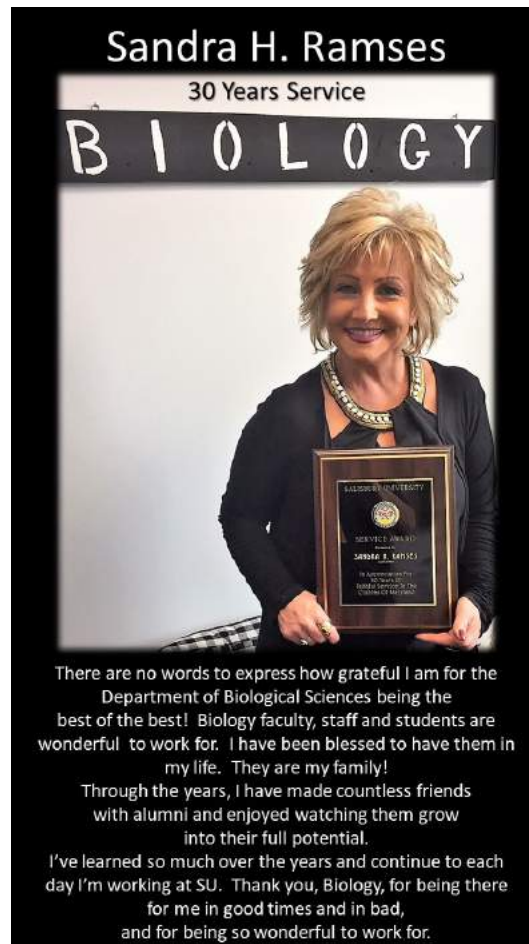


What would we do without her?



Spring has come to Salisbury!



Magnolias in Bloom near Fulton Hall.

Biology Alumni

Jennifer Zogg – Class of 2016



Throughout my undergraduate career I had eager plans to work in Ecological Genetics with a focus in habitat restoration. During my time at SU, I interned at several Chesapeake Bay recovery organizations & participated in undergraduate research with this goal in mind. However, after graduating from Salisbury in December of 2016, I was offered a position as a Senior Technician at Merck Pharmaceuticals. The job put me in the driver seat for independent work with vaccine testing & development, a career track I had never before imagined myself in. Here I was able to apply & expand my understanding of virology, cell culture, & chemical assays, all within the realm of strict regulatory compliance. The position also provided a great view of large-scale manufacturing. With newfound interests in the medical field, I later accepted my current position as a Quality Engineer for medical devices at EPC. Here I manage validation designs & executions at an industrial level. On a daily basis I am able to apply the skills developed at SU, & I greatly value the research experience I gained while attending.

SU helped me to develop many important skills, but the most valuable has been technical report writing & presenting. The process of writing concisely at a high level, analyzing experiments for informational gaps, & garnering the expertise needed to present & defend data interpretations has been vital to my career path. Having biology professors that specialized in such diverse fields of study added great value to my education & granted exposure that made me a well-rounded individual. I also valued the opportunity to be close to the Bay while attending a university with local prominence.

I was a member of Beta Beta Beta (Tri-Beta) & performed undergraduate research with Dr. Briand focusing on carbon sequestration in the Salisbury Arboretum. I am a transfer student, & at my previous college I served as President of the Biology club, Treasurer of the Environmental Science Club, & Public Relations Officer of the Student Government.

My best SU memory is of the Chesapeake Bay summer course taken with Dr. Horton. The class spent five weeks kayaking around the Bay while becoming immersed in the natural & urban areas to better grasp the depth of their relationships. The trip not only opened my eyes to the vast logistical issues underlying seemingly simple problems, but it also left our group with a few good personal stories. Whenever we reconnect, fellow alumni are sure to remind me of the time I stepped onto a seemingly innocuous patch of shore only to find myself sinking in quicksand & in need of a minor rescue mission.

I would describe SU as “full of opportunity.” As is with any university, your experience is what you make of it, but SU is truly in the Goldilocks zone of school sizes. It is large enough to draw in talent scouts & generate advancement opportunities outside of the campus, but small enough that you are able to connect 1:1 with your advisors & get personalized direction & mentoring. The ability to be a part of faculty research projects as an undergraduate was an invaluable experience I found lacking at many larger universities.

One of my proudest moments was graduating with honors. Like some of my fellow students, I attended college without financial support from my family & had to work long hours to afford rent & necessities. Sometimes it felt impossible to balance my course load & work without burning out, but I persevered & graduated Magna Cum Laude, & for that I am very proud.

I’m a pretty open book, but a lot of people don’t know that I volunteer at Seasons Hospice visiting patients & their families. There is a big stigma around hospice & a notion that my volunteer work must be somber & difficult, & sometimes that’s true, but it’s typically full of appreciation, reminiscing, & laughter. The patients & I love to share funny stories from our pasts, talk about the people who made big impacts on our lives, & check off items from bucket lists. It serves as a good reminder that life is short & to appreciate every day.

I love visiting Arizona. The desert scenery is stunning & there are plenty of beautiful hiking trails. Not to mention that a break from the East Coast humidity is always nice. I also love to fish & am an avid fossil hunter. Think of me as the kid who never grew out of their dinosaur phase. In my free time I travel across the U.S. visiting fossil hot spots & I love the feeling of renewed connection to the ancient world every time I find something new.



Success!!!



Fossilized barnacle



Mary Guest (Biology class of 2020) has accepted a position as Research Associate with Leidos Biomedical Research Inc. at the Frederick National Laboratory for Cancer Research.

Our Students

Fulbright Semifinalists



Briana Branch, '21, Bio Major, Chem & psych minors (HONR):
The Fulbright would allow me to study at the University of Birmingham & get a MSc doing research in Cancer & Genomic Sciences. It is a one-year program that includes classes & a research project. The program aims to bring together scientists, researchers & clinicians to elucidate basic cellular processes & then assess how they are usurped by cancer.

Link: <https://www.birmingham.ac.uk/postgraduate/courses/research/med/cancer-genomics.aspx#ResearchTab>



Jack Lenox, '21, Bio major, chem minor (HONR):
It is an honor to even be named a semi-finalist for the award. The Fulbright I have applied to is a Study award, meaning that if I am selected as a Finalist, my Fulbright will send me to Tampere University in Tampere, Finland where I will spend 2 years getting my Master's in Public & Global Health.



Abigail Miano-Burkhardt, '21, Bio & Psych double major:
My Fulbright is located in Taipei, Taiwan. I applied for a Master's Degree in the Graduate Institute of Mind, Brain, & Consciousness at Taipei Medical University. If I were to go, I would be working in a lab investigating intrinsic brain activity associated with bipolar disorder in clinical populations.

DAAD (German Academic Exchange Service) Scholarship



Nathan Ashley:
The scholarship will send me to Greifswald, Germany to conduct a greenhouse study on the effects of an invasive cactus species on the biodiversity of native plants. This summer, I will be helping to take care of the plants we grow & will be collecting growth data in order to help a PhD student complete his research.



Chinese Paper Bush in Bloom in the Secret Garden.

Biology Students Present Research to State Legislators at 5th Annual Posters on the Bay, March 10, 2021.

Niko Alexander of Worcester County, MD –
Assessing Relationships Between Insects and
Plant Structure on Poplar Island, MD.
Advisor: Dr. Xuan Chen



Sheridan Sargent of Montgomery County,
MD – “Regeneration of Peripheral Motor
Axons and Myelin Sheath Following Recovery
from Hyperglycemic Induction in Danio Rerio.
Advisor: Dr. Jessica Clark



Camellia in Bloom.

The Defense Rests – The Verdict, Graduation!



Derek Coss finished his MS in the **Taylor-Hunter Lab**. Derek was the first SU MS student to give his public & private defense via Zoom. The first chapter of his thesis has been accepted in the prestigious European Journal of Behavioral Ecology. Derek started working at Catoctin Wildlife Preserve as a herpetologist 2.5 months ago & now he has moved on to an AmeriCorps position working with the Maryland Conservation Corp & National Park Service. Congratulations Derek!

Breast Cancer Awareness



Sage Hunter (Left) organized a breast cancer awareness campaign by Zeta Tau Alpha in November. Sage & other ZTA members, including Hanna Morgan, Madi Friz, & Jordan Travers (group photo, Left to Right), posted flyers on campus kiosks & in Ladies' rooms to promote regular breast self-examinations, which can lead to early cancer detection.

Our Faculty

Nyland & Quillin Named as 2021 Scholarship of Teaching & Learning Fellows

SU recently announced the 2021 cohort of the Scholarship of Teaching & Learning (SoTL) Fellows, including Dr. Jennifer Nyland & Dr. Kim Quillin in the Department of Biological Sciences. SoTL fellows spend a year working in collaboration with the University Analysis, Reporting, & Assessment Office & the SoTL Faculty Learning Community to advance a project that supports the SU community.

Nyland is focusing on “Integration & Evaluation of Bioethics Interventions in Biology Courses.” The project will explore the integration & evaluation of a bioethics framework & discussion into the biology classroom at the lower & upper level & will use case-based discussion & reflective writing assessment tools to tie ethical considerations to various topics in biology. The project builds from Nyland’s participation on the Re-Envisioning Ethics Access & Community Humanities (REACH) faculty advisory board & the Ethics Across the Curriculum FLC. For more information about REACH, see <https://www.salisbury.edu/academic-offices/liberal-arts/philosophy/reach.aspx>.

Quillin’s project is “Employing & Evaluating Equity & Inclusion Interventions in Gateway Biology Courses.” The questions of the project are: Which specific learning interventions should we employ in our new biology gateway courses (Biology 201 & 202, launching Fall 2021) to improve equity & inclusion, & how? What evidence will we use to evaluate the success of these interventions? The goal is to develop an explicit & transparent strategic plan for improving equity & inclusion in introductory biology & to make resulting resources & best-practices available to other courses in the biology program. If any alumni, undergraduate students, graduate students, or faculty have any ideas or information to share to advance this project, please contact Kim Quillin at kxquillin@salisbury.edu.



Core principle: Biology is important to society, & diversity is important to biology.



**Mary Gunther & Eric Liebgold have been green lit to plan their
Biodiversity Program for Winter 2022.**

The winter program The Economics of Biodiversity in Costa Rica runs for 15 days in January. The first two - three days are spent in classes on campus at Salisbury University & the next 11 in Costa Rica. Upon return students may be required to meet on campus for two days. The program is designed to give students the opportunity to experience & study the vast biodiversity of Costa Rica. Starting in Tortuguero—nesting ground of sea turtles - the class explores the many different habitats of Costa Rica. Visits to Tirimbina Biological Reserve & La Selva Biological Station acquaint students with research happening in real time. In Monteverde students experience the rain forest canopy via zip lines, hiking & hanging bridges. The last part of the trip studies the Guanacaste Region through visits to Palo Verde National Park, Las Baulas National Marine Park & a snorkeling trip to a coral reef. The program is comprised of two courses traveling together – students register for ONE!

Planning is under way & the website for registration will be available soon. Travel is all dependent on what happens with covid 19 but it is anticipated that travel to Costa Rica will be available by January of 2022. Final decisions will be made in September 2021 & students will not incur any costs until then.

Option 1: BIOL 299 or 399

Tropical Biodiversity & Ecology

3 credits (Gen Ed IVA lab or UL BIOL)

Instructor: Eric B. Liebgold, Ph. D.

ebliebgold@salisbury.edu

Option2: IDIS 399

**Global Seminar in Interdisciplinary Studies
Biodiversity, Ecotourism & Culture**

3 credits (Gen Ed IVB)

Instructor: Ms. Mary R. Gunther, M.S.

mrgunther@salisbury.edu



Mary Gunther

Faculty Learning Community: Zoo House Rock: Salisbury University & The Salisbury Zoo: Development of Mutually Beneficial Programs

The above named FLC has been working with the Salisbury Zoo for two years now & we are continuing to develop new programs & improve on existing ones. Here is a summary of the original proposal for this FLC: For several years various faculty have proposed working with the Salisbury Zoo to develop programs that would benefit the zoo as well as SU. Individual teachers have had short term projects at the zoo & BIOL 101 includes a trip to the zoo as a lab for all sections. The proposed FLC would formalize the relationship between SU & the Zoo. Projects developed would be of benefit to SU faculty & students as well as to the zoo.

Accomplishments of the FLC so far: the installation of a “blood sleeve” by Bill Wolff to facilitate the taking of blood samples from the zoo’s Andean bears; an art installation at the zoo of metal artwork created by Salisbury University students; Rhyannon Bemis’s Living Laboratory Project with the zoo staff as well as coordination of her Psych 402 class projects with students at the zoo, acceptance by FLC facilitator Mary Gunther into the Honors Faculty Forum where she developed a class on Wildlife Trafficking to be offered beginning Fall 2021; redesign of the BIOL 101 Lab that goes to the zoo to include a component where the students will be collect observation data for the zoo staff; research projects using endocrine analysis with owl pellets; facilitator presented the work of the FLC at the AZA Conference in September 2019; installation of the otter slide at the zoo; plans for a new sculpture exhibit for spring 2021. There are more ongoing & in development projects. The FLC has many members from different departments across campus but I would like to see more BIOL folks involved. If you are interested in joining the FLC or have students interested in doing a research project with the zoo, please contact me. The next FLC meeting will be on April 9 at 10AM via Zoom.



News from the Taylor-Hunter Lab

A new graduate student has joined our lab! **Olivia (Rose) Hamilton** has officially joined the lab to work on túngara behavioral endocrinology. Rose did undergraduate work at SU & in Panama in 2019, & she was creator & webmaster of our lab website (www.robofrog.org). Rose had planned to go to Panama this summer to begin her graduate research, but the pandemic has delayed this until 2021. Rose was able to get a jump on her graduate program. She audited an R class from Harvard & she took a graduate class in Bioacoustics from the Organization of Tropical Studies (Costa Rica). Welcome Rose!



The Taylor-Hunter Lab had active undergraduate research during the pandemic, summer of 2020. **John Gorman** received a Guerrieri Undergraduate Research Grant. John was able to conduct behavioral data mining with recorded mate choice experiments. John collaborated with **Derek Coss** by reviewing all his recorded trials to look for unique behaviors during the choice trial. John looked at six new behaviors without prior information of the choice, & then analyzed the data based on female choice. John presented this research at the virtual research meeting in early September 2020.

Dr. Ryan Taylor gave a seminar in August 2020 at the Smithsonian Tropical Research Institute (STRI) Zoom Seminar Series. The title of the talk was, “Multimodal signaling in the túngara frog: When sensory inputs become too much of a good thing”. Dr. Taylor is a STRI Research Associate & has worked in Panama for 17 years.

The Animal Behavior Meeting for 2020 was virtual! **Drs. Taylor & Hunter** & colleagues presented a talk: Correlations among multimodal cues in an anuran courtship display (L.S. James, R.A. Page, R.C. Taylor, K.L. Hunter, P.S. Wilson, W. Halfwerk, M.J. Ryan). This was collaboration among researchers from Salisbury University; University of Texas, Austin; Smithsonian Tropical Research Institute; & Vrije Universiteit (Amsterdam).

Dr. Ryan Taylor, Dr. Kim Hunter, Rose Hamilton, Derek Coss, & John Gorman participated in the Frog Talks via Zoom this summer. The Frog Talks are an annual gathering of people conducting research during the summer in Gamboa, Panama. These weekly talks have become a staple of training students & communicating new research to a unique audience. The Frog Talks were started by Dr. Mike Ryan from the University of Texas, Austin & Dr. Karen Warkentin from Boston University over 20 years ago. Dr. Warkentin made sure to keep the tradition going for the next generation.

Publications

Coss DA, Hunter KL & Taylor RC. 2020. Silence is sexy: soundscape complexity alters mate choice in túngara frogs. *Behavioral Ecology*, araa091. We received the cover of the journal for this issue.

Taylor RC, Wilhite KO², Ludovici RJ², Mitchell KM, Halfwerk W, Page RA, Ryan MJ & Hunter KL. 2021. Complex sensory environments alter mate choice outcomes. *Journal of Experimental Biology*, 224 (1).



Emmert EAB, Geleta SB, Rose CM², Seho-Ahiable GE¹, Hawkins AE¹, Baker KT¹, Evans AS¹, Harris ME¹, Mrozinski AC¹, Folkoff ME³, Anderson PD, & Briand CH. 2021. Effect of land use changes on soil microbial enzymatic activity & soil microbial community composition on Maryland's Eastern Shore. *Applied Soil Ecology* 161. 103824

Price DL, Rowe E¹, & Mann HR¹. 2020. Ants (Hymenoptera: Formicidae) attracted to baits in the E.A. Vaughn Wildlife Management Area, Worcester Co., Maryland. *Proceedings of the Washington Entomological Society* 122(4): 1022–1025.

¹Undergraduate students

²Graduate students

³Department of Geography & Geosciences

Curriculum Changes!

Have you heard? This fall there will be big changes in our biology curriculum with the addition of new tracks. Students will have the option to choose one of these tracks in biology:

- The general biology track provides a broad understanding of biology at the molecular, cellular, organismic & population levels, with a focus on developing knowledge & skills that are important for biologists in the 21st century.
- The environmental biology track prepares students for jobs & advanced degrees in areas such as conservation biology, ecology, organismal biology & earth science.
- The biomedical science track focuses on fundamental concepts, competencies & critical thinking skills necessary to succeed in medically-related careers or biomedical research.
- The biotechnology track involves hands-on experience with cutting-edge technologies involving bioinformatics, genetic engineering & genomics, & is suitable for those wanting to pursue careers or advanced degrees in biomedicine, agriculture, law, or research.
- The Biology Secondary Education track is a rigorous program of study in biology & professional education courses. This track is accredited & approved by the Maryland State Department of Education for secondary school teacher certification (Grades 7-12).

The Bestiary!

Dr. Chen's dog Grace



Mishka (right) with her new friends Fearghal & Gillie (Dr. Briand)





SU's Giving Day returns Tuesday, April 6, 2021. YOU CAN GIVE TO THE BIOLOGY DEPARTMENT TO SUPPORT STUDENT TRAVEL & STUDENT SEMINARS!!

**Every student & alumni gift, up to \$50, will be matched
by alumni Wayne & Melissa Judkins '89**

\$25 becomes \$50

\$35 becomes \$70

\$50 becomes \$100



**PETER KIM
BIOLOGY (PRE-MED) ALUMNI**

Covid Giving Day funds supported my attendance at the American Society of Biochemistry & Molecular Biology conference in Orlando, FL. I presented my research for the first time in a national setting, gained experience, & connected with leading researchers in the field. Donations also supported the Biology Seminar Series, which allows students an inside look at different realms of the scientific world.

Thank you to all who gave to help support these valuable experiences.

Alumni Connection



SU BIOLOGY ALUMNI

Stay Connected !

We want to hear from you! Please let us know where you are living & what you are doing! We would love to hear from you. In the future we plan to have an Alumni Connection section in our newsletter.

Send information to: Sandra Ramses, Program Management Specialist
SHRAMSES@SALISBURY.EDU

Your Editor



Send any contributions to **Dr. Chris Briand**
chbriand@salisbury.edu

Wombat Awareness Organization



The Wombat Awareness Organization (WAO) is a non-profit charity specializing in the rescue, rehabilitation & advocacy of the unique, amazing & gorgeous Southern Hairy-nosed Wombat.



Donate to the WAO

<https://www.wombatawareness.com/donate>