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Letter from the Chair

Biologues has had a makeover. It seemed time for an update, so we enlisted a Biology alumna with production and writing skills, Erika Dietrick, to work with editor Pat Harris on a new approach. You will see less text and fewer but more focused features. I hope you like it—let me know!

On other fronts, the biggest news is the progress on designing the new Life Sciences and Biotechnology building. A team of architects and several Biology faculty members, plus representatives from Engineering, Physics, ECU Facilities and ECU’s Division of Research, Economic Development and Engagement, have been meeting regularly through the fall. I have worked on such projects with different groups of architects, and I am extremely impressed with this team.

Perhaps the building news contributed to another very positive development—our biggest year to date in fundraising, with several new scholarships being initiated or reaching maturity. We are incredibly grateful to the long list of alumni and other supporters who have made this milestone possible and done so much to help our students. If you were one, thank you!

We would love to say thank you in person. If you are in Greenville for Homecoming, please join us for Biology’s Homecoming Nerd Nite. Details will be posted on our home page.

DEVELOPING SCIENTISTS

Molly Albecker and mentor Dr. Mike McCoy received a NSF Doctoral Dissertation Improvement Grant for her research titled "Mechanisms of adaption to saltwater by an amphibian."

INNOVATIVE RESEARCH

Dr. Kyle Summers wins the Life-Time Achievement Award for demonstrating Müllerian mimicry in frogs, researching evolutionary approaches to medicine, and much more.

ESTEEMED EDUCATORS

Congrats to Dr. Beth Thompson, recipient of a 2016-2017 ECU Scholar-Teacher Award. The award honors faculty who effectively integrate scholarship in classroom teaching.

(Accolade photos by Cliff Hollis.)
Cracking jokes and debating global research priorities with his labmates, Honors College sophomore Matthew Chilton feels perfectly at home in Dr. Zhu's zebrafish laboratory. What began as an unbridled interest in genetics has turned into long weekdays and weekends spent assisting graduate students with their research.

Chilton was initially drawn to ECU's Biology Department by encouraging and approachable faculty members. "On my tour, a biology faculty member invited me to join their lab," he recalls. "That never happens at other universities." That chance friendly encounter became the catalyst for a budding career in research.

The Zhu lab studies genetic and enzymatic pathways within ovaries, specifically, which genes and enzymes are responsible for maintaining fertility through specific functions during ovulation. Chilton has learned various techniques such as CRISPR, a gene editing technique used in treatment of multiple sclerosis.

"We are all products of DNA. I like to romanticize the fact that studying genetics is basically DNA learning about itself."

Ultimately, Chilton plans to become a medical scientist ("like Dr. House MD without the cane and bad attitude"), and the Everett Simpson Scholarship awarded by the Biology Department covers expensive textbooks. "I can assure you that I use them well and read them cover to cover," he adds, "...your generosity does not go unnoticed."

Over half of our students are involved in faculty-guided research – and Biology hosts more Honors College students than any other department.
First-year master's student and La Grange native Chris Thaxton (right) is equal parts rock star and scientist as a member of the band Forever Gone and a mentee of Dr. Rebecca Asch, who joined the Biology Department in January.

"[Dr. Asch] had no official obligations to assist me [with my research], but she has been in constant communication with me since last June and has been an invaluable resource when designing my project," says Thaxton.

Asch (far right) conducts research that will advance our understanding of how climate change affects fish populations and provide knowledge for the effective management of living marine resources.

Investigating Infection
Rebecca Barnard came to ECU from a background as a lab technician interested in working with marine bioinvasions and parasites. The adventurous outdoors woman joined the Blakeslee lab, where she studies the effects of infection by a trematode parasite on native and non-native crab species in New England. "I want to explore not only how their interactions may change," says Barnard, "but also look at the gene expression of both species and see how that may change with infection." Her work is supported by a grant from the Coastal Maritime Council and was presented at Benthics 2017.

Renaissance Woman
Aspiring geriatrician Bina Amin was initially attracted to ECU through the opportunities and scholarship offered by the Honors College. Amin divides her time between genetics-based diabetes research in the Keene lab, her responsibilities as co-captain of ECU's first traditional Indian folk dance team, her role as Vice President of Stand Up for Survivors (raising awareness of campus sexual assaults), and her work for the ECU Center for Leadership and Civic Engagement, among other initiatives.

Passion for STEM Outreach
Amelia Blake began her PhD program excited to learn a model organism that is highly adaptable to the classroom: Drosophila melanogaster (fruit fly). She co-founded Scientific Research and Education Network (SciREN) Greenville last year to connect STEM graduate students with local educators. Since then, she has received a Biodiversity Initiative grant to develop a hands-on activity demonstrating immunofluorescence. Blake cites her research mentor, Dr. Elizabeth Ables, as an incredible resource and teacher as she prepares for a career in academia. Ables was deservedly selected for the 5th Annual ECU Distinguished Graduate Faculty Mentor Award.
Senior Austin Whitman explains his research to a fellow student at this year’s Research & Creative Achievement Week (RCAW) at ECU. RCAW allows students to practice their presentation skills and learn about scholarly activities across the university. See winners here.

Students learn about plants at this year’s Earth Day Expo, hosted by the Biology Department in April. We welcomed the community into Howell Science Complex for fun activities, games, and demonstrations. Associate Professor Heather Vance-Chalcraft, who coordinated the day’s events, explained to the Reflector, “We try to show kids that nature is both fun and educational and everyone is capable of doing science...all they need is curiosity.” (Photo by Yong Zhu)

STAY UP-TO-DATE BY FOLLOWING US ON SOCIAL MEDIA
LOYAL AND BOLD
SUPPORTING OUR STUDENTS

The diligent work of our Advancement Council and the generosity of our donors fund over $28K in student scholarships. With your help, we can recruit, retain, and support bright undergraduate and graduate students through a wide range of scholarships. (Details on department web pages.)

Advancement Council, left to right: John Bray, Tim Meigs, Judy Heath, Gerhard Kalmus, Christy Weeks, Shawn Moore, Cindy Putnam-Evans, Jeff McKinnon, Jennifer Jacobs. Not Pictured: Nancy Bray, John Chaffee, Laddie Crisp, Christopher Gauland, Kathleen Kennedy, Jessica Nottingham, Mark Phillips, Frank Riley.

CONGRATS TO OUR SCHOLARSHIP RECIPIENTS:

UNDERGRADUATE
Bina Amin....Raymond and Ryan Church Memorial Scholarship
Lawrence Barnosky......................Gerhard Kalmus Scholarship
Dalton Chapman......................Mary Caughey Helms Scholarship
Matthew Chilton......................Everette C. Simpson Scholarship
Susan Kennedy..........................Slate Family Scholarship
Megan Kocjea..............................Mary Caughey Helms Scholarship
Amar Patel.................................Slate Family Scholarship
Martina Plafcan........................Detlev M. Bunger Memorial Scholarship
Nethusan Sivanesan.....................Charles Bland Scholarship

GRADUATE
William Chris Thaxton..........Martha N. Jones Scholarship
Amelia Blake......................James S. McDaniel Scholarship
Rebecca Barnard..............James S. McDaniel Scholarship

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in memory of Professor Hal J. Daniel, III:
stellar teacher of anatomy, productive scientist,
accomplished chef, published poet,
and dear colleague.

Kathleen Kennedy
2016-2017 President

Kathleen Kennedy is the 2016-17 President of the ECU Department of Biology Advancement Council. Now retired, Kathleen spent much of her career with the North Carolina Biotechnology Center in Research Triangle Park, NC, most recently as Vice President of Education and Training. She obtained her PhD in Molecular Biology from Vanderbilt University and conducted post-doctoral research at the Biozentrum of the University of Basel, Switzerland. She is a founding member of our council.
Class of 2017, this is your time to shine. You all will go on to be some of the greatest scientists, doctors, dentists, pharmacists, CEOs, and government officials that have ever come through ECU.

– Mona Amin during the 2017 ECU Biology Commencement Ceremony. Amin co-founded FreshSpire, Inc., an app that reduces food waste and increases food security by notifying consumers of discounts on near expiring goods at local grocery stores. (Photo by Cliff Hollis)

LIFE AFTER COLLEGE
Biology alumni leave ECU to pursue a wide range of career options:

Kaitlyn Allen (BS ‘14)
Cytogenetic Technologist, LabCorp Center for Molecular Biology and Pathology, RTP, NC

Catherine Gouge, MPH (BS ’06, MS ’10)
Informatics Chief, Arizona Department of Health Services, Phoenix, AZ

Jenna Honeycutt, PhD (BS ’09)
Postdoctoral Fellow, UNC Chapel Hill

Aric Ledford (MS ’99)
Patent Counsel, 23andMe, Inc., Mountain View, CA

Jeffrey B. McCallum, MD (BS ’93, MS ’97)
Physician, Department of Veteran Affairs, Morehead City, NC

Jamie Vernon, PhD (MS ’05)
Editor-in-Chief of American Scientist
Vernon recently participated in the March for Science "Science Policy and Communicating Science to Skeptical Audiences" panel.

Robert Twilley, PhD (BS ’74, MS ’76)
Louisiana Sea Grant Executive Director
Twilley received the 2017 National Wetlands Award for Science Research from the Environmental Law Institute.
Thank You to Our 2016-2017 Donors

We couldn't do it without you.

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- Terry Lynn West and Katy Horton West

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- Matthew Kingsley Miner and Elise M. Miner
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- Eugene Waters Jr. and Catherine N. Waters

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- Laura Lynn Beer
- Daniel Crandol and Renee Lee Crandol
- Thomas John Fink
- Bradley I. Glen and Kelley Evans Glen
- Diana O. Harris
- Gary Dewey King and Sylvia W. King
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