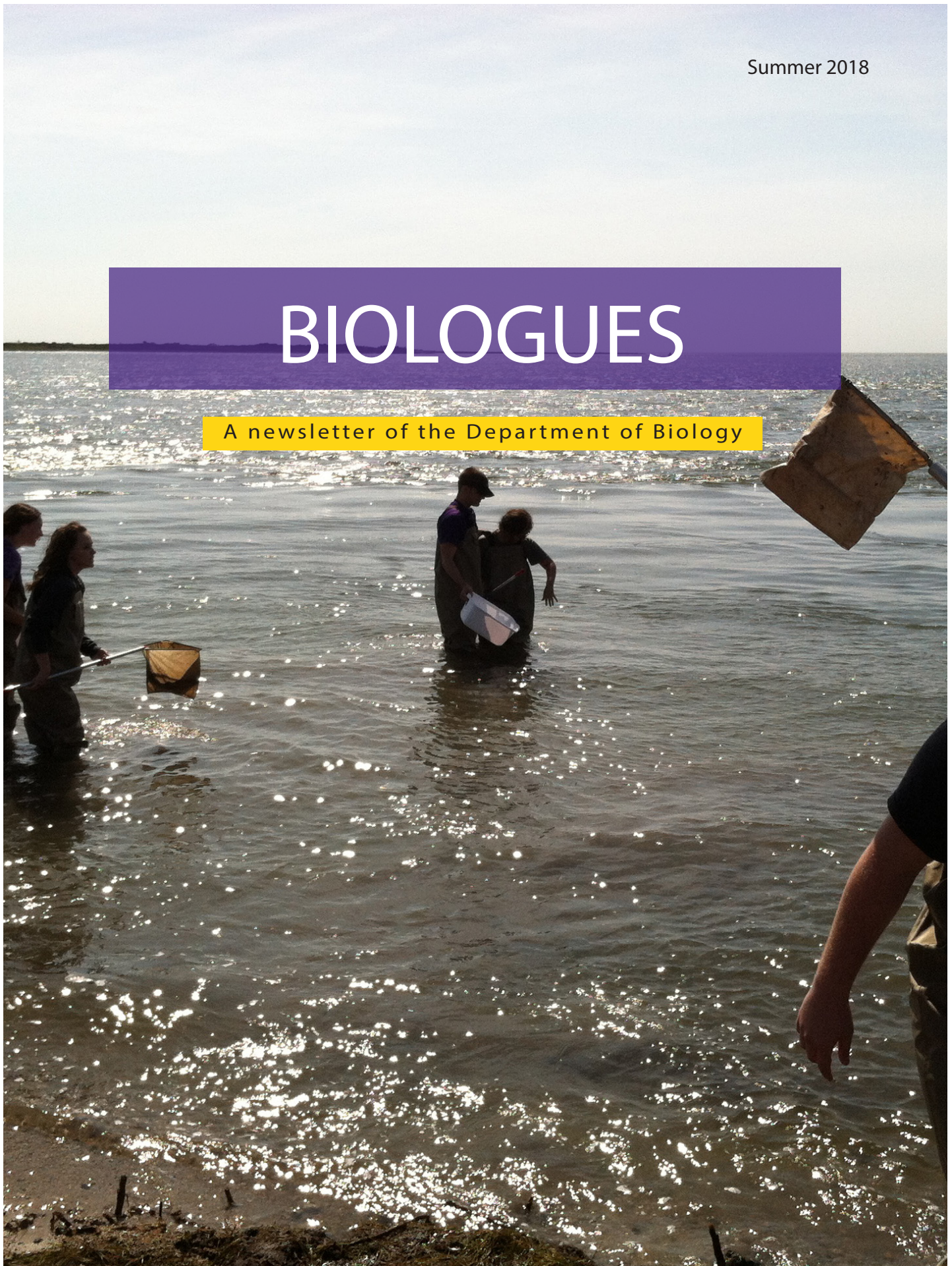


Summer 2018

# BIOLOGUES

A newsletter of the Department of Biology





# Looking at Life in the East



## Letter from the Chair

Ten years ago I arrived in Greenville to begin my tenure as Chair of the ECU Department of Biology. I felt privileged to be given this opportunity and I feel similarly fortunate now as I step away from the Chair role to join the faculty full time. Approaching a decade of service as Chair it was tempting to stay in leadership and continue enjoying the many successes of our faculty and students—but the time for a change had arrived.

I take considerable satisfaction in the department's progress, especially given the great recession that greeted my arrival. I have been most gratified by the growth and diversification of our student bodies and our faculty; the upward trajectory of departmental research performance; our faculty's many innovations in teaching; increased outreach



Prof. Jeff McKinnon with some of our staff and faculty award winners (l to r): Taria Crenshaw, Julie Marik and Dr. Heather Vance-Chalcraft.

to the community; the recognition our students and faculty have received on our campus, nationally, and internationally; and the improvements in our physical plant, with a new building and greenhouse coming shortly.

I am grateful to THCAS Assoc. Dean and Professor of Biology Cindy Putnam-Evans for accepting the Interim Chair position while a national search is conducted for a permanent leader. I am incredibly optimistic about our prospects. It continues to be a fine time to be a Biologist in Eastern North Carolina!

## DEVELOPING SCIENTISTS



Graduate student Christopher Moore was selected as a 2018 North Carolina Sea Grant and N.C. Coastal Reserve Coastal Research Fellow, allowing him to fund his marine-life research.

## INNOVATIVE RESEARCH



Dr. Rebecca Asch was recognized as one of 126 recipients of the 2018 Sloan Research Fellowships. Her work focuses on how warming oceans are affecting some marine species.

## ESTEEMED EDUCATORS



Dr. Elizabeth Ables, received a 2017-2018 Board of Governors Distinguished Professor for Teaching Award in addition to the Deans Early Career Award!

(Accolade photos by Cliff Hollis.)

# New Ways of Learning

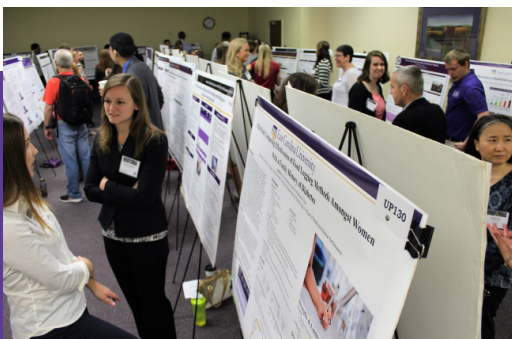


BIOL 1201 students collecting amphipods in Roanoke Sound

In Fall 2015, the Department began offering a new version of the laboratory required for Principles of Biology II. Known as Biology 1201, the new lab was conceived as a short field and experimental experience designed to allow distance education students the opportunity to enjoy a 'real' lab experience!

Each Fall and Spring break finds students at the UNC Coastal Studies Institute. Over the course of four days, students design and run experiments, conduct field sampling using field techniques ranging from plankton nets to sweep nets and beach seines, and interpret and analyze the data they collect.

Prior to the field portion of the lab, students design an experiment utilizing a (usually) easily collected amphipod. On arrival at the field station, they may have to reassess their experiment depending on the number and status of specimens sampled - a great introduction into the real world of field biology!



Distance Education students provided with a four day field intensive laboratory course Principles of Biology II lab.



'Strange' Dawkins (left) and Cearra Blackwell (right) help one another with their investigative experiment.

The specimens collected in the field are identified in the lab - including the always popular sweep sampling which can sample several species of spiders! Specimens must be identified, and phylogenies and food-webs constructed. After four days of intensive work, summaries of each project are presented to the class. A great new way to learn!

## ENGAGING MINDS

Over half of our students are involved in faculty-guided research -- and Biology hosts more Honors College students than any other department.



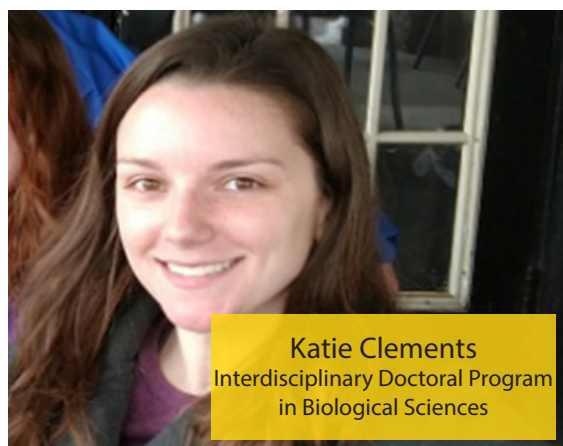
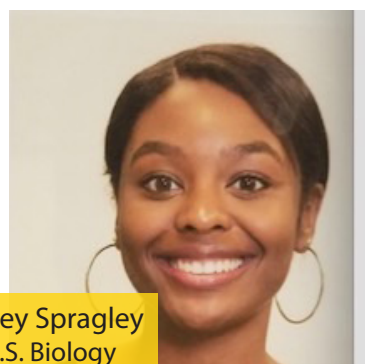


## Dual Passions

Seth, a double major in Biology and Geology, was featured in the 2018 Edition of ECU's East magazine. Seth plans to complete a PhD and pursue a career in Academia, where he hopes to inspire students not only to learn, but to be engaged participants in the world. He is inspired by the idea that research he engages in, whether in Biology or Geology, will have a impact on society, either directly or indirectl

## Affecting Lives

Kelsey Spragley, a MS Biology graduate student, was awarded a National Institutes of Health (NIH) Research Supplement to Promote Diversity in Health-Related Research. This award (funded over 12 months) will support Kelsey's research focused on using cutting edge metabolomics (scientific study of chemical processes involving metabolites) approaches to identify biomarkers contributing to recurrent stroke risk in African Americans. Kelsey is co-mentored by Dr. Keith Keene and Dr. Michael Brewer.



## Adventures in Neurobiology

Katie Clements, a PhD student in Dr. Fadi Issa's lab was among only 10 students nationally to be accepted into the Marine Biological Laboratory neurobiology course. Acceptance is highly competitive and is accompanied with the prestigious \$8,000 MBL fellowship Award. The course will provide Katie with advanced training in cutting-edge neuroscience techniques. Katie's project focuses on understanding the neural bases of social regulation using zebrafish as an animal model. Male zebrafish fight and form social relationships. Katie is trying to identify brain neural circuits that undergo social status dependent reconfiguration and consequences of neural morphological changes on behavioral output.

# Welcoming New Faculty



Biology welcomes Dr. Rachel Gittman (left), an estuarine ecologist, and Dr. Tim Erickson (right), a cell and developmental biologist, to the Department! Rachel's areas of expertise include marine community ecology and restoration ecology, while Tim uses zebrafish as a model system to understand our sense of hearing and balance.

Rachel received her doctorate in Ecology from the University of North Carolina at Chapel Hill and was a Postdoctoral Research Associate at Northeastern University. Tim completed his Ph.D. at the University of Alberta in Canada, and did his Postdoctoral research at Oregon Health and Science University.



Welcome to both!

# Department Events

## 3-Minute Thesis Competition



Stephen Orr (Photo by Fadi Issa)

Three minutes to present your life's work. No pressure! Biology repeats as Departmental winner, and Stephen Orr (doctoral student advised by Fadi Issa) continued the Department record for bringing home the People's Choice Award for his talk on behavior.

## Undergraduate Honors Symposium

The 3rd annual symposium showcasing the research of this year's senior honors students was a huge success! The unique event recognizes the efforts of some of our brightest undergraduate researchers.

## Nerd Nite

The Biology Department, proud home of it's founder, continues to be a strong supporter of the monthly 'Nerd Nite' meetings held at Tapped on Firetower Road in Greenville. Past topics have ranged 'The Science of Blackbeard' to 'Space Archaeology'. Find out more at <https://twitter.com/nerd-nite252?lang=en>. Be there and be square.



Brittany Dawes, majoring in biology, displays her poster detailing her research into a corn mutation called fuzzy tassel, or FZT 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.



Students learn about the unseen world 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. Assistant Professor Heather Vance-Chalcraft, who coordinated the day's events, explained to the Daily 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 \$56K 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.)



**Tim Meigs**  
2017-2018 President

Tim Meigs (BS '89) is the 2017-18 President of the ECU Department of Biology Advancement Council. Tim is a patent attorney, managing intellectual properties such as patents for Becton Dickinson's corporate research unit in Research Triangle Park and throughout the US. Although an attorney, he credits his biology and chemistry courses and labs for giving him the foundation in the sciences to figure out the ever-advancing new technologies he has encountered during his patent law career.



**Advancement Council 2017, left to right:** Tim Meigs, Kathleen Kennedy, John Bray, Judy Heath, Gerhard Kalmus, Christy Weeks, Nancy Bray, Shawn Moore, Frank Riley, Laddie Crisp. Not Pictured: John Chaffee, Christopher Gauland, Jessica Nottingham, Mark Phillips, Cindy Putnam-Evans.

## CONGRATS TO OUR SCHOLARSHIP RECIPIENTS:

### UNDERGRADUATE

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

### GRADUATE

Katherine Gordon.....Martha N. Jones Scholarship  
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Catherine Darcy.....James S. McDaniel Scholarship

**NEW SCHOLARSHIP FUND ESTABLISHED**  
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and dear colleague.

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## LIFE AFTER COLLEGE

Some of the research done by Dr. Chuck Bangley while a PhD student with Roger Rulifson at ECU was used to show that sightings of nursing bull sharks in coastal estuaries such as North Carolina's Pamlico Sound are on the rise.



The increase may largely be due to ocean warming, a phenomenon that is encouraging bull sharks to "colonize" the sound as part of their nursing habitat. That's the conclusion of a multiyear study by Bangley and co-authors published on Nature.com.

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

Mia Marshall MD (BS '13)  
Resident Physician, ECU School of Medicine

Jacob Boyd (MS '11)  
Habitat and Enhancement Section Chief,  
Division of Marine Fisheries, Morehead City, NC

Bruce Panneton (BS '96, MS '02)  
Dean of Health Sciences and Public Safety  
Edgecombe Community College, NC.

Faten Taki (MS '13, PhD '16)  
Postdoctoral Associate in Pharmacology  
Weill Cornell Medical College, NY

Evan Twomey (MS '08, PhD '13)  
Postdoctoral Researcher, Vrije Universiteit Brussel  
Brussels, Belgium



Alvin M. Simmons, PhD (BS '80)  
President-Elect  
Entomological Society of America  
Alvin is a Research Entomologist at USDA-ARS, U.S. Vegetable Laboratory, Charleston, SC.



Christina Weeks (MS '00)  
Biotechnology Department  
Chair, Pitt Community College  
Christy's department recently moved into the new Science Center on the PCC campus



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