Support the UNC Department of Biology

It is a great time to be a part of UNC Biology’s community of students, faculty, staff, and alumni. With your help, our department continues to be a leader in both research and teaching. We are proud to report that many of our undergraduates are going on to medical school, graduate school, or careers in health and STEM related fields after graduation. Our graduate students and post-doctoral associates continue to make groundbreaking discoveries in collaboration with our research faculty, and our teaching faculty are setting the bar for excellence and innovation in teaching at a national level. Thanks to enthusiastic giving by our alumni and friends, the goal for our Jean DeSaix Excellence in Teaching Fund (104603) is in sight. We have raised more than $29,000 to date, but we still need your help to reach $50,000 so that the fund can be endowed. Once endowed, the fund will provide professional development awards for teaching faculty, as well as excellence awards to undergraduate and graduate students who support the department’s teaching mission.

Our department’s impressive scope, standard of excellence, commitment to active learning, and leadership in cutting-edge research depend on the generosity of alumni, parents and friends. Please make your gift today by returning the enclosed reply card, or by visiting bio.unc.edu/donate.

For questions about creating your own fund, making stock or estate gifts, donating to specific programs, or suggestions on how you can help UNC Biology, please contact Cassie Diltz at (919) 843-0345 or cassie.diltz@unc.edu. Thank you for your support.
DEPARTMENT NEWS

Spring 2019 Undergraduate Award Accolades

- Stephen Bradley Award - ARDI BERMAN
  The Bradley Award is given to a senior biology major for excellence in research in molecular, cell, and developmental biology.

- Robert Coker Award - BAILEY THOMASSON
  The Coker Award is given to a senior biology major for excellence in research in organismal biology and ecology.

- John Gough Award - HOPE ALLEN
  The Gough Award is given to a senior biology major with interests in plant biology who has demonstrated the highest degree of scholarship and research.

- Lawrence Gilbert Award - GRACE TAN and LEAH OWSWALT
  The Gilbert Award is given to two senior biology majors, for excellence in serving as a supplemental instructor, peer mentor, or tutor in a biology class.

- Irwin Hagedorn Award - KEVIN LIU
  The Hagedorn Award is given to the top junior biology major based on academic and research excellence. This award was presented in the Spring 2019 Chancellor’s Awards Ceremony.

- Frances LeClair Award - HANNAH MEDFORD
  The LeClair Award is given to a senior biology major for academic excellence in biology with an emphasis in plant sciences.

TALIA HATKEVICH RECEIVES 2019 DELILL NASASS AWARD

Talia Hatkevich, a graduate student in the laboratory of Jeff Sekelsky, received the 2019 Delill Nasass Award for Professional Development in Genomics. This award recognizes and supports young geneticians in their graduate or postdoctoral career. This esteemed award goes to those who conduct high-impact research in the field of genomics, with demonstrated service and leadership in their labs.

A DANGL-GRAZI GRANT LAB REUNION SYMPOSIUM

This fall Dr. Jeff Dangl and Dr. Sarah Grant held a “30 Years of Plant-Microbe Interactions” symposium to celebrate their 30-year lab anniversary. Presentations were given by scientists who traveled from four continents to celebrate science and the extraordinary work of these two dedicated researchers and mentors.

Biography Teaching and Advising Award Winners for 2019

DR. GIDE SHEMER was honored with the 2019 UNC-CH Chapman Family Teaching Award. The award honors a distinguished record of teaching undergraduates at UNC over an extended period of time. The Chapman Teaching Awards were created in 1993 during the bicentennial celebration through a generous gift by Max Carroll Chapman. Faculty members are selected by their students. Selected by his students.

DR. JEFF SEKELSKY was one of ten UNC faculty members awarded an "Excellence in Basic Science Mentoring Award" from the Office of Graduate Education and the Office of Faculty Affairs and Leadership Development. This honors exemplifies Jeff’s outstanding mentoring skills and dedication to the success of his students.

DR. LULIE SEARLES won the 2018-2019 Biology Faculty Teaching Award presented by the UNC Biology Teaching Society for students dedicated to improving the understanding and appreciation of biological study through research and teaching.

A Message from the Biology Graduate Student Association (BGSa)

The BGSa continues to promote departmental cohesion through various events, such as the BGSa and Biology Department sponsored Fall Picnic and Spring Research Symposium, as well as with monthly coffee hours and happy hours. This year we hope to further develop connections between graduate students, postdocs, and faculty by adding some new social events that will aid in creating a sense of community in our department. One such event will be weekly coffee hours on Tuesday at 12 pm, which will take place before the departmental symposium in Cobler Hall. Additionally, we aim to establish a plan that will provide younger graduate students in the department with mentorship from older graduate students. For more information on the BGSa and our programs please see our website: bgsa.webauc.edu. We hope to see you all at our various events throughout the year!

- Kayla Goforth, BGSa President

Faculty: In their own words...

P ractice, practice, practice. We know authentic practice is how learning works (think about how we learn to drive or speak a second language). I'm interested in ensuring that each of my courses, and offices in the department, are centered around this principle of practice. For example, rather than telling students what scientists discovered, I often ask students to construct their own interpretation of data and justify their ideas with peers. This mimics an authentic skill that scientists are required to master. This course has transformed my teaching from a majority of talking and explaining in lecture, to more periods of silence and noisy discussions by classes of hundreds of students. I find it exciting to design learning activities and experiments with what will help students learn most effectively. To collect evidence of student learning, I track real-time data through technology and student interactions, and I consider the classroom “my lab.” I'm lucky to have many collaborators who have the same philosophy around effective teaching. Our Biology Department is known in having some of the most effective professors in the College of Arts & Sciences. I have measured my effectiveness using rubrics that provide more opportunities for students to construct ideas and collaborate. The data from my class, curated by others in a variety of disciplines, show that all students benefit. Impatiently, some student groups, such as first-generation college students and underrepresented minority students, benefit even more.

As we think about how we can diversify science, I consider the weight of my role in teaching introductory students. I’m fortunate to be part of a team that believes our goal isn’t to “weed out” students but to provide opportunities for students to cultivate their talents. In turn, this allows more students to feel included and remain in STEM.

- Kelly Hogan
STEM Teaching Professor
Associate Dean of Instructional Innovation, College of Arts & Sciences

M y research interests lie at the intersection of biology and engineering. At the core, engineering is about developing solutions to problems. Biology is about understanding solutions exemplified in nature, i.e., organismal evolution. Many engineering applications deal with perception and action while learning and adapting to new challenges and perils. In nature, animals routinely demonstrate perception and action while adapting to their environments in order to survive and reproduce. A better understanding of how animals employ these concepts may help reveal insights and principles that can be leveraged to develop improved engineered systems. New technologies in various areas of engineering can be applied as experimental tools to study and answer biological questions in exciting ways. The goal of my lab is to use engineering tool development techniques (e.g., modeling and simulation, robotics) to advance our understanding of biology and animal behavior while also leveraging design principles observed in biology to develop innovative engineering systems.

Our current research focuses on animal magnetoreception and navigation. A wide variety of animals use the earth’s magnetic field to accomplish navigational feats that range from local homing to long-distance migration on the scale of continents and oceans. Despite extensive work in this area, animal magnetic reception remains enigmatic. The engineering community has shown interest in using magnetic reception to develop navigation methods that are less reliant on man-made navigational systems (e.g., GPS). Put simply, many animals are born with the ability to accomplish navigational tasks that parallel the goals of ‘man-made’ systems. Our work explores 1) how animals sense, process, and use the earth’s magnetic field to navigate from one point to another, and 2) how these principles can be applied in animals might be leveraged to develop improved autonomous engineered systems.

- Brian K. Taylor
Assistant Professor of Biology
Quantitative Biology and Engineering Sciences (QBES) Lab

Dr. Brian K. Taylor (Assistant Professor), Dr. Catherine Edl (Postdoctoral Researcher), and Ms. Lucy Thomas (Research Assistant) working with a motilagens capture system.