FROM THE CHAIR

I’m sitting at home, writing this a little later than usual. I’m amazed that it is already August! It has been a busy summer on campus. In the second year of our HHMI grant (see more details below), we supported 43 summer research students in Biology, Chemistry, Health Sciences, Physics, and Psychology. Every Tuesday, we met for a brown bag lunch, learning about the research going on in various labs. If you want to read more about their work, check out our new blog: http://xsigsummer.wordpress.com

This last year was reasonably calm after a few years of perturbations and tribulations. No retirements, no major renovations! We did hire a new tenure-track faculty in Animal Behavior; Dr. Paula “Alex” Trillo will be joining us next fall. In addition, Dr. Zakiya Whatley will be joining us as our first Gondwe scholar. Learn more about Alex and Zakiya in their bios below.

The College is about to officially embark in its next major capital campaign. My hope is that this campaign will make permanent some of the initiatives we have implemented in the last four years. The Alberte Research Fund (see the last two newsletters posted on our web site - http://www.gettysburg.edu/academics/biology/) provides support for four summer students. However, we have sixteen students working with Biology faculty this summer, and expect to regularly have 16-20 summer students with the arrival of new colleagues. Our peer mentoring programs, the Peer Science Mentors for Introductory courses and the Herzog Teaching Fellows for Genetics and Cell Biology, have been wonderful additions. One of the most powerful learning experiences for undergraduate students occurs when they are asked to assume the role of teacher. Students are eager for these experiences and benefit from training in active learning. However, our funding for these programs is not permanent. Right now, 2014-15 will be the last year for the Herzog Teaching Fellows and our funding for the Peer Science Mentor program will expire with our HHMI grant. All that to say, if you are interested in helping us make these programs permanent, let us know!

HHMI GRANT AND MORE

Last year, we implemented the various components of our HHMI grant:

Research ready - Most of the Biology HHMI curricular initiatives are geared towards First-Year (FY) students. We continue to teach our FY research course on Phage Biology. At the 6th Annual SEA-PHAGES symposium this past June, two of our rising sophomores presented work that their class did and that they extended in the first four weeks of the summer. They gave a 15-minute talk to an audience of 250 and it will not surprise you to know that they did Gettysburg great work!

In addition, Steve James offered a one-semester FY research course on Molecular Responses to DNA Damage this spring. Next year it will be Ryan Kerney’s turn, and he will offer a FY course on Bacterial Symbiosis. These FY courses distinguish Gettysburg College from other institutions and allow students interested in research to get involved early in that process.

Research active - In its second year, the Cross-disciplinary Science Institute at Gettysburg (X-SIG) facilitated increased interdisciplinary connections among the science departments and oversaw our science summer research
FACULTY NEWS

Dr. Zakiya Whatley — I am joining the Biology Department as a Gondwe Scholar. My background is in bacterial genetics and my research interests are in DNA damage and repair in E. coli. I’m looking forward to meeting and getting to know the students and faculty in the department over the upcoming months.

Dr. Alex Trillo — Dr. Trillo studies how multiple morphological and behavioral traits interact to influence fitness, and how multiple selective pressures interact to affect the diversification and evolution of traits. Recent investigations have focused on the ways sexual structures and the social environment interact to predict reproductive success in tortoise beetles, and on how female preferences and pressure from eavesdropping bat predators can influence the diversification of mating calls in frogs. Undergraduate students serve key roles in Dr. Trillo’s research, both locally and while abroad at her field sites in Panama, Peru, and Ecuador.

Ryan Kerney is the Principal Investigator on a new NSF grant to study symbiosis between yellow-spotted salamanders and a green algae that lives in association with its embryos. Co-principal investigators of the award, John Burns and Eunsoo Kim, work at the American Museum of Natural History in New York. Jasper Leavitt (’15) recently accompanied Kerney on an extended visit to the museum to work with their research team in the Sackler Institute of Comparative Genomics. Kerney and team are using cell sorting, fluorescence imaging, and next generation mRNA sequencing to characterize how cells communicate and behave in a symbiotic association.

Matt Kittelberger began his first year as the Associate Director of the Grass Fellowship Program at the Marine Biological Laboratory at Woods Hole, Massachusetts.

Kay Etheridge received an eight-month fellowship from NEH to support her book project on Maria Sibylla Merian. Merian was a 17th century naturalist who investigated more than 250 species of insects in her lifetime; she wrote, illustrated and published the first books to describe plant-insect ecological interactions.

After five years as a Visiting Assistant Professor, Gerardo Carfagno has accepted a tenure-track position at Manhattan College. Many thanks for your contributions to our department and best of luck with the new job, Gerardo!

FROM THE CHAIR continued

program. X-SIG also funded student participation in summer research and attendance at conferences. This summer, X-SIG is providing partial or full funding for 43 students (16 in Biology) doing research with 20 (eight in Biology) faculty members.

Also in its second year, the Randall S. Alberte ’69 Research Fund supported four Alberte fellows. In Peter Fong’s lab, Taylor Bury (’16) is investigating effects on the behavior of aquatic snails of human antidepressants in wastewater. Matt Dunworth (’16) is working with Steve James to map a regulatory region of a cell cycle gene that is epigenetically modified. Mary Pearce (’16) is exploring the effects of dopamine on natural or fictive vocalizations in midshipman fish; Mary is doing this research at Wood Hole with Matt Kittelberger. Working with Greg Krukonis, Brianne Tomko (’16) is annotating the genome of a novel Bacillus bacteriophage (viruses that “eat” bacteria), only the third member of the SPP1 bacteriophage family. It is quite a diversity of projects and we think Randy would have been pleased by this variety.

Research connected - We added a peer mentoring program for introductory science courses, and inaugurated a residential Science House to enhance student sense of community while honing their leadership abilities. We are still in the process of looking at our assessment data on these initiatives, but the feedback from students was very positive.

You can stay updated about activities associated with our HHMI grant by checking http://www.gettysburg.edu/about/offices/provost/hhmi/

—Veronique Delesalle, Chair of Biology

A recent publication in the Journal of Chemical Neuroanatomy was co-authored by Matthew Kittelberger and former students Rob Kowtoniuk (’09), Katherine (Hickey) Goebrecht (’10), and Brenda Kelly (’11). The paper is titled “Sexually-dimorphic expression of tyrosine hydroxylase immunoreactivity in the brain of a vocal teleost fish (Porichthys notatus).” In addition to the above-mentioned continued
Working with Ryan Kerney, Sara Ketelsen ('14) and Laura Gambino ('14) began curating the Vertebrate Zoology collection last year, helping to organize several hundred museum-quality specimens. Laura (upper left) and Sara (lower right) established a critical database to catalog specimens and in doing so, unearthed several of historical significance, some of which have been in the collection for more than a century. Among these were several bird skins that had been "on loan" from research museums for decades. The most notable of these included a Baltimore oriole that was collected in 1847 by Louis Agassiz in Eastern Massachusetts (pictured above). Agassiz was a Swiss-born geologist and biologist who founded the Museum of Comparative Zoology (MCZ) at Harvard University. According to the museum's current director, James Hanken: "L. Agassiz’s 1847 specimen is intriguing. This was [collected] not long after he relocated to North America from Switzerland, and more than ten years before the MCZ was founded. Presumably, the MCZ tag was tied after the museum was established and various pre-existing materials were accessioned into its collections." Thanks to Ketelsen and Gambino the oriole, along with several other loaned specimens, were re-patriated to the MCZ collection in the Spring of 2014. Additional material discovered through their cataloging efforts is now on display in McCreary Hall.

MORE FACULTY/STUDENT RESEARCH! continued

Lorela Ciraku ('14) presented her research with Steve James, titled "Epigenetic down-regulation of snxA-Hrb1 rescues G2-M cell cycle defects," at the Pennsylvania Academy of Science annual meeting. This summer Lorela and three other students (Matthew Dunworth '16, Dina Mohamed-Aly '15, and Andrew Sydenstricker '17) are continuing to study epigenetic control of cell division with Dr. James.

DISCOVERY OF RARE BIRDS IN CLASSROOM CABINET

Eleven graduating seniors have reported to Diann Cooper that they have been accepted to graduate or medical school. Five biology majors and six BMB majors received honors. The traditional dinner for Honors students was supported by the Barnes fund and by the Vitarello family (P'13). The dinner followed a seminar by Betsy McAuliffe-Dodd '97, Central Connecticut State University, on Getting the message: Retinoic Acid Signaling During Development and Regeneration.

We are always happy to hear from past students, notifying us of admissions to and/or graduation from graduate and professional schools, as well as other accomplishments. We love to hear from you so keep those letters and emails coming. Be assured they circulate through the department!
UNTIL THE NEXT NEWSLETTER

Please visit the departmental website at [www.gettysburg.edu/academics/biology/] for more stories about student and faculty research, and current information about the department. And remember- we always love to hear from our alums!

Keep in Touch!

We would love to hear from you! Share your news with us either 1) by filling the form below and returning it to us:

Biology Department News
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Or 2) sending your info to dkcooper@gettysburg.edu

Name: 
Class Year: 

Your News: 

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