

Summer Discovery in the Department of Biological Sciences: UNDERC and REU

by MARTHA KARAM

April 17, 2009

“If I could go back every summer, I definitely would, indefinitely,” is how senior Brianna Klco summarizes her experience with the UNDERC program. UNDERC, University of Notre Dame Environmental Research Center, is just one of the undergraduate research programs for students at Notre Dame studying Biological and Environmental Sciences.

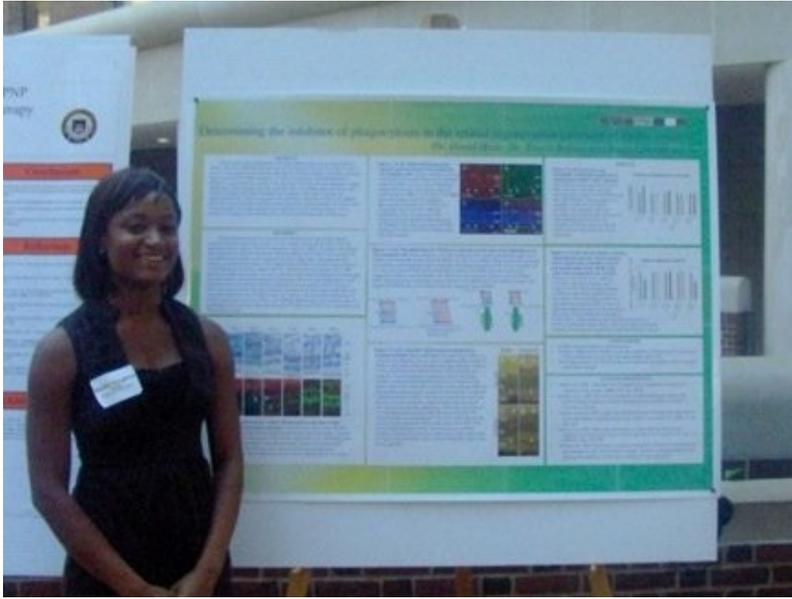
The program was started in 1976 with UNDERC-East, but was expanded five years ago by UNDERC Director Professor Gary Belovsky to include a second year called UNDERC-West, open to students who thrived in the East program. This year, the East program accepted 24 students to attend a 10-week program consisting of five one-week modules followed by five weeks of research. The research the students undertake is developed in the spring with a one-hour credit course and overseen by an advisor. The specific biological research done by students varies, even from their participation in UNDERC- East and West.

Senior Charlie Vogelheim participated in both UNDERC programs, first researching mechanisms of invertebrate dispersal of inquilines (animals that live commensally in the nest, burrow, or dwelling place of an animal of another species) and then the effects of terrestrial predators on grasshoppers.

The program gives students an opportunity to collect research with potential to be published in research journals. Dr. Gretchen Gerrish, the Assistant Director to UNDERC-East, estimates that up to four or five students are published annually from this program alone. Dr. Gerrish and students Tim Szewczyk, Ted Kratschmer and Andrew Perry, who have all previously attended the program, enthusiastically praise the program citing it as an opportunity to be self-directed in research while still guided by faculty.

Szewczyk, Kratschmer and Perry agree that this program not only gives depth to resume and concrete experience, but it also gives students studying Biology experience in hands-on research that is difficult to find during the Fall and Spring semesters. The program, like the Research Experience for Undergraduate Students also at Notre Dame, provides a networking tool for students to meet faculty and professors in Biological Sciences. Biology Research Experience for Undergraduates (REU) is also a 10-week independent research program that accepts two-fifths of its students from Notre Dame, the other third from other Universities.

Dr. Michelle Whaley, the Biology REU Program Director, says that the program seeks “to match research interests of students with faculty.” Dr. Whaley also says that the students need to be “intrinsically motivated...never saying ‘I am interested in everything.’” The main goal of the program is “to develop bench and thinking skills needed for research and to decide if research is the right career path for them.



REU participant Rachel Slaughter presents her poster, "Determining the inhibitor of phagocytosis in the retinal regeneration pathway of *Danio rerio*" at the culminating Summer Symposium (2008).



REU participant Josh Irvine conducts wet bench work on mosquito Rhodopsin in the O'Tousa lab (2008).



TA Stephanie Doerries (ND alum 2008) and current student Brianna Klco maintaining Klco's independent research project using artificial streams in Mission Creek Montana (2008).



Students collecting and sorting macroinvertebrate samples adjacent to a stream with UNDERC-West Assistant Director, Dr. Gretchen Gerrish (2008).



Charlie Vogelheim adding spiders to experimental enclosures for his independent research project on spider-grasshopper predation experiments on the National Bison Range (2008).

Photos provided by Dr. Gretchen Gerrish, UNDERC-West Assistant Director.