

Symposium highlights NSF GK-12 UD fellows' work

4:56 p.m., June 11, 2008--Over the past year, nine UD doctoral students participating in the Delaware Graduate Teaching Fellows Program in K-12 Education (GK-12) spent two-days a week in science classrooms at Howard and Delcastle vocational technical high schools using their knowledge and imaginations to make science more relevant to high school kids.

On May 21, GK-12 fellows participated in a symposium at Wolf Hall to give their mentors and peers overviews of their projects and reflect on what they had learned. The symposium ended the second year of the academic mentoring partnership and featured brief presentations by the nine fellows on their teaching experiences at the two schools.



Mary Boggs, a biological sciences doctoral candidate

Most fellows said they came away from the experience with a healthy respect for high school science teachers, a better understanding of how to communicate their fields of study and the satisfaction of knowing they made an impression on young minds.

That's precisely the reason the National Science Foundation funds the program, said George Watson, senior associate dean of UD's College of Arts and Sciences, as he opened the symposium.

"The NSF hopes fellows will develop an appreciation of public school science education issues" and "be more prepared to work in the world as scientists who will reach out to the community more often than scientists tend to do," Watson said.

"I've gained a huge appreciation for what teachers actually have to do," said Mary Boggs, a biological sciences doctoral candidate, who worked at Delcastle with biology teacher Phyllis Meyers. "I've learned a lot of different techniques in communicating with students by using the things they are interested in to teach them, and that's helped me to communicate better as a scientist," Boggs said.

Boggs' biology project focused on cancer. She asked each Delcastle high school student to choose one of six types of cancer and then develop informational pamphlets detailing its characteristics. Boggs said they used the Internet to research how cancer evolves during the cell cycle, how it progresses, the different sites in the body where cancer can develop, how cancer cells alter DNA, RNA and proteins, how treatment or drugs function to contain the cancer cells on a biological levels and how to prevent and detect the disease.

Erin Foster, a biological sciences doctoral candidate, working with Brian Heeney, a biology teacher at Delcastle, had her students recreate the lab techniques used by Augusto and Michaela Odone as they searched for and found a treatment for adrenoleukodystrophy (ALD), a neurodegenerative disorder that was slowly killing their son, Lorenzo. She started by showing them the film, *Lorenzo's Oil*, based on the Odone's experience.



Christopher Russell, a physics and astronomy doctoral candidate

candidate; Christopher Russell, a physics and astronomy doctoral candidate; Katherine Skalak, a geological sciences doctoral candidate; and Jeffrey Spraggins, a chemistry and biochemistry doctoral candidate.

Article by Barbara Garrison
Photos by Kevin Quinlan

“The parents research the disease as renegade scientists out to search for a cure or treatment for their son and test this treatment on him. Not only does this emphasis to the students that anyone can do science if you're motivated enough, I also was able to cover a wide range of topics within the curriculum,” Foster said.

Also presenting were Brian Thomas Ekiert, a physics and astronomy doctoral candidate; Kristy Longsdorf, a chemistry and biochemistry doctoral candidate; Thomas Madura, a physics and astronomy doctoral candidate; Nathan Nazdrowicz, an entomology and wildlife ecology doctoral