

# Bioinformatics

## at BI05

### Professional Science Master's Internships

By Susan McGinley



Karla Gendler (left) and Tara Paulsen prepare the ChromDB Web site for educational outreach. Students in local Tucson high schools, who are studying biology and genetics, are using portions of the database.

After working nearly eight years in the corporate world, Tara Paulsen returned to school to pursue a Professional Science Master's (PSM) in Applied Biosciences at the University of Arizona. She wanted a program with academic coursework in bioinformatics (extensive computer data management in life sciences) or computational biology, which the UA currently doesn't offer, but she may have found something better.

She's getting direct, practical experience in bioinformatics through an internship at ChromDB, run by Carolyn Napoli, an assistant research professor of plant sciences. ChromDB stands for "chromatin database," a vast archive of genes, mostly from plants, that are associated with the cell's ability to package DNA in the nucleus. Scientists study gene expression to find out more about the fundamental ways plants grow and produce.

"ChromDB is a database that specializes in highly curated chromatin genes," Paulsen says. By "highly curated" she means the lab is paying special attention to the plant genes to make sure the proteins are as accurate as possible. "It's supposed to be a one-stop shop for looking at and researching chromatin. The database is currently accessed by people all over the world."

Paulsen says she chose the PSM degree because she would be able to design her own plan of study, intern in a bioinformatics lab, and master business skills as well.

Karla Gendler began working at ChromDB to fulfill the internship requirement for the PSM applied biosciences program. Her internship was so successful that it led to full-time employment after she graduated in May 2004.

"The internship component put me in a position to be offered and to accept a full-time position doing something that I knew I enjoyed before I graduated," Gendler says.

Looking back, she notes that she liked the flexibility of the PSM program best. When she started, she had spoken with program coordinator Lindy Brigham about combining aspects of two of the PSM programs—Applied Mathematics and Applied Biosciences—to create something that was tailored to her interests. She initially came into the program thinking she would work in bioinformatics as the person who bridged the gap between the biologists and the computer scientists, but her internship changed all that.

"Through the business courses that I took in the Management of Technology series, I was able to really interact with computer scientists and learn how to work with them effectively, something that I had not done before," she says. "Because ChromDB is so small, not only am I the bridge, I am also the computer scientist and the biologist; I work on both the biology and programming for ChromDB." ❖

## Contact

**Karla Gendler**  
dingmank@email.arizona.edu

**Carolyn Napoli**  
cnapoli@ag.arizona.edu

**Chromatin Database—ChromDB**  
www.chromdb.org