

CyberBridges is the Bridge to Success for FIU Students



CyberBridges is a multidisciplinary pilot program that is funding 4 graduate student fellowship positions in Science and Engineering. CyberBridges is bridging the divide between the Information Technology communities and the science disciplines by presenting students with an avenue where they can explore applications of cyberinfrastructure research within their domains.



Heidi Alvarez with Ernesto Rubi & Michael Smith, CIARA Network Engineers



Heidi Alvarez with Jonathan Diaz, a 3rd year physics student.

Just six months have passed since the Center for Internet Augmented Research and Assessment (CIARA) awarded CyberBridges Fellowships to four of FIU's most gifted and technologically-minded graduate students. Chosen for their experience with grid technology and their ideas for incorporating this technology into their own research disciplines, these students are already benefiting from the skills they have acquired through the program.

One of the fellows, Tom Milledge, received a competitive six-month internship to help optimize software for bioinformatics applications on IBM's Blue Gene supercomputer system. He will apply the skills he has acquired through his CyberBridges fellowship, in which he is designing a method that allows scientists to determine a protein's function by rapidly searching databases for similar proteins with known functions.

"Being a CyberBridges fellow strengthened my credentials for this position," said Milledge. "The practical skills I have gained through the program include the ability to analyze communication patterns and performance characteristics in a parallel processing environment," he said.

Ronald Gutierrez also has obtained valuable skills through his experience as a CyberBridges fellow. This summer, he will have the opportunity to apply these skills—and acquire new ones—as an intern at the Abbott/Guidant Corporation in Santa Clara, California.

"As a CyberBridges fellow, I was more competitive for the internship because I have proven my ability to apply high-performance computing to my biomedical research," said Gutierrez.

A Fortune 500 company, Abbott/Guidant Corporation produces coronary and endovascular products, like stents and pacemakers.

CyberBridges fellow, Alejandro de la Puente, will also soon be leaving Miami for the summer to participate in the competitive Hampton University Graduate Studies Program at the Thomas Jefferson National Accelerator Facility in Newport News, Virginia.

"Once in the program, I will have the opportunity to interact with students, researchers, and professors in my field," said de la Puente. "The program will expose me to the type of physics that will be performed at Jefferson Lab in upcoming years," he said.

One of the subjects that researchers at Jefferson Lab pursue is lattice quantum chromodynamics, which uses a four-dimensional grid to study the behavior of elementary particles. This topic is of particular interest to de la Puente, who is applying the knowledge he obtained through his CyberBridges fellowship to developing his own algorithms.

The fourth CyberBridges fellow, Cassian d'Cunha, studies enzymes, such as chloroperoxidase. D'Cunha hopes to manipulate the enzymes so they can more efficiently catalyze reactions like the synthesis of steroids, which are important to pharmaceutical industries.

NSF CI-TEAM Grant Award: OCI-0537464

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