Research Alliance in Math and Science

Al Geist, Computer Science and Mathematics Division
Debbie McCoy,* Computing and Computational Sciences Directorate

Summary

The RAMS program continues to identify outstanding students in science, mathematics, engineering, and technology disciplines for summer internships and collaborative research in support of the long-term goal of increasing the number of underrepresented minorities with advanced degrees in the workforce. The program is carried out through the Computing and Computational Sciences Directorate at the Oak Ridge National Laboratory.

Two summer interns from the Research Alliance in Math and Science (RAMS) program participated in SuperComputing 2005. SuperComputing is the annual International Conference for High Performance Computing, Networking, Storage and Analysis. The 2005 conference was held in the Washington State Convention and Trade Center, Seattle, November 12-18.

Cindy Lopez and Elizabeth O'Quinn, summer interns in the Research Alliance in Math and Science (RAMS) program, received scholarships to participate in the international SuperComputing Conference held in the Washington State Convention and Trade Center in Seattle, Washington (http://sc05.supercomputing.org/).

Cindy Lopez (left) and Elizabeth O'Quinn (right) pose in front of the ORNL partners poster in the ORNL booth at SC05.

Ms. Lopez, a graduate of City University of New York and entering Penn State University in January 2006 in pursuit of a masters degree, spent the summer of 2004 in the Distributed Computing and Networking group of the Computer Science and Mathematics Division mentored by Dr. Stephen Scott and colleagues. During the summer of 2005, Ms. Lopez worked with Dr. Robert Abercrombie and colleagues in the Cyber Security and Information Infrastructure Research group in the Computational Sciences and Engineering Division.

Cindy's enthusiasm shows as she writes, "My experience at Super Computing 2005 in Seattle was AMAZING. I attended only for a few days but the excitement was overwhelming. The opportunity to be exposed to the latest technologies and trends of the biggest, most popular and competitive companies like Microsoft, Dell, Sun, and others was such a privilege. More than 9500 professionals attended, and I was fortunate enough to have such great, in-depth conversations about new projects, products and services that are now available and on the rise. I was able to discuss all these new

* (865) 574-6185, mccoydd@ornl.gov

ideas and get a glimpse of where the technology world is headed. I also made it a priority to attend many of the informative technical programs that covered all topics from HPC to Visualization Technology to Cyber infrastructure. I was ecstatic when I found out that Bill Gates was going to do the keynote address. Bill Gates!! It was such a professional yet fun environment that definitely reassured me that the field I'm interested in the right one for me."

Elizabeth O'Quinn, a senior at Wofford College spent her 2005 summer in the RAMS program with ORNL researchers in computational biology mentored by Kara Kruse and Richard Ward. Her research in modeling aneurysms also led to in-depth interaction with staff at the University of Tennessee (UT) Biomedical Center. Ms. O'Quinn continues to interact with her mentors and other students and to spend her breaks doing research at ORNL. She plans to pursue a master's degree after graduation in 2006. Among the schools under consideration for her master's work is Vanderbilt University, which is only a few hours from ORNL.

Elizabeth writes, "I was able to answer other people's questions on student research opportunities in computational science at Oak Ridge National Laboratory, while having an incredible educational experience of my own. I never realized how much information and planning is underway in computational science and as a future researcher this excites me. I was able to attend conferences by several enthusiastic researchers interested in the field of computational biology. By attending the technical programs on bioscience, visiting booths, and even discussing current research with initial strangers during a meal I was able to better understand the technologies available to many current fields of research. One computer scientist that surprised me by his interest in computational sciences, Bill Gates, stated during his keynote, "Life sciences are an explosion of information, like mathematics was a tool, now it is computing." After hearing this chairman of Microsoft and software architect address the need for computational sciences, along with many other researchers throughout the conference, I

realized the future for computational sciences is inconceivable. Application of supercomputing involves many of the problems we face each and everyday and research in this area is extremely important. Having the chance to ask current researchers questions in person, learning about technologies I had not previously known to exist, understanding the complex environment of research internationally, and visiting the gorgeous city of Seattle would not have been possible without the RAMS program sponsoring this opportunity. Thank you!"

Elizabeth O'Quinn (center), Prof. Angela Shiflet (left), and Kara Kruse (ORNL mentor, right) review elements of the project during at meeting at Wofford College following SC05.

For further information on this subject contact:

Mr. George Seweryniak, Program Manager
Mathematical, Information, and Computational
  Sciences Division
Office of Advanced Scientific Computing
Research
Phone: 301 903-0071
seweryni@er.doe.gov