

UB REPORTER

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NEWS

UB hosts computer workshop for high school students

By BRIAN PETERS

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UB's Center for Computational Research (CCR), one of the leading academic supercomputing sites in the United States, will host the Eric Pitman Annual Summer Workshop on Computational Science from June 27 to July 8.

The workshop will be held at the CCR, located in UB's New York State Center of Excellence in Bioinformatics and Life Sciences on the Buffalo Niagara Medical Campus in downtown Buffalo.

The workshop is for high school sophomores, juniors and seniors. This year's students come from seven local high schools: Orchard Park High School, North Collins High School, Frontier Central High School, City Honors, Nardin High School, Nichols School and St. Joseph's Collegiate Institute.

"The workshop is a place for students to push themselves beyond what is easy and comfortable, and beyond the usual classroom learning," says E. Bruce Pitman, incoming dean of the College of Arts and Sciences, professor of mathematics and chair of education and outreach at CCR, who helped create the workshop in 1999.

"For those of us who run the workshop, there is nothing better than working with bright and highly motivated students," says Pitman. "And maybe these bright students will return to Buffalo after they go to college and graduate school, and help develop this region and its economy."

The workshop combines instruction in computational science with a project to provide students with a broadly based learning experience. This year, CCR is teaming up with the Radiation Medicine group at Roswell Park Cancer Institute to create a project focused on medical informatics. Working with Roswell scientists Daryl Nazareth and Dheerendra Prasad, students will learn about the physics of radiation treatments and work with databases that help the Roswell physicians understand treatments, successes and where there might be interesting opportunities for new treatments and procedures.

"Students will work on this project in medical informatics, and so will see how a science project is organized," says Pitman. "Projects are team-based, so learning teamwork is important, and students give presentations, which gives them some practice in public speaking."

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This year's workshop students also will have the opportunity to visit labs in Roswell and in the Hauptmann-Woodward Medical Research Institute (HWI), meeting with research scientists to get an idea of what modern bio-medicine looks like. In the classroom, students will learn the PHP computing language, a useful interface between web pages and databases that is not usually taught to high school students.

Alisa Neeman, a scientific programmer at CCR, will be the primary instructor in the program; students also will receive an introduction to computational science from Matt Jones, associate director of CCR, and an introduction to genomics and bioinformatics from Marc Halfon, associate professor of biological sciences.

Norma Nowak, director of DNA microarray and genomics at Roswell, director of science and technology at the Center of Excellence and a UB associate professor of biochemistry, will talk to the students about genomics while showing them her lab.

The students also will have the opportunity to see the labs at HWI, with hosts Bill Duax, distinguished scientist at HWI and UB professor of structural biology at UB; Jane Griffin, principal research scientist at HWI and UB research associate professor of structural biology, and Walter Pangborn, executive vice president of HWI and UB research associate professor of structural biology.

In 2007, the CCR re-named its workshop after Eric Pitman, Bruce's son, who was a freshman at St. Joseph's Collegiate Institute when he died after a brief illness. Ripples of Hope: The Eric Scott Pitman Lectures in Ethics and Social Justice at St. Joseph's also is named in his honor.