

Digital divide

Rural students study technology during summer program

By TRACY ELLIG MSU News Service

For 21-year-old Kristopher Harris of Cut Bank, this summer might have been another one of stocking shelves at a local grocery store.

Instead, he's working on a project that could help satellites orbiting Mars better communicate with Earth.

Harris is one of 11 undergraduate students doing hands-on research as part of a new 10-week program at Montana State University's College of Engineering.

The program is the brainchild of Richard Wolff, MSU's Gilhousen telecommunications chair professor and an expert on wireless technology.

"There are a lot of very talented students from rural areas who don't normally have the chance to do this kind of work," Wolff said. "We wanted to provide an opportunity."

The program, designed by Wolff and fellow MSU engineering professor Yikun Huang and funded by the National Science Foundation, was designed to excite undergraduate students about research and graduate school.

"I've always found engineering to be a fascinating discipline," said Harris, who is taking the summer course at MSU while earning an associate degree in math and science from Blackfeet Community College in Browning. "I'm really having a good time here. I've got excellent advisors and a graduate student mentor who is making the program really fun."

Students receive a \$4,000 stipend, a housing and meal allowance, up to \$500 in travel expenses and, in some cases, college credit. There are picnics, barbecues, a trip to Yellowstone National Park and other activities on the weekends.

For Craig Cliff, 41, the program is a chance to do complicated lab work.

"A lot of my experience has just been classroom lecture. I wanted to be in a hands-on environment," said Cliff, who lives in Fort Belknap and commutes to MSU-Northern in Havre, where he is working on a bachelor's degree in computer information systems. "I didn't know what to expect when I enrolled. The research topics are really complicated and they're giving us the tools to work with this complex data.

"I'm really happy with what I'm learning. It's going to give me a lot of confidence working with other program down the road," he said.

Wireless communications for rural areas is a major focus of the 10-week program.

"It's an overused phrase, but there is a 'digital divide,' between rural and urban areas," Wolff said.

In one project students are trying to build a wireless network for law enforcement in rugged rural areas where cell and radio towers are sparse or non-existent. The project is in partnership with the Hot Springs, Wyo., sheriff's office.

Wireless communications wasn't her primary area of interest, but Patty Morning, 24, of Box Elder, was intrigued enough to apply for the program. Digital

"I'm more of a hands-on person and I'm really enjoying that part of it. I get to look at new hardware: filters, amplifiers and a spectrum analyzer," said Morning, who is attending MSUNorthern in computer engineering technology and was raised on the Rocky Boy Reservation.

"Also, there are not many female engineers in my school and so it's really refreshing to see more females in the program," she said.

Morning has already been offered out-of-state jobs in computer hardware and a graduate scholarship to attend MSU, but she is still pondering her future.

"This is a great experience for me," she said. "Maybe at the end of 10 weeks, I'll know what I want to do."