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High school aids cancer research

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By JOHN LUCAS

Courier & Press Western Kentucky bureau (270) 333-4899

jlucas@evansville.net

PRINCETON, KY. - Computers at Caldwell County High School are playing a role in the quest for a cure for cancer.

Through an arrangement unique in Kentucky, researchers at the University of Louisville's James Graham Brown Cancer Center run models of molecular structures on the Princeton school's computers when local students are not using them.

The connection, which essentially doubles computer power available to researchers, was facilitated by Dataseam, a company based at U of L's iTRC business incubator, and founded by 1991 Caldwell County graduate Brian Gupton.

Gupton and Henry Hunt, Dataseam chief operations officer, and John Trent, a leading researcher at the cancer center, visited the school Friday to discuss their work with technology and honors biology students.

"The Kentucky Dataseam Initiative brings inexpensive supercomputing power to research efforts in the state by putting school computers to work for statewide benefit. Everybody wins," Gupton said.

"The technology is not a new concept," he said. "Grid computing is something researchers have been using for a long time."

Gupton's idea was to win access to the state Department of Education's network that links school computers across the state, allowing them to connect university researchers with computing power at remote sites.

"We have in Kentucky assets that sit unused at night that have capacity for researchers," he said.

The school's 700-plus computers sit unused 80 percent of the time, estimated Rocky Sears, who oversees their maintenance.

This project links U of L researchers to 70 of the Caldwell school's Apple eMac computers.

"That's 70 processors to bring to bear on research," Gupton said.

The research work does not interfere with the more than 200 Caldwell students enrolled in computer classes or other students who use them for other work, said Pat Fralick, the school district's director of technology.

"The one thing we have to do is keep them turned on," she said.

Awareness of the Dataseam pilot project is boosting enthusiasm of students for computers and scientific research.

"It (the U of L research) may be a little over their heads, but they can understand the benefits of what we're doing," she said. "They're very excited their school is having a part in the discovery of a new drug."

Stirring interest in new fields is also a part of Dataseam's goal and a part of the reason for the name.

Gupton, who graduated from U of L with a history degree, is the son of an Island Creek coal miner. Just as the state's coal seams have fueled its economy and provided employment in the past, he is hopeful the Kentucky Dataseam Initiative "is the mine our next generation of researchers, engineers and scientists can depend upon to build economic opportunity in a research-driven Kentucky."

"We are able to do this in Kentucky," Gupton said. "The son of a coal miner is having the ability to take part in a 21st century economy."

Trent, a native of New Zealand and one of three research scientists at the Brown Cancer Center developing a new treatment to inhibit the growth of cancer cells, said the use of distant computing power such as at Princeton, which is a three-hour drive from his Louisville office, frees computers there for other uses.

"We let the computers do the hard work screening millions of compounds," he said.

Using the Caldwell computers allows researchers to do twice the amount of work, Trent said.

"It's proof of the principle. We've proven we can do it and get good science out of it," he said.

The compound discovered by Trent and fellow researchers Paula Bates and Donald Miller was approved last year by the U.S. Food and Drug Administration for clinical trials at the cancer center.