

UO scientists help create new brain research grid

The computer network will improve access to patient data and diagnosis

By Lisa Catto
News Reporter

Professors at the University who specialize in neuroscience and computer science may be able to help victims of brain disorders get diagnosed earlier with the help of a new computer grid.

A group of University professors, along with Electrical Geodesics Inc. and IBM, are creating a computer grid to speed and improve the diagnosis of several disorders, such as epilepsy, stroke and depression. The grid is called the Integrated Cognitive Neuroscience, Informatics and Computation grid, also known as the ICONIC grid.

EGI Chief Executive Officer Don Tucker and a University psychology professor said researchers at the University Neuroinformatics Center received a \$1 million grant from the National Science Foundation to build the grid,

and IBM donated the grid's computers.

He said this project will bring together research of the brain with the technology of computer science.

"Grid computing technology from IBM will play an important role in helping EGI provide doctors and researchers with on-demand access to critical patient data," Tucker said. "We believe grid computing not only brings performance capacity, but allows the patient security and accountability required for critical medical applications."

Tucker added that the grid is a new way of doing large-scale computing because a single computer does not have the capability to do such imaging projects.

Computer and information science Professor Allen Malony said the grid will use the University network and will connect different computers using a large file system.

"With the multiple architectures provided by IBM's products, we can conduct research on ways of optimizing the medical informatics demands for

high-performance computing," Malony said. "At the same time, we can evaluate all of these architectures running the Linux operating system, simplifying our system administration and improving our reliability."

Malony also said the computers are specifically used for addressing computational processing problems that arise in cognitive neuroscience research.

Tucker and Malony said the idea for the ICONIC grid stemmed from theoretical discussions about the importance of computational methods for understanding the brain and the difficult computational problems that arise while gathering brainwave data.

Malony said they need to integrate different tools and technologies to solve the "difficult computational problems." He added that it is very important to put the data into a form that neuroscientists can understand, which is what the ICONIC brain grid does.

But Malony said he hopes the work

of the ICONIC brain grid will become a part of the problem-solving process, not just a tool.

"I hope we continue to evolve as the ICONIC grid is being developed," Malony said.

Malony said the ICONIC grid is still in the installation process, but he hopes it will be running by the end of spring term.

Tucker said the grid is made of three computer clusters on campus of up to 16 computers each: one in the Lewis Center for Neuroimaging, one in Deschutes Hall and one in the Riverfront Research Park where EGI and the Neuroinformatics Center are located.

He added that the grid allows rapid sharing of database information between the clusters and the organization of information is more efficient and protected through the grid.

"Every computer has to play well together," Tucker said.

The University isn't the only institution experimenting with computer grids. According to <http://www.grid-computingplanet.com>, IBM is working with the University of Texas at Austin to build the largest university grid computing project in the nation.

The article states that the purpose of this grid is to connect computing resources across the campus, including personal computers and high-end supercomputers. Those connected to the grid will be able to access massive computer power for simulations, data-sharing and data-intensive calculations in scientific areas.

Contact the crime/health/safety reporter at lisacatto@dailymerald.com.

NEWS BRIEF

Holocaust Memorial Week commemorates the lost

The Jewish Student Union and the Harold Schnitzer Family Program in the Judaic Studies Department are hosting events to commemorate Holocaust Memorial Week this week.

Sunday marked Holocaust Memorial Day, called Yom HaShoah in Hebrew. The day marks the anniversary of the Warsaw Ghetto uprising. JSU sponsored a 24-hour name-reading of victims of the Holocaust in the EMU Amphitheater for the observance of Yom HaShoah.

The event started with a ceremony at 7 p.m. Sunday and will continue

until this evening. The ceremony included a lighting of six candles, each to commemorate 1 million victims of the Holocaust.

JSU co-director and sophomore general science major Ava Asher gave a brief speech and ASUO President Maddy Melton served as an honorary candle-lighter.

Asher said remembering the Holocaust can teach everyone important lessons, even in a modern context.

"The lesson the Holocaust can teach all of us is how to treat people and how to respect other cultures," she said.

JSU director and senior physics major Daniel Gruber said there is a symbolic importance to the reading of names.

"For many people there is no one

left to remember them because their entire family were wiped out and everyone they knew," he said. "This is to make sure that they have someone to remember them."

Gruber encourages students to experience the name reading for themselves.

"It is psychologically very powerful," he said. "It's not something that can be explained with words, so experience is the best way to understand."

Also for Holocaust Memorial Week, William Brustein, a professor of sociology from the University of Pittsburgh, will give a lecture entitled "The Roots of Contemporary Anti-Semitism," at noon on Tuesday in the EMU Walnut Room.

—Moriah Balingit

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Thrifty
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Cultivate your career opportunities

Wednesday, April 28
EMU Ballroom
10am - 3pm

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Monday April 26, 12:00pm - 1:00pm
Tuesday, April 27, 4:00pm - 5:00pm
Room 12, Hendricks Hall

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