

SCI|TECH

THE BATTALION

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Computers unite to find smallpox vaccine

Staff and Wire
THE BATTALION

SAN FRANCISCO — In a virtual search for a needle in a haystack, a coalition of scientists and technology companies will try to make headway on a smallpox cure using computer screen savers of volunteers who download the program.

The project aims to use the idle processing power of up to 2 million personal computers to sift through millions of molecular combinations in hopes of finding one that fights smallpox after infection.

Though smallpox vaccinations exist, there is no known cure for the disease once a person is infected with it.

Volunteers download a screen saver from www.grid.org that runs whenever their computers have resources to spare. When the user connects to the Internet, the computer sends data back to a central hub and gets another assignment.

Researchers said the combined power of 2 million personal computers is 30 times greater than the fastest supercomputer — topping out at an estimated 1,100 teraflops, or a trillion calculations per second. In a few months, they hope to wittle 35 million readily available compounds down to about 300,000 candidates, ranked from best to

worst in order of relevancy.

The compounds will be used on nine different models of potential smallpox strains that represent variations of the virus.

Participants in the project will receive one or more of these molecular structures in a downloaded packet that are then combined with the test models of potential vaccines.

Tom Hawk, general manager of Grid computing at IBM, sees the new grid technology as a breakthrough in chemical research, especially in the field of biology.

"Grid computing is poised to launch a revolution in businesses, with life sciences being one of the key areas that will benefit through faster and more efficient drug modeling and development," Hawk said in IBM's press release.

After receiving data from the research grid, scientists will break out the test tubes and petri dishes to experiment on the top 50 or so candidates

— though even then, a potential cure is still years away. Results will be turned over to the Department of Defense, which did not return telephone calls seeking comment.

Disease researchers are increasingly turning to computers to help identify promising disease-fighting agents, which can then be used in animal and human experiments.

"Bioterrorism agents are funny animals because you can't test them on people," said Edward Hubbard, chief executive of Austin-based United Devices, which designed the smallpox grid program, among others.

The project was launched Wednesday with funding by United Devices Inc., IBM Corp., and Pharmacia Inc. subsidiary Accelrys of San Diego. North American researchers at the Robarts Research Institute, The University of Western Ontario, and the Sloan-Kettering Cancer Center will be working with the data provided by the project in conjunction with the Essex and Oxford Universities in the United Kingdom.

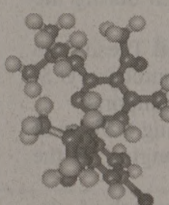
Many of the 35 million molecule models are being provided by Oxford University, which has led anthrax and cancer grid computing projects of the same type.

United Devices assures project participants that the process of collecting data is secure. Virus scanning and digital signatures help protect data while it is being transmitted, and biometric security devices guard servers on the United Devices campus.

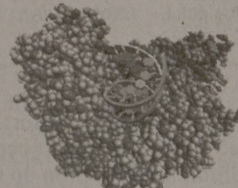
The United Devices Metaprocessor

Computers worldwide process information while idle

Totals	
Members	949,782
Devices	~ 2 million
Total processing time logged	192,770 years
Results returned	~ 176 million



Averages	
Processing time per day	225 years
Time per result	9.5 hours
Results per day	205,694



SOURCE: WWW.GRID.ORG

RUBEN DELUNA • THE BATTALION

NEWS IN BRIEF

Volunteers to drive drunk for study

IOWA CITY, Iowa (AP) — Iowa drivers will soon do something that would ordinarily be ill-advised and illegal: Get behind the wheel after guzzling vodka-laced fruit juice.

The liquored-up motorists will be drinking and driving in the name of science.

Researchers will test their performance and reaction times in the world's most sophisticated driving simulator.

"Believe it or not, there is still a lot we don't know about drunk driving," said Barbara Harsha,

executive director of the Governors Highway Safety Association. "When we get the studies and information we need, we'll have a better feel for whether (the simulator) has been worth it or not," she said.

The simulator is owned by the National Highway Traffic Safety Administration and run by the University of Iowa. The payoff for researchers — and taxpayers who covered the majority of the cost — is the promise of reducing crashes and deaths.

When the trials begin this spring, more than 300 participants will be tested.

Melanoma found in organ recipients

By Stephanie Nano
THE ASSOCIATED PRESS

(AP) — In an unusual case of a transplanted organ causing disease, two patients developed melanoma from their new kidneys even though the donor was successfully treated for the cancer many years earlier, Scottish doctors report. One recipient died and the other recovered.

The researchers suggest that no one who has had melanoma should ever be an organ donor.

Transfer of cancer from a donated organ to a transplant patient is rare, and the chances of it occurring long after the donor was treated were thought to be extremely unlikely. The longest known interval in a donor-related melanoma was eight years between the surgery and transplant.

But in Thursday's New England Journal of Medicine, researchers said two patients got cancer from a donor who had a melanoma skin lesion removed 16 years earlier and

was thought to be cancer-free.

Melanoma cells had apparently been dormant in the donor's kidneys until the transplant, explained Dr. Rona M. MacKie, who treated the recipients. The cancer cells flourished because medicines given to the patients to prevent rejection of the transplants had suppressed their disease-fighting immune systems.

"Anyone who's had invasive melanoma should not be a transplant donor in the future," said MacKie of Scotland's

Glasgow University.

The U.S. transplant network also strongly recommends against using organs from donors with a history of melanoma or a number of other cancers, according to Dr. H. Myron Kauffman, director of the United Network for Organ Sharing's transplant tumor registry.

Of the 125,000 transplants done in the United States between 1994 and 2001, there were only 24 cases of donor-related cancer, he said.

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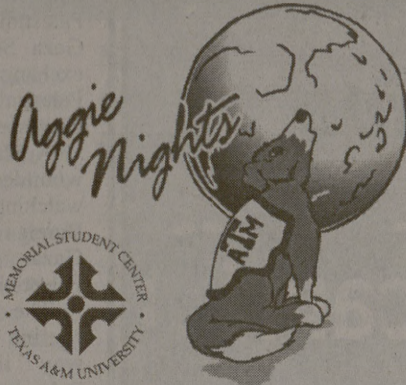


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