Remote networking service allows access to technology

By Tony Fitzpatrick

A novel networking service has been made available to the research community by WUSTL computer scientists, enabling researchers and students remote, free use of the latest networking technology.

Opened to external users in June, the Open Network Laboratory (ONL; onl.arlwustl.edu) has already registered users from 14 different institutions, and more are coming in on a weekly basis.

Ultimately, the ONL can lead to innovations that can expand the capability of the Internet and other networking environments, said its director, Jonathan S. Turner, Ph.D., the Henry Edwin Sever Professor of Engineering and professor of computer science and engineering.

"It's been clear for some time that networking research has been hampered by the lack of an open, high-performance routing platform," Turner said.

"Commercial routers are closed systems that provide limited visibility into their internal operation. This makes it difficult for researchers to understand the details of how these systems work and to develop, test and demonstrate improvements.

"Since we had developed an experimental gigabit router as part of our own research activities, it was very natural for us to look for ways to make it available to others as well. We also felt that a facility like this could be a great educational resource for undergraduate and graduate students alike."

Supported by a grant from the National Science Foundation, the ONL is built around a set of open-source, extensible, high-performance routers that have been developed at the University and which can be accessed by remote users through a Remote Access (WAN) service.

"This makes it difficult for researchers to understand the details of how these systems work and to develop, test and demonstrate improvements."
Volunteers needed for two international programs

BY NEIL SCHONHERR

Volunteers are needed for two international programs. The "Speak English With Us" program is designed to advance the cultural exchange between international students and local volunteers. Participants get together with their student or students once a month for dinners, trips to the theater, movies, sporting events or sightseeing.

Environmental artist Dougherty launches fall artist series Sept. 14

Environmental artist Patrick Dougherty has gradually expanded his practice from single pieces on conventional pedestals to monumentally scaled environments that require saplings by the truckload. In the past decade alone, Dougherty has built more than 100 works throughout the United States, Europe and Asia. The Visiting Artist Lecture Series will continue Sept. 28 with T.L. Solien, associate professor of painting at the University of Wisconsin. Subsequent speakers include photographer Rhys Gallagher Oct. 19, graphic designer Michael Mahfuz Oct. 27 and painter Hut- ene Arko Nov. 16. All talks are free and open to the public.

Lending a helping hand

Many in the University community are pitching in to help bring relief to the victims of Hurricane Katrina. In addition to funding-raising activities, the University is accepting some displaced students on a non-degree-seeking basis and is also offering library privileges and work space to graduate students and scholars who need a place to work. "As we move into the days following the devastating natural disaster in Louisiana, Mississippi and Alabama, it becomes clear to me how very interconnected we all are," Chancellor Mark S. Wrighton said. "Many here at Washington University have been touched in some way by Hurricane Katrina and the aftermath of the storm. Those directly affected have had a life-altering experience."

University takes significant positive steps in addressing lower-paid workers' wages, benefits

Washington University has found a significant number of positive steps to address concerns about wages and benefits for lower-paid workers, including creating an entry-level wage, announced John R. Klein, J.D., executive vice chancellor for administration. "I believe we have set in place principles and guidelines that will allow us to continue to grow as a world-class research university, while being more attentive to the needs of those lower-paid individuals who work in partnership with our faculty, staff and administrators to make Washington University the great community that it is," Klein said.

Among the University's initiatives are:

• The University has engaged in discussions with the companies that provide basic contract services to the University and is securing agreements from each of them to pay — if not already doing so — an entry-level wage no less than $500,000 for lower-paid workers in the 2005-06 fiscal year will be expended on this initiative. Because the $500,000 was not a budgeted item for 2005-06, the University is working hard to identify resources to manage its commitment without putting undue pressure on tuition, educational programs, financial aid, or the ability to recruit top faculty.

• The University is in the process of forming two committees: a Basic Service Contractors Review Committee and a Resource Priority Review Team. Composed of students, faculty and administrators, the Basic Service Contractors Review Committee will review in retrospect the University's adherence to the parameters and process the University used in the selection or renewal of basic service contractors and will advise the University administration of suggestions for improvement as it relates to that process. The Resource Priority Review Team will identify opportunities and make recommendations to the University administration on whether additional funds might be made available to address the ongoing needs of lower-paid service workers. Composed of students, faculty and administrators, this committee will meet as often as necessary throughout the year with the goal of submitting recommendations by June 30, 2006.
**Grant enables gene-guided chemotherapy research**

**By GWEN ERICSON**

Taking into account that each individual's unique physiological characteristics partly determine how a tumor responds to treatments, School of Medicine pharmacogenetics researchers are finding ways to personalize cancer treatments. The research program recently received a $7.9 million grant from the National Institutes of Health for a translational research initiative that began in 2001.

Pharmacogenetics seeks to use genetic information to guide medical therapies, and McLeod is a recognized leader in the field. McLeod's program, called CRE- ate (Comprehensive Research on Expressed Alleles in Therapeutic Evaluation) aims at using genetic information to guide the use of a standard cancer treatment drug called Camptosar.

"The research may also identify new drug targets for cancer cells and that way guide development of new chemotherapeutic agents," McLeod said. "For example, one gene measured by the approach can lead to information about how genes affect the toxicity of chemotherapeutic agents.

"Urologists have seen that in some patients a certain drug will produce good tumor shrinkage with no side effects," McLeod said. "But they also see patients who get severe side effects with the same drug whose tumors continue growing."

Protein may shield cells from toxic therapies

**By GWEN ERICSON**

"You win some, you lose some. A protein that protects the body from tissue damage also increases the risk of tumors, according to a School of Medicine study.

Because of its protective function in the body, the protein potentially could be used to selectively shield cells from toxic therapies, according to senior author Steven J. Weintraub, M.D., a researcher at the Siteman Cancer Center.

"The protein, called Bcl-xL, has the ability to help keep cells alive when exposed to injury, with programmed cell death, or apoptosis. A protein that can rid the body of unwanted or damaged cells," Weintraub said.

"Weintraub found that Bcl-xL helps the body's healthy cells survive the effects of toxic chemotherapy agents," said Weintraub, assistant professor of surgery and cell biology and physiology.

"This new study clearly demonstrates a trade-off by showing that normal levels of Bcl-xL encourage the growth of tumors in mice exposed to a carcinogen."

The study, recently appearing in *Oncogene* online edition, compared the effect of a carcinogen, a lung-specific carcinogen, on two groups of mice which have two functional genes that express Bcl-xL and transgenic mice which have one functional gene expressing Bcl-xL. Because there are only one of the genes, the transgenic mice produced less Bcl-xL.

After exposure to urethane, 40 percent of wild-type mice developed tumors when exposed continuously to urethane, whereas no tumors were observed in the group of mice that did not have Bcl-xL. Furthermore, wild-type mice exposed to urethane formed larger tumors than transgenic mice.

"In light of the detrimental effect normal Bcl-xL levels in terms of tumor growth, we wanted to see if gene-silencing the protein's beneficial effect: its ability to deal with unwanted or cellular toxins," Weintraub said.

The research team looked at seven of the same type of mice as in previous experiments, this time examining liver cell damage resulting from a regimen that mimicked a three-day alcoholic binge.

"Weintraub said.

"In this case, wild-type mice larded better than transgenic mice. Transgenic mice showed higher and serum levels of a marker for liver injury and greater evidence of damage in tissue examined microscopically.

"Bcl-xL is a broader potential for protecting the liver because apparent in experiments that measured the effect of TNF-alpha, an immune-system substance that plays a role in development of a wide variety of liver disorders.

"The human Bcl-xL protein is functionally identical to the mouse protein, so the same effects are expected in humans," Weintraub said.

"When you took a population of people, you would likely see variation in Bcl-xL levels from person to person."

"In addition, Bcl-xL levels in each person are altered at times in response to certain stimuli. Therefore, it's possible that because of variation in Bcl-xL levels some individuals are more prone to develop tumors or more susceptible to tissue injury during cancer therapy."

"And at various times in people's lives, changing levels of Bcl-xL may increase the risk of either tumor development or tissue injury," Weintraub said.

"According to Weintraub, a good example of the interaction between the two roles of Bcl-xL. It is seen in Barrett's esophagus, a precancerous change in the esophagus in response to chronic gastric reflux."

"In Barrett's esophagus, levels go up in areas exposed to stomach acid, likely to prevent the esophageal tissue from damage."

"The risk of esophageal cancer increases 30-60 times in patients with Barrett's esophagus."

"On the positive side, our findings suggest the possibility of preventing tissue injury by specifically increasing levels of Bcl-xL during disease treatments that adversely affect particular organs," Weintraub said.

"The entire University is extremely grateful for their most recent generous gift.
Horowitz to discuss 'Academic Freedom and the War on Terror'  
BY NADEE GUNASENA

Political columnist David Horowitz will give an Assembly Series talk at 11 a.m. Sept. 14 in Graham Chapel.

He will discuss "Academic Freedom and the War on Terror," he will discuss the importance of intellectual diversity and student rights, especially on college and university campuses.

Horowitz is president and founder of the Center for the Study of Popular Culture in Berkeley.

Tuesday, Sept. 20 4:30 p.m. Program in Physical Therapy Professional Conferences. 4444 Forest Park Blvd., Rm. B108/B109. 286-1404.

Paresis: Relationships to Hand Function." Margaret's young American studio adviser, plays both referee and therapist while pursuing his own, if more personal, agenda.


"What is the dynamic of a delegation to the school to undertake."

Friday, Sept. 21 11 a.m. Assembly Series. "Lecture with Future Composer: Leonard " compositions have been performed by the St. Louis Symphony Orchestra, the Orchestra of New York, the London Symphony, and the Berlin Philharmonic.

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Taiwanese narrative opera group to visit campus

BY GERRY EVERSING

Uhan Shii, an award-winning Taiwanese theater group, will visit the University Sept. 18-26 and perform at the Saint Louis Art Museum. Tickets are free to WUSTL students and $10 for the general public.

On Stage

Monday, Sept. 12
7 p.m. Sam Fox School Performance. "500 Years Later" at the St. Louis Art Museum, 1 Fine Arts Plaza. Free. Sam Fox School of Fine Arts. 935-4454.

Wednesday, Sept. 14

WUSTL Chamber Orchestra to launch Department of Music's 2005-06 season

The Washington University Chamber Orchestra will kick off the Department of Music in Arts & Sciences' 2005-06 season with an homage to the great Swedish singer Jenny Lind.

Elements of traditional Chinese opera are integrated into the play, which adapts an episode of the classical Chinese opera The Butterfly Lovers into the overtone. Like Taiwanese opera, traditional Chinese opera saw a shift in the modern plays feature actors from 60 and young children.

The theatre productions are based on oral history in a series called Echoes of Taiwan. My Journey is the eighth production in the series. Tickets for the art museum performance are free to WUSTL students and $10 for the general public.

For more information on the art museum performance or the workshops, call Krystal Liddlow at 935-8772 or go online to stlouisblackrep.com.
Network

From Page 1

The RLI provides support for data networking and real-time remote displays, allowing users to develop the insights needed to understand the behavior of new capabilities within a complex operating environment.

The routers included in the test-bed are built around a scalable switch fabric and are architecturally similar to high-performance commercial routers. This modular nature enables researchers to evaluate their ideas in a much more realistic context than can be provided by PC-based routers using commodity hardware, and operating systems tailored to the needs of desktop computing. Turner said it is helpful for researchers seeking to transfer their ideas to commercial practice to demonstrate those ideas in a realistic setting. The RNI provides such a setting, allowing systems researchers to evaluate and refine their ideas, and then to demonstrate those ideas to interested researchers using the technology in new products and services.

Turner discussed the RNI in August at the Hot Interconnects Conference in Palo Alto, Calif. Over the next year, he will be giving various tutorials on it nationwide.

Communications services

Turner noted that the extensibility of the routers is a key feature.

"Each port of the router has an embedded microprocessor, which can host software plug-ins," he said. "Users of ONL can write their own plug-ins to extend the functionality of the router, adding new features and providing new communication services. Such extensibility is becoming an increasingly important part of the networking landscape.

"We believe that as people develop new experience with such extensible routing platforms, we'll see an explosion of innovative, new communication services that go well beyond the simple datagram service that is at the heart of the Internet today."

"The ONL is the latest example of computer networking innovation from a university known for networking breakthroughs and implementations."

Turner discussed the ONL in August at the Hot Interconnects Conference in Palo Alto, Calif. Over the next year, he will be giving various tutorials on it nationwide.

Sports

The Bears swept Dominican University, No. 14 Whitworth College and Rhodes College by the same 3-0 margin. WUSTL closed out the tournament with a 1-0 win against Illinois Wesleyan University.

Senior setter Kara Liefer played her all-around game throughout the weekend, finishing the four-match span with 30 kills, 46 digs, 18 blocks and 12 assists. In the match against Illinois Wesleyan, she posted her eighth career triple double with 13 kills, 14 digs and 48 assists. Sophomore Raleigh Spencer and Liefer garnered All-Tournament Team accolades.

Men's soccer wins, ties first matches of year

The men's soccer team went 1-0-1 in its opening weekend, winning the WUSTL Classic Sept. 2-3 at the Field House.

The Bears, heading home a cross from Franklin, freshman Kevin Brge scored the Bears' second goal.

Women's soccer splits at Baptist Invitational

The women's soccer team opened the season with a 1-1 record at the Bob Baptist Invitational in Westfield, Ill.

The Bears opened with a 1-0 win over No. 17 DePauw University Sept. 3. Junior Tala Baccu scored the game-winner in the 79th minute after she drilled home a corner kick from freshman Carly Anderson.

"In my hope is that this becomes a useful service for researchers and students, both at Washington University and around the country," Turner said. "If we succeed at that, we can help advance the state-of-the-art, and contribute to the development of better-educated graduates."

Chimp

Researchers compare it with other primate data

Chimp researchers compared the data to other primate data to assess the similarity of the human brain to that of chimpanzee brains. They found that the human brain is more similar to the chimpanzee brain than to other non-human primate brains.

Chimpanzees and humans share many similarities in their anatomy and physiology. They have similar body proportions, and both are capable of complex cognitive tasks. However, there are also important differences between the two species. For example, chimpanzees are more arboreal than humans, and their brains are smaller in absolute terms, although they are proportionally larger in relation to body size. Chimpanzees also have a more developed sense of smell than humans.

In terms of behavior, chimpanzees are more social animals than humans, and they have a more complex social structure. They also have a more developed sense of humor, and they are more creative in their use of tools.

Despite these differences, chimpanzees and humans share a common ancestor, and they share many similarities in their DNA sequences. In fact, chimpanzees and humans share approximately 99% of their DNA.

This similarity is reflected in a number of ways. For example, chimpanzees and humans have similar neural networks, and they share many similarities in their behavior. chimpanzees and humans also have similar emotions, and they share a number of the same mental disorders.

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The following are among those who have joined the Olin School of Business as assistant professor of operations and manufacturing management. Chayet previously served as assistant professor of operations management at the University of Chicago Graduate School of Business since 1999. He served as Olin as a visiting professor. Chayet's areas of expertise include stochastic modeling of production, service and inventory systems, operational design issues and productive and nonproductive operations of with market- ing and other disciplines. His research focuses on queueing models and their applications in process quality in decentralized supply chains.

Daniel Ellenbogen, Ph.D., joins the Olin School of Business as assistant professor of marketing strategy. Once he earned a Ph.D. from Harvard University in 2004, Ellenbogen worked as a lecturer at the Haas School of Business, University of California, Berkeley. He currently serves as staff economist on the President's Council of Economic Advisers, advising the Clinton Administration on trade and related economic policy. Ellenbogen's areas of expertise include business policy and strategy, organizational economics and technology management. His research centers on the presence of complex transactions, markets for intellectual property, incentives in organizations and university-industry technology transfer.

Richard Frankel, Ph.D., comes to the Olin School of Business as associate professor of accounting. Frankel served as associate professor of accounting at Massachusetts Institute of Technology's Sloan School prior to joining the Olin faculty. Frankel's areas of expertise include investor relations and valuation. His research focuses on investor relations strategy, working capital management and investment strategies based on behavioral bases. He teaches financial accounting and financial statement analysis.

Armando Gomes, Ph.D., is a new associate professor of finance at the School of Business. Gomes was assistant professor of finance at the University of Pennsylvania from 1997-2005. Gomes' areas of expertise include corporate finance, corporate governance, bankruptcy and financial statements. His research focuses on corporate finance, empirical and theoretical, mergers and acquisitions, corporate governance and economic theory. Gomes has published articles in journals including the First Prize, General Accounting Office & American Accounting Prize for Financial Research (2004) and the NASA Ames Educational Foundation Research Fellowship (2004).

Robert Klaas, M.D., Ph.D., professor of medicine, surgery, and immunology, has received a three-year, $558,487 grant from the Department of Health and Human Services Health Resources and Services Administration for research titled "SAMSC Targeted Issue Grants."

Matteo Levri, M.D., associate professor of medicine, has received a five-year, $564,570 grant from the National Institute of General Medical Sciences for research titled "Chemokines and Lymphoid Trafficking in the Pathogenesis of Experimental Autoimmune Encephalomyelitis."

David G. Levy, Ph.D., associate professor of epidemiology and biostatistics, has received a three-year, $495,000 grant from the National Institute of Child Health and Human Development for research titled "Rehabilitation Outcomes, Community Participation and Well-being."

Susan Gilliman, Ph.D., research assistant professor of pathology and immunology, has received a one-year, $182,500 grant from the National Institute of Allergy and Infectious Diseases for research titled "The Role of MR1 in Mammalian Immune System."

Randall A. Cross, M.D., assistant professor of orthopaedic surgery, has received a four-year, $427,433 grant from the National Center for Research Resources for research titled "Phase II Trial of Rituxim in Multiple Sclerosis."

Deborah J. Lenessch, M.D., instructor of medicine, has received a three-year, $279,406 grant from the National Institute of Allergy and Infectious Diseases for research titled "Function of DSG1 During Virenal Injury."

Timothy A. Grumbach, M.D., associate professor of medicine, has received a five-year, $2,250,000 grant from the G & F Foundation for Cancer Research for research titled "The Role of AML1/ETO in the Pathogenesis of T (8;21) Acute Myeloid Leukemia." -

Michael W. Rich, M.D., associate professor of medicine, has received a five-year, $956,767 grant from the National Institute on Aging for research titled "Pro- teasomal Pathways in the Elderly." 

Xinlian Han, Ph.D., assistant professor of medicine, has received a $133,402 grant from the National Institute on Aging for research titled "Skeletal Research in Cardiology in the Elderly."

William A. Maloney, M.D., assistant professor of medicine, has received a one-year, $99,999 grant from the Agency for Healthcare Research and Quality for research titled "Impact of a 2013 Curriculum in Cardiology in the Elderly."

Changchun Zhao, M.D., Ph.D., assistant professor of medicine, has received a one-year, $111,400 grant from the National Institute of Diabetes and Digestive and Kidney Diseases for research titled "Trafficking of LRP and Megalin in Pulearized Cells."

Maria Schoenfeld, M.D., assistant professor of medicine, has received a one-year, $104,840 grant from the National Institute of Diabetes and Digestive and Kidney Diseases for research titled "Diseases of Batten Cells in a Mouse Model." 

Mario Schoenfeld, M.D., assistant professor of medicine, has received a one-year, $259,406 grant from the National Institute of Diabetes and Digestive and Kidney Diseases for research titled "Function of ISG15 During Viral Infection."

The following occurred on Sept. 1:

Sept. 1: 11:30 a.m. — A person reported being stuck by a vehicle while walking on Frontenac Road. An investigation is continuing.

Sept. 2: 10:06 a.m. — A woman reported being struck by a vehicle while walking on Frontenac Road. She was treated and released.

University Police also responded to two lost articles.
Alan Glass left clinical medicine to enhance college health, and universities, students are real people underevaluated related to their health needs. I left clinical medicine to enhance college health, and I think working at the University allows me to do that.

**Enhancing students’ success**

Glass sees his role and the role of his office as supporting the academic mission of the University.

The primary mission of the University is academics, and we are here to support that," Glass said. "It's well known that students can’t function at their optimal capacity if they're not well.

"I feel that a lot of colleges and universities, students are real people underevaluated related to their health needs. I left clinical medicine to enhance college health, and I think working at the University allows me to do that."

**Alcohol is certainly a part of that," he said. "While alcohol use and misuse is a health issue, it's not just a health issue. It impacts a lot of different parts of campus life. We are trying to become more actively involved in prevention initiatives related to that."

One change Glass has already initiated is extending the service’s hours of operation this year. It is now open to serve students from 8 a.m.-6 p.m. Monday-Thursday, 8 a.m.-5 p.m. on Fridays and 10 a.m.-2 p.m. on Saturdays and Sundays. The previous hours were 8 a.m.-6:30 p.m. Monday-Friday.

"The weekend hours are a real enhancement," Glass said. "Student Health Services must be focused on the health and wellness needs of students, which means we need to take every opportunity we can to assess their needs and adapt to those needs.

The majority of students who come into the service do so for common maladies, Glass said. Those include colds, sore throat, coughs, allergies, urinary tract infections and abdominal pains, as well as back pain, broken bones,

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