WASHINGTON, D.C. — Mouse next in line for DNA sequencing; new network formed

Two new National Science Foundation (NSF) grants to Washington University will bring Missouri's first science supercomputing center and an astrophysics simulation laboratory. The laboratory, through cyber-space, will enable users to apply the national theory of general relativity to the simulation of neutron stars and black holes; arrive from the highest tier researcher to the merely inquisitive can thus explore a simulated universe.

W. Mao Suen, Ph.D., professor of physics and Arts and Sciences, is the principal investigator for the grants, totaling $4 million, to support collaborative supercomputing research with investigators here and at other major universities.

One is a three-year, $1.8 million grant from the NSF Major Research Instrumentation (MRI) program to purchase a supercomputer and establish a Center for Scientific Computing within the Division of Natural Sciences and Mathematics.

The laboratory, through supercomputing research with collaborative grants, totaling $4 million, to support collaborative supercomputing research with investigators here and at other major universities.

Choosing responses to environmental agents and designing new medicines." The NIH funding for the Mouse Genome Sequencing Network illustrates the value of the mouse genome to a wide spectrum of biomedical research. "Every institute at NIH, with support of the NIH Office of the Director, has made a commitment to the first year of funding for the Mouse Genome Sequencing Network, demonstrating the importance of this work to research progress in virtually every area of biomedical research, from
gaps in the draft and finishing the sequence in high-quality final form by 2005." Many scientists have told us that data sequence, even in working draft form, is very useful to their research. For that reason, the Human Genome Project and now the mouse sequencing effort will complete their work in these two stages," said Francis Collins, M.D., director of the National Institute on Deafness and Other Communication Disorders.

"This is a major achievement," said John D. McPherson, Ph.D., assistant professor of genetics, who will begin his two-year NIH tenure in 1998 as chief investigator for the NIH-sponsored Mouse Genome Sequencing Network. "This is a major achievement," said John D. McPherson, Ph.D., assistant professor of genetics, who will begin his two-year NIH tenure in 1998 as chief investigator for the NIH-sponsored Mouse Genome Sequencing Network. "This is a major achievement," said John D. McPherson, Ph.D., assistant professor of genetics, who will begin his two-year NIH tenure in 1998 as chief investigator for the NIH-sponsored Mouse Genome Sequencing Network. "This is a major achievement," said John D. McPherson, Ph.D., assistant professor of genetics, who will begin his two-year NIH tenure in 1998 as chief investigator for the NIH-sponsored Mouse Genome Sequencing Network. "This is a major achievement," said John D. McPherson, Ph.D., assistant professor of genetics, who will begin his two-year NIH tenure in 1998 as chief investigator for the NIH-sponsored Mouse Genome Sequencing Network. "This is a major achievement," said John D. McPherson, Ph.D., assistant professor of genetics, who will begin his two-year NIH tenure in 1998 as chief investigator for the NIH-sponsored Mouse Genome Sequencing Network.
A new exhibit of current projects by three distinguished School of Architecture faculty members stresses the pervasively integrative or "design" notion between architectural practice and theory.

The exhibit, "Critical Practice — Works in Progress," highlights select architectural work by Jo Noero, the Ruth and Norman Moore Professor of Architecture and director of the graduate program; Paul Donnelly, professor of architecture; and Adrian Luchini, associate professor of architecture.

In addition to their commitment to teaching, all three are internationally recognized practitioners. Noero and Donnelly each have their own firms, and Luchini is director of design for Overseas Facilities in St. Louis. The exhibit of their architectural drawings, renderings, and photographs runs through Oct. 31 on the main floor of Givens Hall.

"The study of architecture should be constructed out of a care for teaching," said John L. Loomis, who has developed experimental, low-cost housing for the adjacent Red Location community. In the Bohemian Hill area of St. Louis, Noero is transforming a blighted area into a vibrant community. The project combines the expertise of Noero, Donald Royale, professor emeritus of architecture; Carolyn Toff, professor and chair of construction technology and business groups who are currently working on the project and 45 rehabilitated homes and apartments and 17 new homes, several of which are under construction.

In recognition of his work as an architect and engineer, and his current work on the façade family for Family Services of Greater Boston. The project involves the renovation of 240 historic buildings in the city's historic district to advance the art of architecture among professional and student architects. Noero has selected four projects that demonstrate his commitment to fine architecture while addressing critical issues of the moment. The new project, new rehabilitated housing for community residents, is an example of an existing space.

The exhibit includes photographs and drawings of the following projects: the new New York City subway system; an environmental strategy for the original building; the original building; and the development of a new public library.

For more information about the exhibit, contact Judith Jasper Leicht at 935-5285 or by e-mail at nepatte@artsci.wustl.edu.
evolution has an uneasy way of routing good blueprint, as researchers recently were able to demonstrate that a protein involved in immune-related processes plays a critical role in kidney disease.

Andrew S. Shaw, M.D., principal investigator on the study and a CD2-associated protein, said, "Diseases like diabetes are a critical role in some kidney diseases.

The researchers found that mice lacking CD2AP had defective glomerulitis and died of renal failure. When they analyzed these mice, they found that CD2AP was missing from an epithelial cell in a known cell as a glomerular epithelial cell. The glomerular epithelial cell has a complex shape with foot-like extensions that wrap around capillaries, forming spaces for the exchange of substances. CD2AP is called slit diaphragms. In the mice lacking CD2AP, the epithelial cells were damaged and the slit diaphragms were lost.

"We, developed by Shih and Li, died of kidney failure by the time they were 6 weeks old. The researchers, including co-author Jeffrey H. Miller, Ph.D., associate professor of medicine, and of cell biology and physiology, found that the kidneys showed progressive damage to the foot-like extensions as early as one week after the mice were born.

How could missing CD2AP have such a dramatic effect on the kidneys? To address this question, the researchers revisited a model considering CD2AP's potential role in T cells of the immune system. He

"For the first time, Wash- ington University will participate in a large multicenter study spanning almost 20 asthma centers addressing a common clinical problem," Castro said. All of the data will be shared, Johns Hopkins Medical Center will serve as the data-coordinating center by collecting the results from the participating centers. The collaborative effort brings St. Louis to an asthma research center across the United States and establishes a unique partnership among St. Louis schools, the ALAEM and participating in public practice. The American Lung Association of Eastern Missouri (ALAME) and private physicians have teamed up to establish this center.

"This is just the beginning," Castro previously showed that CD2AP is important for T cell function by binding to nephrin. The gene encoding nephrin was cloned as a border function, keeping proteins in another molecule on the synapse.

Sane named Alumnus Endowed Professor of Neurobiology

By Linda SAGE

Joshua R. Sanes, Ph.D., professor of anatomy and neurobiology, has been named an Alumnus Endowed Professor of Neurobiology. "The Washington University Medical Alumni Association established the professorship in 1978 to help attract and retain esteemed physicians and renowned physicians and physicians and researchers," said William A. Peck, M.D., executive vice chair of medical affairs and dean of the School of Medicine. "We are especially pleased that this sixth chair will honor Joshua Sanes, an intellectual leader in the field of neurobiology.

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"For the first time, Wash-
Shiver me timbers! "Pirates of Penzance" board Edison Theatre stage

By LIA M. OTTEN

"Pirates of Penzance," the very model of a stage comic opera, will be presented by the Washington University student group called "Pirates of Penzance" at Edison Theatre stage Oct. 22-24 and 29-31 when the Performing Arts Department (PAD) in Arts & Sciences celebrates its 119-year, young musical for its fall mainstage presentation.

Performances begin at 8 p.m. Oct. 22 and 23, and at 3 p.m. Oct. 21, 24 and 30. Student union members continue the following week at 8 p.m. Oct. 29 and 31. "Pirates" tells the story of Frederick, a man who, through a comical linguistic mix-up, is mistakenly apprenticed to a group of pirates. Now on the eve of his 21st birthday, Frederick has no women announced his intention to quit the pirate life there and stumbles upon a group of respectable young women, dangerously handsome. Major-General Stanley, the girls are smitten by the man they thought would endanger—of course, it has. Their work is the basis of 20th-century musical comedy. And of all their work, "Pirates" is the one they thought would endure—a lot, of course, it has.

"It's a very funny, funny show, with a lot of great characters," said Jeffery Matthews, senior artist in residence in the PAD who directs the 33-member cast. "Gilbert and Sullivan were a wonderful team: the words are very witty and the music is very tuneful and lush. Their work is the basis of 20th-century musical comedy. And of all their work, 'Pirates' is the one they thought would endure—of course, it has.

"It seems that every year we have more and more students who are strong singers. 'Pirates' is a big-cast musical that can really utilize their talents. Susannah Tillson, who plays Mabel, particularly amazing. When Linda Ronstadt did this part in 1980 she had to train for it for a year. Susannah is somehow able to just come in and sing it all, all of her life experience that I get to share with the whole cast is singing and dancing. The set design, by Chris Toth, and Sallie O'Leary, is based on the cartoonish, cut-out look of Victorian's books, with two-dimensional scenery made from flat plywood. That sort of flimsy cardboardiness is furthered by the costumes and lighting design, by Chris Pickler and Rick Karyndel respectively, both &#8220;a joyous, happy piece," Matthews concluded. "It should really be a fun evening."

Tickets are $10 for all general public and Washington University faculty, staff and students. They are available at the Edison Theatre Box Office, 935-8543, 915-9501, 935-6341, extension 5344; available for sale at Student Union, 935-1771; or online at www.wustl.edu/thisweek/thisweek.html.

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Football team suffers 25-loss season Washington University's nationally ranked defense gave the Tigers, who finished 6-6, a season they could have had to win Saturday night, when they could not muster enough offense and lost to 25-9 in the No. 2-ranked Tigers. Junior quarterback Kevin Cantler, playing in his second varsity game after not playing in the 1998 season, kicked a 37-yard field goal in the third quarter to give the Bears a 15-14 lead, but the Tigers rallied with a 15-7 lead in the fourth. Two consecutive touchdown runs by quarterback Mike Weidenbach led to a 28-25 lead, and the Tigers scored two more touchdowns to lead 35-25. 

Men's soccer wins two on UAA road trip Senior All-American striker Greg Bredthauer scored two goals as Brandeis University hosted Washington University's soccer team for a weekend sweep. The men's soccer team completed a weekend sweep with a 2-0 victory over the Bears. Riverside leads the team with a record of 9-4, 3-1 overall. The Bears opened the weekend with a 2-1 victory Friday at the University of Rochester. Senior goalkeeper Gedeon Devore led the victory in both games. 


Thursday, Oct. 21 8:30 a.m. Student recital. Music of Amsterdam, Belgium, and Switzerland. Graham Chapel. 935-6451.


Sports Thursday, Oct. 14 7:30 p.m. Women's soccer vs. Maryville College. 4950 Children's Place. 935-5220. 8 a.m. 4000 meter race. "Crafting the Academic CV." Elizabeth George, director of the Center for Religious Programs, counseling and student development. 303 Multidisciplinary Center. 935-5252.

Newman Brunch and More... The 46th annual Newman Brunch to benefit the Catholic Student Center at Washington University will be held at noon Oct. 24 in the ballroom of the Fontenae Hilton Hotel, 1355 S. Lindbergh Blvd. The Catholic Student Center is celebrating its 50th anniversary this year with a series of events. During the brunch, founding members of the Newman campus ministry will be honored with the Cardinal Newman Award. John Henry Newman was a 19th-century cardinal of the Catholic Church and a founder of the Oxford Movement, which advocated the connection of faith to intellectual life. Catholic ministries at secular universities are named in his honor.
Supercomputer

New center, lab offer "bridge to the future" — from page 1

time at the national centers for various aspects of DNA sequencing, testing algorithms and visualization.
For those familiar with the computing center here will enable faster turnaround.
"The lab's computer will serve as a bridge both to the national facilities and to the technology of the future," Suen added. "The center will greatly aid students at Washington University in learning the parallel computing technology, which is a major tool for scientific research. The initial problem is to get Washington University, but it will serve as a resource to the entire St. Louis research and education community."

Clifford M. Will, Ph.D., director of the Division of Natural Sciences and Mathematics, said, "The projects and professor and chair of the Department of Physics in Arts & Sciences, expressed excitement about the opportunities to enhance research across a broad array of applications.
"The establishment of this supercomputer facility will dramatically enhance scientific research involving high-performance computation at Washington University, not just in physics, but earth and planetary sciences, mathematics and chemistry," he said. "It will also enable students and researchers to gain access to cutting-edge, parallel computing capabilities right on campus rather than at remote supercomputer centers." The second grant is a three-year $2.5 million research grant from the NSF Knowledge and Distributed Intelligence (KDI) program for a supercomputer simulation, "collaboratory." This grant will enable Baker's Center, Gaithersburg, Md., the Albert Einstein Institute in Princeton, N.J., and the Center for Supercomputing Applications at Urbana-Champaign, Ill.

The project aims to create a "cyberspace laboratory" where researchers can make use of the largest massively parallel computer in the world available to scientists in the United States, involving neutron stars and black holes. These exotic objects are believed to be central to observations in high-energy astronomy and to the two major frontiers of astronomy for the 21st century.

For the numerical study of the astrophysics of neutron stars and black holes, expertise is needed from many disciplines. "There is no way a single group or person can master all of this," Suen said. "With this laboratory and cyber-space, the entire community of users can begin to work together, develop the codes and carry out the simulations. Thus, the term team computing.

The laboratory will contain not only the supercomputer for the numerical simulations, but also a world-class data-computing and advanced 3-D visualization capabilities.
"This is an exciting new direction in carrying out research," said Suen. "In the laboratory, sitting side by side, one can put the two things, computation and visualization, parallel if the computing power needed for the simulation is more that can be handled, all computers can be connected in different groups. This network of supercomputation can function like an entire parallel computer, providing the computing power that has never before existed.

"This is an open laboratory to the entire community of users, Ph.D.astrophysicists to a high school student," Suen said. "This is a project, Suen observed. "This will be a treasure trove of data for the global computational astrophysics community."

Global debate

Supportive Mike Cerulo (right) of the University at Buffalo takes on the National Debate Team Oct. 4 to consider questions about foreigners and NATO's role in policing the world. Christopher Brooks (left) and Sam Sikes represented the British team. The event was the latest in a series of competitions for the newly revitalized team, coached by Jeremy Rigdon, director of debate and forensics.

Genome

Mouse next in line for DNA sequencing — from page 1
genome will be completed.
One quarter of the human genome already has been sequenced by an international consortium of research centers, including three supported by NSHRI. All of the sequence data is currently available to the public at no cost 24 hours via Genbank (www.ncbi.nlm.nih.gov/Genbank), the public database operated by NIH. Genbank collaborates with public genome databases in other countries to ensure that new data deposited into one is included in the other public databases.

"The success of the Human Genome Project, the recent advances in technology and the broad support from the scientific community have allowed the NIH to take on the sequencing the mouse genome," Collins said. "Prior to last task, this was not officially one of our goals because several years ago a Rosenbaum too daring to try to sequence both genomes.

This international sequencing effort has already deciphered the genetic code of four bacteria, which has five million base pairs, and of the roundworm, which has 97 million base pairs. The genomes of both will be completed soon.
while sequencing and studying the genes in progressively more complex organisms, from bacteria and yeast to mouse and human, investigators will have the opportunity for the first time in history to identify and ultimately to understand the genes that are "crucial to life," Collins said.

Recipients of the NIH grants and the principal investigators are:

For mapping the mouse genome:

The Institute for Genomic Research, Rockville, Md.: Robert Weinberg.

For sequencing the mouse genome:

Baylor College of Medicine, Houston; Richard Gibbs; NIH Intramural Sequencing Center, Gaithersburg, Md.; Eric Green; Albert Einstein College of Medicine, Bronx, N.Y.; Raja Chinnathambi; Whithead Institute for Biomedical Research, Cambridge, Mass.; Eric Lander; Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y.; and David Comb; Genome Therapeutics Corp., Welland, Ont., Canada; Masao Dohmae; University of Oklahoma, Norman; Bruce Roe.

Weinberg's lab is based at the Massachusetts Institute of Technology, which is developing into a major supercomputer center. The other two labs are part of the National Sequencing Center project.

Boucher has given a 1951 Duncker place in Hurst Lounge, Room 208, behind the College of Arts and Letters. The room is named in honor of the 11 books, including "The Fireman's Wife and Other Stories." "In the Night Seasons," "Someone to Watch Over Me," and "Good Evening Mr. & Mrs. America and All the Ships at Sea." His short stories have appeared in Esquire and The New Yorker. His fiction has garnered widespread acclaim, winning the O. Henry Prize, the Lila Wallace-Reader's Digest Award and an award in literature from the American Academy of Arts and Letters.

Boucher was born in Georgia in 1945. He served in the Air Force from 1965 to 1969, afterwards studying at Northern Virginia Community College and George Mason University. In 1974 he attended the Iowa Writers' Workshop, where his classmates included John Irving and Jane Smiley. His first novel, "Real Estate," was published in 1980. A bold, signed folio will follow the reading, and copies of Boucher's works are on sale for purchase. For more information, call 955-7130.

Writer Richard Bausch to read, present story-telling colloquium

Firefighter Richard Bausch will read from his work for the Creative Writing Program Reading Series at 8 p.m. Tuesday, Oct. 12. Bausch will also give a colloquium on telling stories at 4 p.m. on Oct. 26. Both the reading and the colloquium will take place in Hurst Lounge, Room 208, behind the College of Arts and Letters. The room is named in honor of the 11 books, including "The Fireman's Wife and Other Stories." "In the Night Seasons," "Someone to Watch Over Me," and "Good Evening Mr. & Mrs. America and All the Ships at Sea." His short stories have appeared in Esquire and The New Yorker. His fiction has garnered widespread acclaim, winning the O. Henry Prize, the Lila Wallace-Reader's Digest Award and an award in literature from the American Academy of Arts and Letters.

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Washington Post Watch: to obtain complete job descriptions. Go to 61000 wash. edu/hrhome/offices/hr (Human Resources) or www.wustl.edu/wumshr (Medical).

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Nation's leading Japanese legal scholar to join faculty

Internationally renowned legal scholar John Owen Haley, LL.B., LL.M., chair of the Program in Asian Law and one of the University of Washington’s distinguished scholars, will join the law faculty, according to Joel Seligman, chancellor of the School of Law.

"Professor Haley will strengthen our Joint Doctoral Program in Asian Studies, enhance the faculty and studies program and its master's degree program and strengthen our Joint Degree East Asia Program. I am eager to begin." said Haley. "He is a phenomenal catch." Said Haley: "I am deeply honored by the invitation to join so distinguished a faculty and to participate in so exciting a program. I am eager to begin."

A pre-eminent scholar in national studies and Japanese law, Haley currently is the Guvey, Schubert and Barer Professor of Law and of International Studies. Of the arthered book, "Authority Without Power: Law and the Japanese Paradox," he has written, "...the book scholarly works spanning issues ranging from international trade policy and comparative legal systems in Japan, law and Japanese and East Asian business and international law and contemporary society.

Haley, who joined the University of Washington in Seattle law faculty in 1974, received his bachelor's degree in 1964 from Princeton University, an LL.B. in 1966 from the University of Washington School of Law and an LLM in 1973 from the University of Washington in Seattle.

Shining Chen, Ph.D., to associate professor of dermatology and visual sciences
Umoldo Beno, M.D., to assistant professor of anesthesiology
Dorothy A. Criswell, M.D., to associate professor of ophthalmology
DeWitt T. Crews III, M.D., to associate professor of radiology
Hiroko Dalmann, M.D., to associate professor of anesthesiology
Mark Howard Davis, M.D., to associate professor of medicine
Jeffrey J. Dawson, M.D., to associate professor of anesthesiology
Douglas D. Dean, Ph.D., to professor of medicine
Victor E. Dell’Avilla, M.D., to associate professor of medicine
Jeffry A. Dean, M.D., to professor of medicine
Gregory A. DeClerq, M.D., Ph.D., to associate professor of medicine
Frank E. Dennis, M.D., to associate professor of medicine
Karen L. Weiss, M.D., to assistant professor of genetics
Rand W. Sommer, M.D., to associate professor of clinical medicine
Margaret A. Perkinson, Ph.D., to professor of anesthesiology
Michael A. Pfeifer, M.D., to professor of medicine
David M. Pfeiffer, M.D., to professor of medicine
J. Mark Postula, M.D., to associate professor of medicine
James L. Pfeiffer, M.D., to professor of medicine
Jeffrey Marsh, M.D., to the Appoline Professor of Psychiatry
Kathleen A. Redfield, M.D., to associate professor of medicine
Jeffrey A. Rewald, M.D., to professor of medicine
Karen L. Krystan, M.D., to associate professor of medicine
William C. Dunagan, M.D., to associate professor of medicine
Sally S. Dunn, M.D., to professor of medicine
Karen L. Stylianos, M.D., to professor of medicine
M. Niehoff, M.D., to assistant professor of pediatrics
Joel Picus, M.D., to associate professor of medicine
William S. Scharr, M.D., Ph.D., to assistant professor of clinical medicine
Deborah Ott, M.D., Ph.D., to assistant professor of medicine
Hill M. Nash, M.D., to associate professor of medicine
Joan B. Nash, M.D., to associate professor of medicine
Karen J. Blom, M.D., to assistant professor of pediatrics
M. L. Boulas, M.D., to assistant professor of medicine
Deborah S. Berman, Ph.D., to professor of medicine
Karen J. Blom, M.D., to assistant professor of medicine
Laura J. Bruns, M.D., to associate professor of medicine
David J. Buss, M.D., to associate professor of medicine
James J. Buss, M.D., to associate professor of medicine
Erich V. Buss, M.D., to associate professor of medicine
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A keen ear for patients’ suffering

Ear surgeon Richard A. Chole, M.D., Ph.D., combines creative research with heartfelt empathy for those who seek his help

By Barbara Rodriguez

In 1972, Chole and his family moved to Minneapolis so he could undertake an otolaryngology fellowship at the University of Minnesota. He also renewed his science interest, obtaining a Ph.D. by performing research between medical rotations. Five years later, the Choles headed back to California, where he would spend the next 21 years in the Department of Otolaryngology at the UC-Davis medical school. His research focuses on cells called osteoclasts that dismantle bone during normal repair processes. The overactivity of osteoclasts in the ear, however, can destroy critical bones that transmit sound information, resulting in hearing loss and various ear diseases.

Gerbil model

To study crust-like growths in the ear called osteostomas, Chole developed a gerbil model in the 1980s that is still widely used. Osteostomas can develop after chronic ear infections, as is true of several people who do that.

"As physicians, we've cried with a lot of people," Chole said. “It just adds a little bit to our interest in getting answers to medical questions.”

Richard A. Chole, M.D., Ph.D., shows research assistant Ruth Gill a piece of embedded ear tissue.

In 1972, Chole and his family moved to Minneapolis so he could undertake an otolaryngology fellowship at the University of Minnesota. He also renewed his science interest, obtaining a Ph.D. by performing research between medical rotations. Five years later, the Choles headed back to California, where he would spend the next 21 years in the Department of Otolaryngology at the UC-Davis medical school. His research focuses on cells called osteoclasts that dismantle bone during normal repair processes. The overactivity of osteoclasts in the ear, however, can destroy critical bones that transmit sound information, resulting in hearing loss and various ear diseases.

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