

Washington University in St. Louis

Washington University

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December 2004

University News

WUSTL IS KEY CONTRIBUTOR TO FINISHED HUMAN GENOME SEQUENCE:

University researchers and their colleagues in the International Human Genome Sequencing Project have published their scientific description of the finished human genome — reducing the estimated number of genes from 35,000 to only 20,000-25,000, a surprisingly low number for our species.

'MAGNEPRINT' SYSTEM LICENSED BY WUSTL: The University has licensed a system that detects counterfeit credit cards by reading a unique magnetic "fingerprint," a system invented by Ronald S. Indeck, Ph.D., the Das Family Distinguished Professor of Electrical Engineering. The marketing of Indeck's discovery could eliminate most of the estimated \$5 billion lost to credit card and check fraud each year in the United States.

WASHINGTON UNIVERSITY CUBESTAT READIED FOR COMPETITION: Failure at a university is a word with bad connotations, unless you are involved in building experimental satellites that the U.S. Air Force and NASA find interesting. An aerospace engineer at Washington University, working with students building experimental spacecraft, says student-built spacecraft have a strong advantage over aerospace industry-built spacecraft: the freedom to fail.



David Kilper / WUSTL Photo

Michael Swartwout (left), Keith Bennett (middle) and Jared Macke work with the mini-satellite Bandit in a simulated docking exercise.

Research

YOU CAN'T STEP IN THE SAME RIVER TWICE: The oldest data available on the Missouri River — from the logs of Lewis and Clark — shows that water flow on the river today is far more variable than it was 200 years ago. Structures like dikes, levees, and reservoirs have created a river that Lewis and Clark would not recognize if they were here today.

PROCEDURE RESTORES BREASTS OF



CANCER PATIENTS: Women with breast cancer often face not only their fight against the disease but also the trauma of losing one or both breasts during a mastectomy performed to remove the cancer. Fortunately, as oncologists at the Alvin J. Siteman Cancer Center explain, reconstructive plastic surgeons can perform a technique called the TRAM flap procedure, which allows surgeons to use the patient's own tissues to recreate a natural breast.



Photo by Bob Boston
Keith E. Brandt, M.D., performs a breast reconstruction using the traverse rectus abdominus myocutaneous (TRAM) flap procedure, which allows reconstructive surgeons to use the patient's tissues to recreate a natural breast.

POSSIBILITIES FOR EARLIER DETECTION OF ALZHEIMER'S DISEASE:

Scientists have long recognized that plaque deposits in the brain characterize Alzheimer's disease, but a way to detect them in living people has remained frustratingly out of reach. Until now, scientists have been able to study the plaques only after death via post-mortem dissections of patient brains, the technique that first led to the discovery of plaques 100 years ago.

Features

YOUNG HIP JOINTS: For several months Christopher Mackey didn't know what was wrong; when he pitched a baseball, a popping came from his left hip. When his right hip also popped and left him unable to move from the field until his coach came to move his joints back into place, it was time to see a doctor. Thanks to John C. Clohisy, M.D., assistant professor of orthopaedic surgery at Washington University School of Medicine, Mackey expects to be back on the mound next season.



Rather than replace the hip joint, orthopaedic surgeon John C. Clohisy, M.D., radically cuts and repositions the bones in young patients like Christopher Mackey. The outcome? Ask anyone who's faced Mackey's 92-mph fastball.

A TOY STORY: Finding the perfect holiday gift can be a difficult task. It can be especially tough to choose gifts for young children. With so many toys out there, how do you choose the right ones? R. Keith Sawyer, Ph.D., associate professor of education in Arts & Sciences, offers advice about making the right toy choices.

OLD HABITS DIE HARD: No matter how hard we try to change, it's the old ways that tend to win out, suggests a new study of human memory. "Our study confirms that the responses we learn first are those that remain strongest over time," says Larry Jacoby, Ph.D., professor of psychology in Arts & Sciences at Washington University.

Heard on Campus

"I have seen the United Nations and its good works. I have also seen the limitations of the United Nations... The United Nations is an important part of conducting a multilateral foreign policy, but please bear in mind that the United Nations, however important, is only one part of a multilateral foreign policy."

The Honorable John C. Danforth, United States Ambassador to the United Nations, in remarks at Graham Chapel October 22, 2004

Kudos

M. Carolyn Baum, Ph.D., professor in the Program of Occupational Therapy and Neurology and the Elias Michael Director of the Program in Occupational Therapy at Washington University School of Medicine, has been elected president of the American Occupational Therapy Association.

Clifford M. Will, Ph.D., professor of physics, has been elected president of the International Society on General Relativity

and Gravitation for a three-year term.

Six researchers from Washington University have been named fellows of the American Association for the Advancement of Science (AAAS), the world's largest general scientific society. AAAS awards the rank of fellow—the highest honor it confers—to researchers who have made scientifically or socially distinguished efforts to advance science. New fellows from the School of Medicine are Elliot L. Elson, Ph.D., the Alumni Endowed Professor of Biochemistry and Molecular Biophysics; Timothy M. Lohman, Ph.D., the Marvin A. Brennecke Professor of Biological Chemistry in Biochemistry and Molecular Biophysics; Jane Phillips-Conroy, Ph.D., professor of anatomy and neurobiology and also professor of anthropology in Arts & Sciences; and Herbert W. Virgin IV, M.D., Ph.D., professor of pathology and immunology and of molecular microbiology. From Arts & Sciences, the newly elected fellows are Gayle J. Fritz, Ph.D., professor of anthropology, and Eric J. Richards, Ph.D., associate professor of biology.

The fall women's athletic teams were all highly successful. In soccer the Bears reached the quarterfinals in NCAA Division III post-season play; in cross country the Bears finished third nationally, their best finish ever; and in volleyball the Bears ended their season as national runners-up, falling to top-ranked Juniata College (Huntingdon, Pennsylvania) 3-0 in the championship match in Rochester, Minnesota, on November 27.

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This newsletter is prepared by the staff of the Office of Special Development Communications Projects and the Office of Alumni and Development Programs. It is intended to provide a summary of what is happening at the University. Alumni, parents, and friends of the University for whom we have valid e-mail addresses automatically receive @ Washington University in St. Louis as a service of the University.

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