Human genome map published by consortium

Earthquake program centered at WU

Brick-and-mortar projects abundant

Medical News: Clues about chronic pain provided by mouse nerve study

Inside: PAD presents Wallace Shawn's darkly comic 'Marie and Bruce'

Washington People: Letha Ann Chaddha, Ph.D., strives to empower women caregivers
the undergraduate level. This program seeks to integrate an important topic into the undergraduate curriculum by introducing a series of hands-on experiments.

In the participating universities, has purchased this equipment and is developing at least one experiment to be distributed to other universities. Each university will subsequently integrate three of these experiments into their undergraduate curriculum.

We estimate that this nationwide effort will result in widespread adoption of these experimental laboratory curricula rights to the National Science Foundation. The full-text version of the grant report is available online at http://www.nsf.gov/pubs/2001/nsf01075.pdf

The program is a joint effort between a number of universities and state and national earthquake centers: Pacific Northwest Earthquake Engineering Research Center (PNEER), Mid America Earthquake Research Center (MAERCC), and the Multidisciplinary Center for Earthquake Engineering Research (MCEER).

The students are expected to develop an understanding and an appreciation of the dynamic nature of structures. These concepts are reinforced through the use of "hands-on" laboratory experiments, and students have access to modern engineering tools including computers, simulation programs, and data acquisition/analysis equipment.

Efforts are also under way to expose engineering students to the potential consequences of earthquakes and the dynamic behavior of civil engineering structures. Students are learning about emerging technologies such as structural control techniques and are improving their technical communication abilities.

This is also used as a tool for research purposes. A handful of students at the undergraduate, graduate, and postgraduate levels have used the equipment for research projects. "The students are exposed to a real-world earthquake research experiences challenge and motivation," said. "They will be using the experimental facilities to complete individual research projects that contribute to the overall goals of ongoing research programs."

For instance, Dyke is working with civil engineering junior Taryn Prescott on the implementation of the Transfer Function Iteration Algorithm on the instructional shake table in Dyke's classroom. This work focuses on the development of a technique to simulate an earthquake accurately on the instructional shake table. His project will be made available on the Web to allow institutions across the country to use his program.

As a participant in last summer's NSF-sponsored Research Experiences for Undergraduate Engineers, Rad worked at the University with Ken. "This experience made me a better professor and chair of civil engineering," said. "I think the experience of working on liquefaction on locks near the New York area, and the fact that I was studying the probability of an earthquake affecting this critical structure, which will eventually become a standing committee selected by the Hilltop and Medical campuses will have equal representation on the new committee, with (Theodore) Cicero as the committee's voting representative in the event of a tie."

The Hilltop and Medical campuses will have equal representation on the new committee with Cicero as the committee's chair voting only in the event of a tie. The committee members include: Raymond E. Audrain, Ph.D., the James S. McDonnell Distinguished Professor of molecular biology and pharmacology; Ralph S. Quatrano, Ph.D., the Spencer T. Olin Professor and chair of biology in Arts & Sciences; Philip D. Stahl, M.D., the Spencer T. Olin Professor of cell biology and pharmacology; David C. Van Essen, Ph.D., Edison Professor of Neurobiology and head; Clifford K. Will, Ph.D., professor and chair of physics; Leon Axel, M.D., the Edward Mallinckrodt, Jr. Professor of cell biology and pharmacology; and Charles F. Zaramski, M.D., the Samuel B. Goze Professor and chair of neurosurgery. The committee's voting only in the event of a tie. The committee will review internal and external applications and select the strongest candidates to represent the university when applicants from both Hilltop and School of Medicine campuses are available.

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The School of Medicine recently held its annual awards ceremony, the first of its kind in the history of the School. The ceremony is designed to celebrate the outstanding contributions of students, faculty, and staff to the medical school.

One of the awards presented was the Distinguished Alumni Award, which was given to Kathleen McGann, M.D., Ph.D., associate professor of anesthesiology and of anatomy and neurobiology, and her colleagues for their research that has significantly advanced the field of medicine.

"Our study has provided a target for the development of drugs that would be highly selective for persistent pain. They allow people to ignore chronic pain while leaving the rest of the pain system intact," said Min Zhuo, Ph.D., associate professor of anesthesiology.

The genetically altered mouse provided Zhuo and colleagues with a model for understanding how the brain processes pain. The results can be interpreted in terms of NMDA receptors, which are found in high numbers in the brain and spinal cord of mice.

"You want to be able to feel pain. It's a sign that you're alive, that you're eating, cooking, you can quickly get out of the way if you need to," Zhuo said. "That could help us avoid more serious injuries. If not, deactivating the NMDA receptors would make them more likely to feel persistent pain.

"But if an injury is not avoidable, the enhanced NMDA receptor activity in the forebrain would make them more likely to feel persistent pain." Zhuo said.

The mice were anesthetized with a small electrical stimulus and injected with a solution that caused an inflammatory response at the injection site.

The results of this study suggest that deactivating the NMDA receptors in the brain could be a strategy for reducing pain in people who experience chronic pain. Zhuo believes that deactivating the NMDA receptors in the brain could be a strategy for reducing pain in people who experience chronic pain.

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Yvonne Haddad to address Muslim-Christian relations

Yvonne Haddad will deliver an Assembly Series lecture titled "Islamic and American Identity: How it is影响ing their Christian-Muslim relations in America" in Graham Chapel.

A public scholar and a professor of the history of Islam and Christian-Muslim relations at Georgetown University, Haddad specializes in contemporary Islam in the United States and in America.

Haddad has taught at centres in North America, in the Middle East, as well as in India and Africa.

She has edited or authored more than a dozen books, among them, "The Muslims of America" and "Islam, Gender and Social Change".


Her book "Marie and Bruce" will present Shawn’s darkly comic account of 24 hours in a tempestuous art world.

Her wickedly funny works have been staged at prestigious venues across the United States and Europe. As an author and professor of history of Islam and Christian-Muslim relations in America, Haddad has taught in centres in North America, in the Middle East, as well as in India and Africa.

She has edited or authored more than a dozen books, among them, "The Muslims of America" and "Islam, Gender and Social Change".


Her book "Marie and Bruce" will present Shawn’s darkly comic account of 24 hours in a tempestuous art world.
"Dreams That Money Can Buy" screening 5-9 p.m. 405-430.

Friday, Feb. 23
5 p.m. Pediatric Grand Rounds. "Implications of Perinatal Perturbations: Is Glucose Homeostasis Normal?" Sherri A. Devaux, prof. of pediatrics, chair, research in pediatrics, etc., metabolic and developmental biology, Methyl Children's Hospital, Univ. of Calif., Los Angeles. Aydelotte Bldg., 4450 Children's Plac. 495-4048.


Sunday, Feb. 25

Monday, Feb. 26


doctoral research." Ernesto H. Roldan, prof. of international relations, the center for Latin American Studies, U. of Pittsburgh, Pa. Room 203 Eads Hall. 935-4360.

Tuesday, Feb. 27
11 a.m. Anesthesiology. Health Sciences Prof. of Anesthesiology, Rd. 900-3000. Hoppel Auditorium, 935-3973.

12:30 p.m. Ash Wednesday. Hurst Lounge, Room 201 Duncker Student Center. 935-6543.

1 p.m. Pain Center seminar. "The Role of the Major Serotonin Receptors in Pain Management." Mark L. S. Lewis, prof. of physiology, St. Louis Children's Hospital. Crowe Auditorium. 935-5581.


Wednesday, Feb. 28
5 p.m. The Match. "We're all about the match!" Scott Hitt,asketball. Athletic Complex. 935-5220.

Note: There will be no afternoon games.

Friday, Feb. 17


Genome

Nearby completed physical map published
from Page 1

geno-me sequence that was announced earlier this year. Mapping was important because more than 50 percent of the genome is repetitive. Some regions of DNA have sequences that are identical to one another even though those regions are physically located millions of base pairs apart or even different chromosomes.

"That's where we could have had problems without a map-based approach," McPherson said. "So many parts of the genome look exactly like other parts if you try only with

small pieces; it's tempting to try to stick similar pieces from different parts of the physical map allows us to work with large pieces and see where the little ones are supposed to go."

To make the map, the researchers used bacterial artificial chromosomes (BACs) — large segments of DNA (about 175,000 base pairs large) that have been cloned. Once human DNA is cloned into bacteria, it can be copied and analyzed. Analysis of those copies is the basis for placing them in an overlapping series that covers most of the gene-containing portion of the 3.2 billion base pairs of the genome.

Early in the construction effort, each of the centers in the genome consortium worked on maps for particular chromosome

sets. But it soon became clear that making a fingerprint map of the entire genome would be greatly facilitated by an international effort, so the mapmakers joined together their data from around the world to create one accepted map, accessible to all.

During the last two years, mappers at the University have processed up to 200,000 BAC clones each month — more than 300,000 in all — including the pattern each clone made when cut with different types of "restriction enzymes." Each type of restriction enzyme makes a unique pattern on the short, specific sequence of base pairs and slices the DNA strand at that spot. Those patterns, called "fingerprints," distinguished DNA fragments from each other, revealing which clones contained identical stretches of DNA that could be overlapped.

In order to ensure a high level of accuracy in the final map, researchers from the University and the overlapping clones to cover the entire genome roughly 20 times. Ranges of clones were distributed to the various sequencing centers where they were determined the order of base pairs along a BAC. All were sophisticated computer software and knowledge of each clone's map position, the sequences of the BACs were assembled back into an intact and complete genome.

One first pass netted a physical map consisting of 7,700 clusters of overlapping clones — or "contigs" — to unite together into a continuous stretch of the map. But since that time, the researchers have used a variety of means to check the accuracy of the needed data in GenBank (an online repository of sequence data), more detailed analysis of fingerprints and fingerprints from additional centers and the site of the contigs and, therefore, to reduce the number of gaps between contigs to about 250. The final cutoff for incorporating data into the first draft was 1,246 contigs. In the four months since then, the number has fallen below 950.

The researchers continue to make progress and expect to have the map-completed soon. The physical map continues to test those researchers who are finishing the draft maps. They are expected to provide a resource for years to come for researchers wanting to make use of the finished map.

The international Human Genome Mapping Project includes scientists at institutions in Asia, Europe, Japan, China, Great Britain, Canada, and the United States.

Graduate student symposium March 24; abstracts due Feb. 23

The Graduate Student Senate (GSS) is soliciting abstracts for the sixth annual Graduate Student Research Symposium. The March 24 event in the WUSTL Lounge, set for all graduate and professional school students, is designed to encourage graduate and professional students to learn from each other and to present research or practice experience in a manner similar to how they might submit their work at conferences, job interviews, cocktail parties, or grant reviews. In addition, the symposium offers students an opportunity to network with each other and with different programs and develop professional contacts through links outside of their own department.

Graduate and professional students, including those not presenting, are encouraged to attend and learn about what other students are researching or learning.

Contests for graduate students in Arts & Sciences will be given out for first ($100), second ($75), and third ($50) places, which are made possible with the support of the College of Arts & Sciences. For more information, students should contact the GSS at gcampus@wustl.edu.
Introducing new faculty members

The following are among the new faculty members on the Hilltop Campus. Others will be introduced in future issues.

Lester K. Spence joins the Department of Political Science in Arts & Sciences as assistant professor. He earned a bachelor's degree from the University of Michigan in 1991, from where he also expects to receive his Ph.D. in political science. His research interests include race politics and political participation.

Andrew Brown, Ph.D., joins the Department of Romance Languages & Literature in Arts & Sciences as assistant professor of Spanish. He earned a bachelor's degree in English and Spanish from the University of Oklahoma, where he graduated in 1994 with special distinction in the Phi Beta Kappa. Brown earned his doctorate in Hispanic literature from the University of Virginia in May 2000, where he also worked as instructor of language and upper-level literature courses during 1999-2000. He has written on 20th-century Latin-American literature and film, with research focused particularly on narrative writers of the southern cone, and the relationship between modern/postmodern scientific theory and literary discourses. He has published articles and given papers on a considerable range of topics.

Campus Authors

Andrea Friedman, assistant professor of history and women's studies in Arts & Sciences

"Prurient Interests: Gender, Democracy, and Obcenity in New York City, 1909-1945" (Columbia University Press, New York)

The vision of a democratic moral authority that would lessen the cultural influence of anti-obscenity activists and derail efforts to expand the regulatory apparatus for commercial culture emerged in fits and starts. Early in the century women's rights activists in New York decisively shut down plays and movies that criticized male supremacy and women's exploitation. Just a few years later the staff of the National Board of Censorship of Motion Pictures coupled their own claims to represent public opinion with a campaña that clubwomen away from advocating government film regulation, trying to persuade them that female empowerment and effective child protection were to be found along a different path. In the interwar years this antimarriage coalition made the state the guardian of a commercial culture embodying democratic standards and procedures. These efforts, disparate as they were, sought to dislodge the vulnerable viewer from a privileged position as the subject of government protection and to substitute adult rights in her or his stead.

This conceptualization of the relationship between morality and authority was not without its contradictions. The particular forms taken by democratic moral authority — specifically, the emphasis upon the average person as both standard for defining and mechanisms for regulating obscenity and the related assaults upon child protection as a valid principle of an obscenity regime — especially undermined the legitimacy of female anti-obscenity activists. As a consequence, this antimarriage discourse directed its arguments against women and their mascuclization of debates about obscenity. The language of democracy could conceal consequences that were anything but democratic.

Notables

Students helping students (From right) High schoolers Semilla Bland from Gateway Institute of Technology and Jordan Mitchell from Cleveland Junior Naval Academy work with freshman Mickey Phillips and sophomores Tareen Zahrullah, members of the University's debate team that hosted an Urban Debate League (UDB) tournament Feb. 9-10 in Eads Hall. The UDL is designed to assist in the creation of debate programs in underserved high schools. The University debate team, the recipient of an Open Society Institute Grant, currently works directly with five area high schools. The UDL project is a partnership among Washington University, Webster University and University of Missouri-St. Louis. The award was for "Modeling the Design Quality Competition for Durable Products," which he co-authored with Samir Mukhopadhyay, Ph.D., associate professor, School of Business, University of Wisconsin-Milwaukee. The award will be presented at the annual Industrial Engineering Research Conference in Dallas on May 20-22.

Washington University Board of Trustees recently gave its approval for the name of the School of Engineering and Applied Science graduate school to be changed from the Harry Edgar Sever Institute of Technology to the Harry Edgar Sever Graduate School of Engineering and Applied Science... Gervis-Catalin Roman, Ph.D., professor and chair of computer science, received the best paper award for his paper "Evaluation of Static and Dynamic Scheduling for Media Processors," given at the Second Workshop on Media Processors and DSPs, December 2000, in Monterey, Calif. The conference was held in conjunction with MICRO-31.

Gerald L. Early, Ph.D., the Merle Kling Professor of Modern Letters and professor of English and African-American studies in Arts & Sciences, recently received a Grammy nomination for his album "If I Can\'t Say The Sammy Davis Jr. Story..."

Jonathan D. Gitlin, M.D., professor of pediatrics in the School of Medicine, has received a five-year, $1,529,944 grant from the National Institute of General Medical Sciences for a research project titled "Patient Responsiveness in Surgical Critical Care."

Correction

Feb. 2 issue, Page 1: A story provided incorrect dates for the laying of the cornerstone of two University buildings. The cornerstone of Cupples I Hall was laid in 1901; Ridgley Hall's was laid in 1902.

Distinguished visitor Jorge Arrate, Chile's ambassador to Argentina, spoke on "Human Rights and the Chilean Transition" Feb. 7 in Anheuser-Busch Hall. Arrate, a prolific author of both fiction and nonfiction, served in the cabinet of Salvador Allende in the early 1970s as adviser to the president and then as minister of mines, remaining in the government until the Pinóchet coup. Recently, Arrate has served as Chile's minister of education, minister of labor and social security, and minister secretary general of the government. This speech was presented by the Institute for Global Legal Studies of the Washington University School of Law in collaboration with the international studies program in Arts & Sciences.
Empowering African-American caregivers

Letha Ann Chadiha, Ph.D., strives to teach women problem-solving skills so they can take charge of their lives

By Ann Nicholson

school instead of helping her family toil in the fields. "I was very rebellious and knew I did not want to spend my life working in the fields," Chadiha said. "I was essentially determined to escape poverty, and did so through education."

Magnolia was a motivational influence in my life. She took me to school beginning at the age of 5, encouraged me in my studies and later helped fund my undergraduate education."

After the death of her father when she was 10, Chadiha points to an extended network of family and friends who helped raise her and encouraged her to achieve her dreams. Having earned a bachelor's degree, two master's degrees and a doctorate, Chadiha cites a lineage of mentors who helped shape her career. "They have been my inspiration," she said. Although she began her post-secondary studies in sociology and anthropology, Chadiha is a social worker by training. "I have always identified more with the have-nots than with the haves," she said. "Although I loved anthropology, it too much has been focused on action."

Since joining the social work faculty in 1990, Chadiha has focused her work on family relations with an emphasis on marriage, caregiving to older African-Americans and the overall field of aging. Much of her research has focused on the particular importance to the African-American community with broader implications to the fields of family relations and aging. Her push breaking research has received funding from the National Science Foundation, National Center of the Alzheimer's Association, Agency for Health Care Policy and Research, National Institute on Aging and the Office of Research on Women's Health.

"Letha is making unique and important contributions to gerontological research nationally, particularly with her current focus on women caregivers of older African-Americans," said Nancy Morrow-Howell, Ph.D., associate professor of social work, who has conducted several research projects with Chadiha. "She also has been a tremendous asset to the school's gerontology concentration — both helping to attract more students and increasing their financial support through various fellowship and stipend opportunities," added Morrow-Howell, an expert on aging and chair of the doctoral program in social work.

In 1999, the John A. Hartford Foundation New York named Chadiha among 10 of the nation's "next generation mid-career social work faculty." As a foundation scholar, Chadiha is conducting a research project titled "Beyond Coping: An Empowerment Intervention with African-American Women Caregivers of Dependent Low Income Elders." The ongoing project, which will involve about 60 African American women from the St. Louis region, is designed to help caregivers deal with stress and empower them to improve their situations. While a number of research projects have focused on the role of empowerment, very few have looked at it as a tool for helping caregivers, particularly African-American caregivers, Chadiha said.

"The goals are to help the women develop a sense of identity and shared fate, to teach them problem-solving skills so they can move beyond coping and take charge of their lives, and to test the effectiveness of the intervention," Chadiha said.

The intervention project's problem-solving and empowerment approach already is having positive results, with the women reporting receiving much-needed support and feeling a greater sense of control over their predicaments.

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