Washington University School of Medicine Digital Commons@Becker

Washington University Record

Washington University Publications

7-15-2005

Washington University Record, July 15, 2005

Follow this and additional works at: http://digitalcommons.wustl.edu/record

Recommended Citation

"Washington University Record, July 15, 2005" (2005). Washington University Record. Book 1042. http://digitalcommons.wustl.edu/record/1042

This Article is brought to you for free and open access by the Washington University Publications at Digital Commons@Becker. It has been accepted for inclusion in Washington University Record by an authorized administrator of Digital Commons@Becker. For more information, please contact engeszer@wustl.edu.

Record

July 15, 2005

Volume 30 No. 1

Washington University in St. Louis

Pomegranate juice may prevent newborn brain injuries

By MICHAEL C. PURDY

xpectant mothers at risk for premature birth may want to consider drinking pomegranate juice to help their babies resist brain injuries from low oxygen and reduced blood flow, according to a School of Medicine mouse study.

In humans, decreased blood flow and oxygen to the infant brain is linked to premature birth and other irregularities during pregnancy, birth and early development.

pregnancy, birth and early development.

The phenomenon, called hypoxia ischemia, causes brain injury in approximately two of every 1,000 full-term human births, and in a very high percentage of babies born before 34 weeks of gestation.

Hypoxic ischemic brain injury can lead to seizures, a degenerative condition known as hypoxic ischemic encephalopathy and mobility impairments, including cerebral

When scientists temporarily lowered brain oxygen levels and brain blood flow in newborn mice whose mothers drank water mixed with pomegranate concentrate, newborn brain tissue loss was reduced by 60 percent in comparison with newborn mice whose mothers drank sugar water or other fluids

"Hypoxic ischemic brain injury in newborns is very difficult to treat, and right now there's very little we can do to stop or reverse its consequences," said the study's senior author, David M. Holtzman, M.D., the Andrew B. and Gretchen P. Jones Professor and head of the Department of Neurology. "Most of our efforts focus on stopping it when it happens, but if we could treat everyone who's at risk preventively, we may be able to reduce the impacts of these kinds of injuries."

The study, which appeared in the June issue of *Pediatric Research*, was conducted in collaboration with POM Wonderful, a U.S. producer of pomegranates and pomegranate juice, and scientists at the University of California, Los Angeles.

Lead author David Loren, M.D., formerly a neonatal critical care fellow at Washington University, performed the research. He is now at the University of Washington.

Holtzman's team has been studying neonatal brain injury for more than a decade by temporarily reducing oxygen levels and blood flow in the brains of 7-dayold mice and rats.

The model produces brain injuries similar to those seen in human infants injured by hypoxia ischemia.

Pomegranates contain very high concentrations of polyphenols, substances also found in grapes, red wine and berries, which scientists have linked to potential neuroprotective and anti-aging effects.

Scientists gave pregnant female mice water with pomegranate juice, plain water, sugar water or vitamin C water to drink during the last trimester of pregnancy and while they suckled newborns for seven days after birth.

After performing the procedures that exposed infant mice to low oxygen levels, scientists examined the brains, comparing damage to the cortex, hippocampus and the striatum.

Researchers who conducted the examinations were unaware which fluid the pregnant mice drank.

See Juice, Page 6



Gerald Early directs the summer institute, which will show 30 public high-school teachers how studying the social, cultural, technical and aesthetic history of jazz can reshape aspects of teaching American history and literature.

Leading jazz, American culture scholars instruct high-school teachers this summer

Some of the country's leading scholars of jazz and American culture are teaching at WUSTL's National Endowment for the Humanities Summer Institute for High School Teachers July 4-29.

"Teaching Jazz as American Culture' is offering participants an exciting opportunity to learn about one of the most extraordinary art forms the United States has ever produced," said Gerald L. Early, Ph.D., the Merle Kling Professor of Modern Letters and director of the summer institute.

"The instructors in the institute are among the most noted jazz scholars, writers and composers in the country," says Early, "and the high-school teachers' exposure to this collection of expertise should be both enriching and inspiring."

Early received a \$222,000 grant last year from the National Endowment for the Humanities' Division of Education Programs to hold the institute under the auspices of the University's Center for the Humanities in Arts & Sciences, which Early also directs.

The primary goal of the institute is to work with 30 public high-school teachers to show how, through the study of the social, cultural, technical and aesthetic history of a major American musical genre — jazz — they can reshape aspects of teaching

See Jazz, Page 6

Patented device uses bacteria to create electricity, treat wastewater

Double threat could one day power 900 American homes

By Tony Fitzpatrick

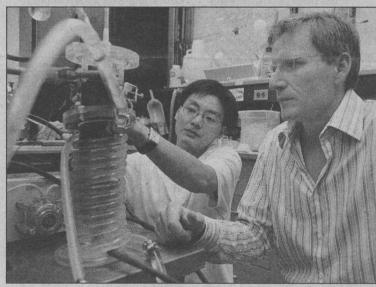
An environmental engineer at the University has created a device similar to a hydrogen fuel cell that uses bacteria to treat wastewater and create electricity.

Lars Angenent, Ph.D., assistant professor of chemical engineering and a member of the University's Environmental Engineering Science Program, has devised an upflow microbial fuel cell.

The device is fed continually and, unlike most microbial fuel cells, works with chambers atop each other rather than beside each other.

Angenent has created electricity with the device — in its current mode, about the size of a thermos bottle — and said it has to be scaled up considerably to someday handle the 2 million or so gallons of wastewater it needs to treat to churn out enough power.

"We have proven we can generate electricity on a small scale," Angenent said. "It will take time, but we believe the process has



Lars Angenent (right) and doctoral student Jason He examine the upflow microbial fuel cell, which uses bacteria to treat wastewater and create electricity. Eventually, the device could handle the 2 million gallons of wastewater needed to create power for 900 homes.

potential to be used for local electricity generation.

"The upflow microbial fuel cell is a promising wastewater treatment process and has, as a lab-scale unit, generated electricity and purified artificial wastewater simultaneously for more than five months."

A description of the process and research was published in the July issue of *Environmental Sci*- ence and Technology.

Angenent's co-authors are Jason He, his doctoral student, and Shelley D. Minter, Ph.D., of the Saint Louis University Chemistry Department.

Angenent has filed a provisional U.S. patent on the process. He has received a \$40,000 Bear Cub Fund award from Washington University to develop the

See **Device**, Page 6

University wins prestigious diversity award

By Andy Clendennen

The University's efforts to diversify its contractors are paying off.

At MOKAN's 30th annual awards dinner June 22 at the Renaissance Grand Hotel, the University was presented with the Diversity and Inclusion Award as the Institution of the Year.

It's the second time the University has won this award from St. Louis-based MOKAN; the first time was two years ago.

Arthur Milton Porter III, a senior consultant with Marks & Associates, accepted the award on behalf of

"The University appreciates the recognition of our efforts that this award brings," said Sandra Marks, director of the WUSTL Supplier Diversity Initiative and owner of Marks & Associates. "However, we have to realize that it's important to maintain long-term

relationships to ensure the viability of minority con-

"To that end we ha

"To that end, we have a long way to go, and we encourage collaboration among others who share our commitment."

The award recognized the dedication and commitment to diversity and inclusion of minority- and women-owned businesses.

MOKAN assists small and/or minority contractors in the building construction industry or related field with trade, technical assistance and training programs in the Greater St. Louis metropolitan area.

MOKAN also works to improve business and economic development opportunities by providing financial and technical assistance through business training, contract negotiations and loan and bond procurement programs.

The awards dinner honored and recognized vari-

See Diversity, Page 6



Tate named Mallinckrodt distinguished professor

By Neil Schoenherr

illiam F. Tate, Ph.D., professor and chair of the Department of Education in Arts & Sciences, has been named an Edward Mallinckrodt Distinguished University Professor in Arts & Sciences, announced Edward S. Macias, Ph.D., executive vice chancellor, dean of Arts & Sciences and the Barbara and David Thomas Distinguished Professor in Arts & Sciences.

A formal installation ceremony will be held in the fall.

Tate's work focuses on mathematics, science and technology education, specifically in the urban setting. He serves as the principal investigator and project director for the St. Louis Center for Inquiry in Science Teaching and Learning (CISTL), one of 10

such National Science
Foundation-funded centers in the United States.
CISTL aims to develop an ongoing capacity to produce and diversify science-education leaders, researchers and practitioners who apply research with practice to improve science teaching and learning.

Tate

A second line of Tate's professional research focuses on the nexus of urban studies, race and legal thought and American education.

He is known across campus as one of the most enthusiastic supporters of interdisciplinary scholarship and collaboration.

Tate has been published widely in scores of journal articles and scholarly book chapters. The U.S. Department of Education sponsored research that resulted in Tate's monograph Access and Opportunities to Learn Are Not Accidents: Engineering Mathematical Progress in Your School.

He is co-editor of Changing the Faces of Mathematics: Perspectives on African Americans, and has a forthcoming book titled Ol' Man River: The River Cities and the Making of America. Insights into this project are being offered as part of the freshman seminar series in the fall.

Tate is a frequently sought adviser to universities and local school districts, offering technical assistance involving scientific education in urban areas as diverse as Los Angeles, Atlanta, Philadelphia, Baltimore, Houston, Orlando, Fla., and Washington, D.C.

He is program chair for the spring 2006 American Educational Research Association (AERA) annual meeting.

His service to this organization, which is dedicated to advancing scholarly research and its practical application, spans his entire professional career and several areas of leadership, including serving as co-editor of the American Educational Research Journal.

Besides AERA, Tate is involved with the National Council of Teachers of Mathematics and The National Research Council.

Numerous institutions and organizations have recognized Tate's excellence in the classroom and in research.

The University of Maryland presented him the Outstanding Scholar Award in Education and he received an Early Career Award and Outstanding Scholar Award from AERA.

Tate earned a bachelor's degree in economics from Northern Illinois University; a master's in mathematical sciences education from the University of Texas at Dallas; and a doctorate with a focus in mathematics

education from the University of Maryland.

He previously served on the faculties of the University of Wisconsin and Texas Christian University, where he was the William and Betty Adams Chair of Mathematics Education and Mathematics.

His professional experience includes working in the Dallas Public School System as scholar-in-residence and assistant superintendent of mathematics and science.

He joined the faculty of Arts & Sciences at Washington University in 2002 as professor and chair of the Department of Education, with a joint appointment in the American Culture Studies Program and an affiliation with the Applied Statistics and Computation Program, serving on the executive committee of both.

Tate also is a participating faculty member in the Audiology and Communication Sciences program in the School of Medicine.

The Edward Mallinckrodt
Distinguished University Professorships honor Edward Mallinckrodt and his son, Edward Mallinckrodt Jr., both successful chemists, able businessmen and generous philanthropists supporting higher education.

Both Mallinckrodts served on the University's Board of Trustees.

Numerous buildings and professorships at Washington University and Harvard University pay tribute to the Mallinckrodt legacy.

The two other Mallinckrodt professorships in Arts & Sciences are held by Lee Epstein, Ph.D., professor of political science, and Murray L. Weidenbaum, Ph.D., professor of economics and the honorary chair of the Weidenbaum Center on the Economy, Government, and Public Policy.



Home is where the art is Constance Williams (right), a graduate student in the School of Art, discusses *Triptych*, a series of three small porcelain sculptures (on wall) that mimic natural formations such as shale or fungi, with Carol Burkholder (left) and Elizabeth Concannon (center). *Triptych* was recently installed and dedicated at the Mary Ryder Home, 4361 Olive St., a residential-care facility for indigent seniors. Also installed were works by Takashi Horisaki, Michele Ryker-Owens and the team of Elizabeth Fesser and Hoang Nguyen.

Arts & Sciences faculty launch fellowship program

By LIAM OTTEN

Three Arts & Sciences faculty members will launch the Center for the Humanities' Faculty Fellowship Program in spring 2006.

The fellowships, open to all tenured and tenure-track faculty in Arts & Sciences, are designed to provide both a physical and intellectual environment for innovative, interdisciplinary scholarship and teaching.

Recipients will spend a semester in residence with the center, researching new projects while also attending a variety of presentations and events and delivering a formal, public lecture about their work.

The first three recipients are: Erin McGlothlin, Ph.D., assistant professor of Germanic languages & literatures; Peter Kastor, Ph.D., assistant professor of history; and Harriet Stone, Ph.D., professor of romance languages.

McGlothlin's project, titled "Restoring the Story: Fiction and History in Contemporary Jewish Holocaust Literature," will investigate how contemporary Jewish writers have dealt with the memory of the Holocaust through a diverse body of literature, both fiction and nonfiction.

Kastor's "An Accurate Empire: Rendering America, 1776-1830" will examine how Americans described, depicted, governed and — in the end — understood the continent of North America during the late 18th and early 19th centuries.

Stone's "Objects for the Table: The Art of Science in Early Modern Europe" will employ Dutch genre painting to illustrate how the artistic ordering of pictorial space relates to the scientific practice of assembling specimens and organizing data.

Also selected was Gerald Izenberg, Ph.D., professor of history, who will be in residence in spring 2007.

The center is accepting applications for the 2006-07 academic year. The deadline is Sept. 30, with winners to be announced in December.

For more information, go online to cenhum.artsci.wustl.edu or contact Jian Leng, Ph.D., associate director of the center, at 935-4008 or cenhum@artsci.wustl.edu.

Construction Update

Construction Update is published periodically and provides information about the progress of major building and renovation projects. Information is provided to the *Record* by facilities management.

Hilltop Campus

Phase IVA Housing

The interior finish work is progressing and nearing substantial completion. The permanent power is connected and the building was air-conditioned by the end of June. The masonry work progresses on the northeast corner of the building. The roof work is complete. Occupancy is scheduled for August.

Sam Fox Arts Center

The gallery structural concrete is complete and structural steel installation began June 13 (pictured, right). The backfill of the gallery on the west and north is complete. The Steinberg excavation for the tie-in is complete. The annex foundation walls continue and structural steel work will begin July 26. Occupancy is expected in late spring of 2006.

Social Sciences/ School of Law

The planning and design for this building is currently under way.

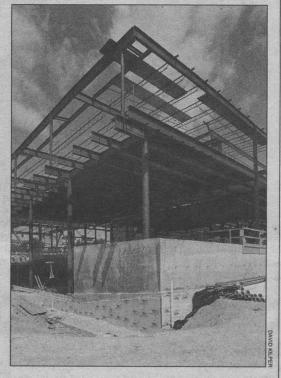
University Center

The programming and planning for this building is currently under way.

Medical Campus

Farrell Learning and Teaching Center

The facility is slated to open by mid-August for students. The construction of the building's exterior will be completed by the end of July.



Specialized Research Facility

Construction of the 40,000-square-foot east building has been completed.

Metro Garage

The construction at the corner of Taylor Avenue and Children's Place and the extension of the Clayton/Taylor Garage began in February. Both garages are slated to open in April, and each will offer parking for 700 vehicles.

Campus Watch

The following incidents were reported to University Police **June 15-July 12**. Readers with information that could assist in investigating these incidents are urged to call 935-5555. This information is provided as a public service to promote safety awareness and is available on the University Police Web site at police.wustl.edu.

June 27

2 p.m. — Several tables were reported missing from Retner Gallery in the Arts & Sciences Laboratory Science Building. The theft happened sometime between June 9-15. An investigation is continuing.

July 6

1:43 p.m. — A person stole a

vacuum cleaner from the third floor of the Phase IV construction site on the South 40. The theft occurred between July 5-6. An investigation is continuing.

Additionally, University Police responded to five parking violations, five larcenies, four reports of a lost article, and one report each of fire, suspicious person and

School of Medicine Update

Exercise links genetic regions to prediabetes

By GWEN ERICSON

ur bodies respond to exercise in different ways, and our genetic makeup is partly re-

People differ in how exercise alters their blood sugar equilibrium, an effect demonstrated in a study by researchers at the School of Medicine and other institu-

The study is part of the HER-ITAGE (Health, Risk Factors, **Exercise Training and Genetics** Family Study), a multicenter study of human genetic variation and its influence on cardiovascular and metabolic responses to aerobic exercise training.

The divergence in exercise response allowed the researchers to identify regions on chromosomes 6, 7 and 19 that are linked to prediabetes.

The researchers' report appeared in the June issue of Dia-

Prediabetes is characterized by the body's elevated resistance to insulin, the hormone that regulates blood glucose levels and energy storage. The condition generally advances to type 2 diabetes as the pancreas works to secrete insulin to compensate for increased insulin resistance in the body's liver, muscle and fat cells.

When the pancreas can no longer make enough insulin to keep blood sugar levels in the normal range, clinically overt type 2 diabetes results.

There's no question that prediabetes and type 2 diabetes have a genetic basis," said lead author Ping An, M.D., research assistant professor of genetics and of biostatistics. "The rising incidence of type 2 diabetes makes it more and more important to locate the genes so they can lead to effective intervention and treatments."

The study examined 441 nondiabetic, sedentary parents and offspring in 98 white and 90 African-American families. Each participant traded an inactive lifestyle for a 20-week, supervised aerobic exercise program.

Researchers made sophisticated measurements of insulin action and glucose metabolism at

the start of the program and then again after it was completed.

"At the end of the exercise program, the insulin sensitivity of the participants had improved overall — they needed to produce less insulin to handle the same amount of glucose intake," An said. "But the amount of improvement varied across families and family members. This variation allowed us to locate sites on the chromosomes associated with dynamic prediabetes traits."

An area on chromosome 19 showed the strongest link to training response among African-American participants.

That link was revealed by the effect of exercise on a measurement of glucose metabolism and indicates the chromosomal location is likely to contain gene variants that influence the propensity for prediabetes.

Very close to the area identified is a gene vital for storing glucose in the form of glycogen within skeletal muscles. Patients with type 2 diabetes often have impaired glycogen storage.

Although not as strong, other links to prediabetes traits were found on chromosomes 6 and 7 among white participants in the study. These locations have been shown to contain several genes related to fat and glucose metabolism, insulin sensitivity and glucose-induced insulin secretion.

"Genetic dissection of type 2 diabetes is challenging because the disease is affected by many genes and environmental factors like eating habits or amount of exercise," An said. "We need to employ insightful study designs and analysis strategies.

"By selecting nondiabetic, sedentary people and then looking at their exercise response in this study, we were able to analyze a unique sample and directly measure insulin secretion and action."

An explained that his team's findings are consistent with other kinds of studies of type 2 diabetes

"The replication of findings from independent studies and samples, although difficult, is important for establishing genetic links," he said.



Flying high Members of the highwire acrobatic troupe the Flying Wallendas visit the laboratory of Aaron DiAntonio, M.D., Ph.D. (second from left), assistant professor of molecular biology and pharmacology. The troupe visited the lab to learn about a gene DiAntonio's group hopes to name "Wallenda." Catherine Collins, Ph.D. (third from left), postdoctoral research scholar, recently discovered the gene, which interacts with a gene named "highwire." Flies missing the highwire gene are uncoordinated because of defects in neural development. Mutations in the Wallenda gene restore coordination in the flies by compensating for the missing highwire gene. After hearing the reason for the gene's name, Tino Wallenda (second from right) joked, "We must have the Wallenda gene, too." Also visiting the lab June 23 are Tino's wife, Olinka Wallenda (far right), and their daughter Aurelia (far left).

Enzyme may lead to arthritis treatment

By MICHAEL C. PURDY

Scientists have found a new role for a previously identified enzyme that may make it a target for anti-inflammatory treatments.

School of Medicine research has revealed that an enzyme called cathepsin G regulates the ability of immune cells known as neutrophils to secrete chemicals that attract other immune cells and start the local inflammatory process.

Over time, the excessive accumulation of immune cells can lead to tissue and cartilage damage in joints, causing pain and limiting mobility.

"Cathepsin G affects a very early step in this kind of immune response, so inhibiting it has attractive potential for developers of therapeutics," said senior author Christine T.N. Pham, M.D., assistant professor of medicine and of pathology and immu-

The study appeared in the June issue of Immunity.

Cathepsin G, which is made by the neutrophils it regulates, also is an attractive target because it belongs to a class of enzymes known as proteases.

One principal type of HIV treatment inhibits proteases, so scientists who try to block cathepsin G's role in inflammation already have extensive research to reference.

Pham's team used mouse models of arthritis to study the contributions of proteases and other factors to inflammation and arthritis. One such model involved injecting mice with collagen from calf joints.

"The mice make antibodies to that protein because it's somewhat foreign, but the antibodies

"The contributions of the neutrophil weren't always appreciated by scientists. When patients come to doctors with arthritis symptoms, the inflammation typically is so well-established that neutrophils are no longer the predominant cell type."

CHRISTINE T.N. PHAM

have enough cross-reactivity that they will bind to the mouse's own cartilage and collagen and initiate an inflammation," Pham said.

"This leads to a condition similar to rheumatoid arthritis in the

Three years ago, Pham's team published research showing mice deficient in cathepsin G and other closely related proteases failed to develop arthritis after the injec-

This led the team to look for the mechanisms by which these proteases regulate inflammation.

Observations made by Pham's team and other groups had linked the earliest stages of inflammation in animal models to neutrophils, which are a kind of immune system firestarter.

They arrive first at sites of injury, infection or irritation and secrete chemicals that bring in secondary waves of other immune attack cells.

"The contributions of the neutrophil weren't always appreciated by scientists," Pham said.

"When patients come to doctors with arthritis symptoms, the inflammation typically is so wellestablished that neutrophils are no longer the predominant cell

Animal models of inflamma-

tion let scientists watch all stages of the inflammatory process and allow them to see how important neutrophils are to the early stages of that process.

In the new study, Pham and her colleagues showed that cathepsin G is secreted by neutrophils, binds to the cells' surface membranes and affects the rearrangement of integrins, an important group of adhesion compounds on the surface of neutrophils.

"The way these integrins rearrange and cluster on the cell surface can send a signal back into the cell that modifies the cell's behavior, allowing it to do things like secrete inflammatory factors," Pham said. "The proteases' ability to affect integrin rearrangement is dependent on their catalytic activity, and that's an ability that can be taken away from them."

Pham suspects this class of proteases may make significant contributions to other autoimmune and inflammatory conditions besides arthritis and plans to further investigate this possibility.

Her team is also researching what molecules cathepsin G sticks to and interacts with on the surfaces of neutrophils and

Immunology association names Allen as president

By MICHAEL C. PURDY

Paul M. Allen, Ph.D., the Robert L. Kroc Professor of Pathology and Immunology, was named president of the American Association of Immunologists (AAI) July 1. Allen is a cellular immu-



Allen

nologist who specializes in the study of how T lymphocytes recognize antigen and initiate an immune response. He seeks

insights into the basic workings of the immune system that may someday allow researchers to better control immune rejection of transplanted organs or to prevent the development of arthritis caused by immune system malfunctions.

"The association is the one professional organization that immunologists use as their voice to speak to Congress and the National Institutes of Health," Allen said. "It works to advocate for NIH funding for immunology research, to maintain our ability to use important research tools such as animal experimentation and to foster the development of the careers of young scientists, especially women, in our

The 6,500-member organization also supports continuing education courses for its members and conveys the value and progress of immunological research to the public.

Allen served as the organization's vice president this past year and has been an elected

AAI councilor for four years. He will serve a one-year term as president and will preside over the organization's annual meeting in Boston

Hormone replacement study needs male volunteers

By Judy Martin

ealthy males 65 and older are needed for a School of Medicine hormone replacement therapy study.

The study examines the benefits of restoring testosterone and growth hormone to youthful levels to determine if the therapy can improve muscle mass and strength, body fat, physical function and quality

To be eligible, participants must be in stable health and not be performing vigorous exercise more than once a week.

Qualified participants will need to come to the Medical Campus once or twice each month during the 16-week treatment phase and one time 12 weeks after the therapy has ended.

All medical assessments and hormonal supplements are free, and participants will receive compensation for participation.

Eligible participants will be invited to a group orientation session in which the investigators will explain all aspects of the study.

For more information, call Mary Uhrich at

Weidenbaum memoir offers inside look at rise of Reaganomics

By GERRY EVERDING

or nearly a quarter century, Murray Weidenbaum has said little about what it was like to serve as the first chairman of President Ronald Reagan's Council of Economic Advisers, a role in which he was a primary architect of policies later known as "Reaganomics."

Now, one year after Reagan's passing, Weidenbaum has issued a brief memoir detailing his years as the president's chief economic adviser: Advising Reagan: Making Economic Policy, 1981-82.

Weidenbaum, Ph.D., the Edward Mallinckrodt Distinguished University Professor of Economics, provides readers with an inside look at the frenzied planning process that prepared Reagan to launch his ambitious bid to rescue the American economy.

'The economic policy that led to unprecedented prosperity in the 1980s and enabled President Reagan to win the Cold War against the Soviet Union did not occur by accident," noted Martin Anderson, a domestic policy adviser who worked side-by-side with Weidenbaum in the early days of the Reagan administration.

Weidenbaum's book, Anderson said, "tells the absorbing story of how it happened. His story is lively, revealing how policy is really made in the White House and, from time to time, even making us smile."

Written in the plainspoken and often humorous style that has long been Weidenbaum's trademark, the memoir offers a fresh and engaging perspective on Reagan's leadership style and his underlying motivations.

"He never pulled rank," wrote Weidenbaum, recalling the first time he questioned the accuracy of a comment Reagan had inserted into a speech draft. "His response consistently was 'How do I make my point accurately?

This turned out to be one example of why Reagan did not have to command loyalty; he

inspired it."

Noted economist and Hoover Institution research fellow Milton Friedman described the book as "an instructive vignette of a year at the fulcrum of political power."

Former Secretary of Defense Caspar Weinberger credited Weidenbaum with guiding Reagan's hugely successful economic policies, and said Reagan and the country "were lucky indeed to have Murray in charge during the critical first years of the Reagan administration."

Weidenbaum, whose admiration for Reagan is still apparent,

blamed these conditions on rising oil prices and other factors beyond our control, Weidenbaum's audit minced no words - stating forcefully that the nation's economic problems were a direct result of misguided government

He warned that the economy was in dire straits, and suggested conditions would likely "become dramatically worse without profound - even drastic - changes in federal economic policies."

A new approach was critical, he contended, because the nation was simultaneously facing a variety of economic problems in new related and that success hinged on the full implementation of each mechanism.

Tax cuts were basic to achieving strong long-term economic growth; spending cuts would help offset inflationary consequences of the tax cuts; regulatory reform would increase the economy's efficiency and productivity while helping to curtail costs; and monetary restraint was fundamental to squeezing out rapidly escalating inflation.

Pressed for details on impending budget cuts, Weidenbaum quoted Harry S. Truman -"There isn't a budget that can't be cut" - and suggested the Carter Administration had left a budget that surely could be cut.

He describes his efforts to trim federal budgets as "a labor of love," one that he saw as central to a much broader agenda for reform.

'This administration is truly embarked on a long-term effort to reduce the size and burden of government in this country in all of its dimensions — taxes, expenditures and regulation and that will free up the energies of the private sector to once again become the major engine of economic growth and progress," he said.

On balance, many of the changes in economic policy that Weidenbaum hoped to see made were put into motion. Despite his best efforts, however, there was at least one key underlying premise of the "four pillar" economic strategy that was never fully realized.

Weidenbaum devoted much of 1982 to an unsuccessful effort to match tax cuts with corresponding cuts in government spending. Although Reagan clearly shared Weidenbaum's fervor for tax cuts, he showed less enthusiasm when it came to making

With no "doves" in the Reagan White House, military spending also grew at rates far above what Reagan had promised

major cuts in civilian spending.

in his campaign. The inevitable end result, Weidenbaum realized then, would be a mushrooming national budget deficit, a consequence that Weidenbaum could not in good faith bring himself to support.

In July 1982, Reagan accepted Weidenbaum's resignation with "deep regret," noting his appreciation for the extraordinary contributions that Weidenbaum had made to the formulation of the nation's economic recovery plan.

Most important to Weidenbaum is that he and Reagan "parted as friends," and that Reagan continued to seek out his advice on future issues.

'Whether justified or not, I take some considerable pride in the success of the Reagan presidency, and, of course, I am ready to take my full share of the blame for any shortcomings," Weidenbaum wrote.

Weidenbaum acknowledges that Reaganomics did not work painlessly.

He points to a number of paradoxes and contradictions in its results: lower inflation and higher budget deficits; lower tax rates and higher levels of government spending (especially for the military); less unemployment and bigger trade deficits; a brief, but extremely deep recession followed by the nation's longest peacetime recovery.

"Looking back, it seems clear that, on balance, 'Reaganomics' was a success," Weidenbaum concluded.

'Overall, the benefits outweighed the costs. Warts and all, the Reagan presidency was a high watermark for the American

"He never pulled rank. ... This turned out to be one example of why Reagan did not have to command loyalty; he inspired it."

MURRAY L. WEIDENBAUM

gives much of the credit to the president, suggesting "the great communicator" played a crucial role by changing the dismal tone of public discourse on economic

"'Malaise' was the big word when he took office," Weiden-baum recalled in a USA Today story written in the days following Reagan's death on June 5, 2004. "It was used by his predecessor. You didn't hear much about malaise after he took office."

Reagan provided the inspiration, but he called upon Weidenbaum and cohorts to develop specific plans for the overhaul.

Weidenbaum responded with a comprehensive audit of the nation's economic problems, documenting rising federal taxes, increasing government spending, growing business failures, expanding regulatory agencies and a shift from a merchandise trade surplus to a deficit.

While some economists

and unprecedented combina-

"Although the economy in the past had suffered spells of high inflation or high unemployment, the unique aspect of the current situation was the simultaneous presence of both high inflation and high unemployment," Weidenbaum recalled.

"Thus, a comprehensive solution aimed at the entire range of economic ills facing the nation was required.

Early in 1981, Weidenbaum issued the first written version of the president's economic plan, elaborating on what he would repeatedly call the "four pillars" of Reagan's economic program: tax cuts, spending cuts, regulatory reform and monetary restraint.

Weidenbaum argued that these pillars were highly inter-

University Events Astrophotography •

"University Events" lists a portion of the activities taking place July 15-August 6 at Washington University. Visit the Web for expanded calendars for the Hilltop Campus (calendar.wustl.edu) and the School of Medicine (medschool.wustl.edu/

ectures

Friday, July 15

9:15 a.m. Pediatric Grand Rounds.

Prevention of Early Asthma in Kids — Is it Possible?" Leonard B. Bacharierj, asst. prof. of pediatrics. Clopton Aud., 4950 Children's Place, 454-6006

7:30 p.m. St. Louis Astronomical Society Meeting. "Stargazing and Astrophotography." James Melka, astrophotographer, and James Roe, exec. dir., Alliance for Astronomy Inc. Earth & Planetary Sciences Bldg., Rm. 203. 935-4614.

Thursday, July 21

7:15-a.m.-4:45 p.m. Pediatric Neurology CME Course. "Building the Road to Independence: A Novel Approach to Cerebral Palsy for Caregivers and Parents of Children with Cerebral Palsy." (Continues 7:15 a.m.-4:15 p.m. July 22 and 7:45 a.m.-3 p.m. July 23.) Cost: \$300, \$250 for AHP/non-medical attendee. Eric P. Newman Education Center. To register:

Friday, July 29

9:15 a.m. Pediatric Grand Rounds. "The Old and the New in Biliary Atresia." Ross W. Shepherd, prof. of pediatrics. Clopton Aud., 4950 Children's Place. 454-6006.

Friday, Aug. 5

The Road to Independence

7:30 a.m.-5:45 p.m. Allergy & Immunology CME Course. "Clinical Allergy for the Practicing Physician." (Continues 7:30-11:15 a.m. Aug. 6.) Cost: \$295 for physicians, \$200 for allied health profes sionals. Eric P. Newman Education Center. To register: 362-6891.

Saturday, Aug. 6

7:30 a.m.-1:15 p.m. Cardiovascular Surgery CME Course. "State-of-the-Art Management of Aortic Disease." Cost: \$135 for physicians, \$95 for physicians in training and allied health professionals. St. Louis Marriott Pavilion Downtown. To register: 362-6891.

Music

Sunday, July 17

7:30 p.m. Gateway Festival Orchestra Concert. Featuring all French music James Richards, conductor. Brookings Quadrangle. 935-4841.

Sunday, July 24

7:30 p.m. Gateway Festival Orchestra Concert. Featuring all Russian music James Richards, conductor. Brookings Quadrangle. 935-4841.

Sunday, July 31

7:30 p.m. Gateway Festival Orchestra Concert. Featuring music of Vienna. James Richards, conductor. Brookings Quadrangle. 935-4841.

University finishes third in Director's Cup

The University finished third in the 2004-05 U.S. Sports Academy Directors' Cup Division III final standings, as announced by National Association of Collegiate Directors of Athletics (NACDA), United States Sports Academy and USA Today. The finish is the highest in school history, eclipsing a fifth-place finish in 2002-03.

Washington University totaled 675.75 points and had seven top-10 finishes: volleyball (second), women's cross country (third), women's soccer (fifth), women's swimming and diving (seventh), men's swimming and diving (eighth), softball (ninth) and women's indoor track and field (ninth).

The Bears also placed 16th in women's tennis, 17th in women's basketball, 17th in men's tennis and 33rd in baseball. Last season, Washington U. finished ninth in the overall standings.

Williams College won its ninth Sports Academy Directors' Cup in the past 10 years and topped the 1,000-point mark for the third straight year. The Ephs recorded 1,068.25 points, 168.25 points ahead of runner-up Middlebury University.

Trinity University followed Washington University with 672 points, and the University of Wisconsin-Stevens Point took fifth with 646.75 points.

The Directors' Cup was developed as a joint effort between NACDA and USA Today.

The Sports Academy, based in Daphne, Ala., is in its first year sponsoring the program. Points are awarded based on

each institution's finish in up to

Junior Eric Triebe finished eighth nationally in the 100-yard freestyle at the NCAA Championships in March. In the preliminaries of the same event, he recorded a school-record 45.69

18 sports - nine women's and nine men's.

Soph Badowski is 3rdteam All-American

Women's track and field sophomore Natalie Badowski garnered ESPN The Magazine track and field third-team Academic All-America College Division honors, as announced by the College Sports Information Directors of America.

Badowski is the fifth WUSTL women's track and field studentathlete to earn the accolade and the sixth Bear to do so in 2004-05.

Badowski, a first-team Academic All-District VII honoree, ran the second leg for the Bears' 4x400-meter relay squad, which won the University Athletic Association indoor and outdoor championships and helped the women to both team titles.

Additionally, she helped the 4x400 relay team to secondplace finishes at the 2005 Indoor and Outdoor NCAA Championships, finishing less than one second behind the national champion.

The quartet also broke the school record in the event at the NCAA Indoors (3:52.86), as well as the NCAA Outdoors (3:46.13)

A biology and philosophyneuroscience-psychology major in Arts & Sciences, Badowski posted second-place finishes in the 400 at the UAA Indoor and Outdoor Championships.

Moreover, she earned Academic All-UAA honors during the 2005 indoor and outdoor

New technology improves teaching and learning

By Neil Schoenherr

ith the recent acquisition of a grant from Hewlett-Packard for several tablet personal computers, shared with the Department of Chemistry in Arts & Sciences, and the installation of "SMARTBoards" and document cameras in various classrooms on the Hilltop Campus, the Teaching Center is making great strides in improving teaching and learning at the University.

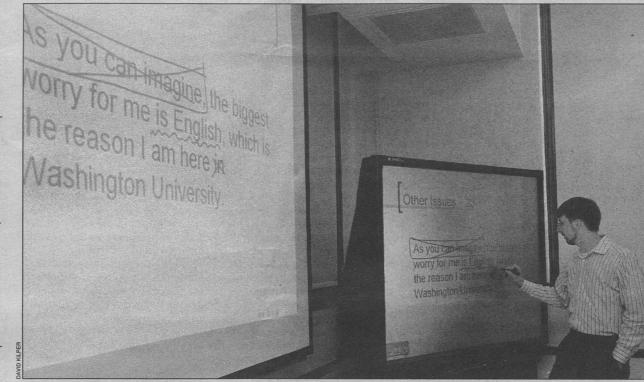
"We are always looking for new ways to help faculty get their messages across more effectively, and at the same time help students more easily process that information," said Regina Frey, Ph.D., senior lecturer in chemistry in Arts & Sciences and director of the Teaching Center.

To that end, Frey, with Dewey Holten, Ph.D., professor of chemistry; Bill Burho, Ph.D., professor of chemistry; and Bill Spees, Ph.D., Department of Chemistry undergraduate lab supervisor, recently applied for and received an educational initiative grant from HP for 21 wireless tablet PCs and docking stations for each, along with a digital camera, portable projector and printer.

The joint grant between the Teaching Center and the Department of Chemistry will allow upper-level students in solid-state chemistry and the physical chemistry lab to make real-time modifications to experiments and predictions, allowing them to modify experiments as they would in the "real world."

It will also improve collaboration between professor and student, Frey said.

"In our upper-level classes we are teaching chemistry, but we



DJ Kaiser demonstrates a new SMARTBoard, which allows the professor to interact with the touch-sensitive whiteboard surface using his or her hand as a mouse and the presentation screen as a computer monitor.

also want to teach them techniques and skills that chemists use out in the real world," she said. "This new technology will allow students to interact with computer modeling programs while they are in class.

"It will really open up what students are able to learn in the classroom. The students have been asking for a number of years to be able to access these programs during class time."

In the physical chemistry lab, the tablet PCs will be used as electronic lab notebooks. Students will be able to put sketches, graphs and drawings on the course Web site, download the files when they get to class and

use the tablet PCs during lab to take notes and add to their files.

"The nice thing about that is not only will they be able to make changes to experiments on the fly, but since they are uploading their files to the Web site it also allows the instructor to view those files while the students are still able to work, unlike a traditional paper notebook which would have to be turned in," Frey said.

In addition to tablet PCs, the Teaching Center has installed seven SMARTBoards and several document cameras in classrooms around the Hilltop Campus.

The first SMARTBoard was installed in 2001. The SMART-Board is a large interactive whiteboard that is connected to a classroom computer with SMART software.

The software allows the professor to interact with the touchsensitive whiteboard surface using his or her hand as a mouse and the presentation screen as a computer monitor.

Touching the presentation screen allows the professor to open Web pages or personal files, control any software application installed on the computer, write notes in digital ink and save it all.

DJ Kaiser, full-time instructor in English language programs, loves using the SMARTBoard.

"I do a lot of prep work before class, and I can put that up on the

board to show students," he said. "I use it for PowerPoint presentations and to show

"I can show the students sentences and easily and instantly make grammatical corrections the whole class can see. I think it's really enhanced how I teach and it makes my teaching much more professional."

A document camera, of which the University now has several, is a high-quality digital camera that can project books, photos, transparencies, slides and 3-D objects onto the screen in a technology classroom.

The "doc cam" allows the instructor to zoom in and focus on small fonts or details on objects. The University has ceiling-mounted and tabletop doc cams.

"We are installing several more doc cams this summer," Frey said.

"All the classrooms in the new Social Science and Law building will have doc cams.

"Eventually we will take away the overhead projectors. The doc cams are much more versatile presentation tools.

Faculty members interested in getting a hands-on look at any of these new technological advances can call the Teaching Center at 935-6810.

The center has a tablet PC for faculty to borrow and test. SMARTBoard tutorials and training also are available.

Memory study shows brain function in schizophrenia can improve

Using the right memorization strategy is crucial

By GERRY EVERDING

or decades, schizophrenia treatment has relied on powerful drugs to control the disease's most debilitating symptoms hallucinations, delusions and paranoia - often ignoring seemingly less ominous problems associated with learning, memory, attention and other cognitive functions that are so basic to everyday life.

Now, as part of a new wave of research aimed at helping people with schizophrenia lead fuller, more normal lives, a University study has demonstrated that people with schizophrenia can be helped to remember things just as well as healthy subjects as long as they are given proper cues and memory aids.

The study suggests a new way of understanding the cognitive problems that underlie schizophrenia, and offers hope that schizophrenia's suffering can be alleviated through the development of more effective cognitive rehabilitation programs.

'These are interesting findings for a number of reasons," said Aaron Bonner-Jackson, lead author of the study and a psychology doctoral student in Arts & Sciences.

"First, they demonstrate that individuals with schizophrenia possess the ability to learn to the same degree as healthy control subjects, although they may not spontaneously use such memory strategies in everyday life.

Second, our findings also indicate that use of these beneficial strategies can actually cause memory-related brain activity in schizophrenia to 'look like' brain activity in healthy controls. Thus, there seems to be a strong tie between the strategies used to remember words and the brain activity that results when people try to remember information.

How to reduce, eliminate memory problems

Researchers have long recognized that schizophrenia is associated with a wide range of memory problems, but only recently have studies focused on determining whether these memory problems could be somehow reduced or eliminated.

The study, published in the July 1 issue of the journal Biological Psychiatry, confirms that memory problems in schizophrenia can indeed be reduced and suggests that helping people use the right memorization strategy is critical to success.

Typically, when people are encouraged to process words more 'deeply,' they will be more likely to remember those words later, as opposed to words that they process 'shallowly,' which they are less likely to remember." Bonner-Jackson said.

This is what we found in our schizophrenia group: When we required them to process words in a deep, semantic manner, they remembered significantly more words than when they processed words in a shallow manner."

The use of more effective memory strategies not only improves recall, it also seems to trigger a more normal pattern of memory-related brain activities.

"In addition to showing improved memory for words that they had processed deeply, the schizophrenia group also activated a number of brain regions that have been shown to be crucial for verbal processing and memory function in healthy control subjects," Bonner-Jackson said.

"For the most part, these brain regions had been shown to be less active in schizophrenia during memory tasks. The results of our study would suggest that these regions were not found to be active because the participants with schizophrenia were most likely not engaging in advantageous memory strategies."

While the use of "deep" semantic memory processing seems to help most people with schizophrenia focus memory tasks in areas of the brain normally used for this purpose, the study found that some of the poorest-performing patients continued to activate brain areas outside this optimal zone.

This additional activation does not seem compensatory in the sense of helping or supporting memory functions; rather it may simply serve as a neural marker of who is having the most difficulty, researchers

suggested. In addition to Bonner-Jackson, the study's co-authors are John Csernansky, M.D., the Gregory B. Couch Professor of Psychiatry in the School of Medicine; Deanna Barch, Ph.D., associate professor of psychology in Arts & Sciences and assistant professor of psychiatry and radiology in the School of Medicine; and Kristen Haut, then a research assistant in psychology; all of Washington University.

Good news for cognitive rehab techniques

The team's findings are positive news for those now pursuing cognitive rehabilitation techniques for schizophrenia, Barch said.

"Our results suggest that poor

memory function in schizophrenia is in part due to changes in the use of strategies, and does not reflect an immutable inability to learn new information," Barch said.

Individuals with schizophrenia can benefit, as much as healthy individuals, from external support for the use of effective memory strategies.

"In fact, with support, the performance of people with schizophrenia is much more similar to that of healthy individuals than in situations where people have to generate their own memorization strategies.

The study was supported through several grants from the National Institute of Mental Health, including a grant to the Silvio O. Conte Center for the

Neuroscience of Mental Disorders at the School of Medicine.

Developing treatments for the cognitive problems associated with schizophrenia is one of our highest priorities, since these problems are present very early in the illness and even occur in the relatives of patients with schizophrenia," said Csernansky, director of the Conte Center

Thus, they may be closely related to the genetic underpinnings of the disorder."

The Conte Center is now looking for more people to take part in its studies, including healthy people, but especially people with schizophrenia and their siblings.

For more information, visit the center's Web site at conte .wustl.edu, or call 747-2160.

ssociate Vice Chancellor Judith Jasper Leicht Executive Editor Susan Killenberg McGinn Editor Kevin M. Kiley Associate Editor Andy Clendennen Assistant Editor Neil Schoenherr Medical News Editor Kim Leydig

Calendar Coordinator Genevieve Podleski Print Production Carl Jacobs Online Production Alice Marre

News & Comments (314) 935-6603 Campus Box 1070 kilev@wustl.edu

> **Medical News** (314) 286-0119 Campus Box 8508 leydigk@wustl.edu

Calendar Submissions Fax: (314) 935-4259

Campus Box 1070 recordcalendar@wustl.edu Record (USPS 600-430; ISSN 1043-0520), Volume 30, Number 1/July 15, 2005. Published for the faculty, staff and friends of Washington University. Produced weekly during the school year, except school holidays, and monthly during June, July and August by the Office of Public Affairs, Washington University, Campus Box 1070, One Brookings Drive, St. Louis, MO 63130. Periodicals postage paid at St. Louis, MO.

Where to send address changes

Postmaster and nonemployees: Record, Washington University, Campus Box 1070, One Brookings Drive, St. Louis, MO 63130.

Employees: Office of Human Resources, Washington University, Campus Box 1184, One Brookings Drive, St. Louis, MO 63130.

Washington University in St. Louis



Hit'n the bricks Betsy Foy (left) of the Sudent Health and Counseling Center and Kay Komotos of the Center for Engineering Computing enjoy a walk around campus June 22 as part of the WU Walks portion of the June Healthy Living Series presented by the Washington University Wellness Connection. The goal of WU Walks is for the entire University community to join together in an effort to make time to do something for their personal health and well-being by establishing a regular exercise habit. The group hosted two onemile walks in June and plans more in the future. For more information, call the Office of Human Resources at 935-5990.

Jazz

Live concerts also are on the agenda for attendees – from Page 1

American history and literature while broadening students' understanding of the political, social and commercial impact that an artistic movement can have.

"It is hoped that the institute will offer teachers new and engaging ways to teach popular music as a humanities subject," Early said, "and it is hoped that this endeavor will lead to new ways to teach the humanities, to new ways to see the humanities as cross-disciplinary and interdisciplinary."

Early has written extensively on jazz and served as consultant for Ken Burns' *Jazz*, contributing an essay to the book that accompanied that PBS series.

"Most attempts to use popular culture in schools have been misguided or disingenuous," added Early, who also is professor of English and of African and African-American Studies, both in Arts & Sciences.

"This institute is intended to have teachers re-imagine how popular culture can be taught."

The institute instructors are William C. Banfield, associate professor of music who holds the Endowed Chair in Arts and Humanities at the University of St. Thomas in St. Paul, Minn., where he also founded and directs the American cultural studies program;

Herman Beavers, professor of English and director of Africana studies at the University of Pennsylvania; Scott DeVeaux, associate professor of music at the University of Virginia; Krin Gabbard, professor of comparative literature and of English at the State University of New York at Stony Brook;

William Howland Kenney, professor emeritus of history and American studies at Kent State University; Ingrid Monson, the Quincy Jones Professor of African American Music at Harvard University; Robert G. O'Meally, the Zora Neale Hurston Professor of English and director of the Center for Jazz Studies at Columbia University;

Gabriel Solis, assistant professor of musicology at the University of Illinois; Bruce Boyd Raeburn, curator of the Hogan Jazz Archive at Tulane University; and Sherrie Tucker, associate professor of American studies at the University of Kansas.

Washington University Arts & Sciences professors teaching at the institute are Patrick Burke, Ph.D., assistant professor of music, and Jeff Smith, Ph.D., associate professor in the Performing Arts Department and director of Film and Media Studies.

River city

The institute is offering participants the opportunity to hear live jazz every week to learn to appreciate and understand how jazz is constructed.

The performances are done in conjunction with Jazz at the Bistro, a nonprofit nightclub and educational initiative in St. Louis that provides a venue for nationally known jazz musicians to perform and to educate at local schools.

The institute is also taking advantage of its location and will provide some sessions on the connection between St. Louis and the development of jazz.

The participants will visit the Scott Joplin House, which provides not only ragtime performances but also a vivid account of Joplin's time in St. Louis.

St. Louis was central to the

development of jazz in the middle of the country because of its importance as a river city. Jazz traveled along the inland American waterways in far more complex and striking ways than most scholars had previously thought.

St. Louis was one of the centers for ragtime in the United States — the 1904 World's Fair attracted ragtime players here from around the country — and the city and southern Illinois (Alton and East Saint Louis) produced musicians such as Clark Terry, Miles Davis, Grant Green, Oliver Sain, Oliver Lake and Fontella Bass, and young musicians like Russell Gunn, Todd Williams, Jeremy Davenport and Peter Martin.

The 30 high-school teachers participating in the institute come from various academic disciplines, including English, history, social studies, art and music.

They represent 15 states: California, Connecticut, Kansas, Louisiana, Maryland, Massachusetts, Michigan, Missouri, New Jersey, New York, Ohio, Oregon, Texas, Washington and Wisconsin.

Participants will develop lesson plans based on class sessions. Robert Nordman, recently retired music supervisor for the St. Louis Public Schools, has joined the institute as the master teacher for lesson plan development.

Linda Riekes, development officer for the St. Louis Public Schools, is assisting him.

"Participants will bring jazz into the American classroom in a way that builds vital academic connections between the development of the various schools of jazz to American literature, history, social studies, art and other forms of music, both popular and classical," Early said.

"The institute hopes to offer a fresh way to understand the world that Americans built."

Juice

Neuroprotective effects are similar to red wine – from Page 1

Mice whose mothers drank pomegranate juice had brain injuries less than half the size of those found in other mice.

Much of the damage from hypoxia ischemia results when oxygen-starved brain cells selfdestruct via a process known as apoptosis.

Scientists found an enzyme linked to apoptosis, called caspase-3, was 84 percent less active in mice whose mothers drank pomegranate juice.

Holtzman said the results suggest the need for studies of pomegranate juice's effects in humans, but he cautions that because of the relative unpredictability of hypoxia ischemia in newborns, it would be difficult to assemble a sufficiently large study group.

Hypoxic ischemic brain damage is frequently associated with

Diversity

This is the second time the University has won – from Page 1

ous contractors for their efforts in minority- and women-owned business inclusion and participation, and individuals their commitment to the community as it relates to inclusion and development.

A portion of the proceeds is slated to go to minority scholarships for students pursuing engineering degrees. premature delivery. The lungs, brain and circulatory systems in some premature babies are insufficiently mature to supply the brain with enough nutrients and oxygen outside the womb.

Scientists know some of the factors that increase risk of premature birth, including diabetes, low economic status, youthful mothers, weakness in the cervix and a personal or familial history of miscarriage.

"One might advise this group that studies in animals have suggested drinking pomegranate juice may reduce the risk of injury from hypoxia ischemia," Holtzman said.

The team's findings and other research into the potentially beneficial effects of pomegranate juice, red wine and other natural foods form a neurological parallel to chemoprevention, an area of oncology research focused on finding naturally occurring substances in foods that reduce the chances of developing cancer.

"For pregnant women previously interested in the neuroprotective effects of red wine, these results suggest that pomegranate juice may provide an alternative during pregnancy, when alcohol consumption is unacceptable because it increases the risk of birth defects," said Holtzman, also the Charlotte and Paul Hagemann Professor of Neurology and Molecular Biology and Pharmacology.

Holtzman's group is attempting to isolate the neuroprotective ingredients in pomegranate juice as a possible prelude to concentrating those ingredients and testing their ability to reduce brain injury.

The team also plans to investigate the possibility that polyphenols from pomegranates and other natural foods can slow neurological disorders such as Alzheimer's disease.

Device

Research is supported by Bear Cub Fund grant - from Page 1

concept. The Bear Cub Fund was initiated by Theodore J. Cicero, Ph.D., vice chancellor for research, to support faculty in applied studies not normally supported by federal grants from the National Institutes of Health, the National Science Foundation and other sources.

The purpose of the awards is to support research or development that is designed to extend basic observations to make them more attractive for licensing by commercial entities or to serve as the "foundation" for a startup company.

Angenent uses a carbon-based foam with a large pore size on

which biofilm grows, allowing him to connect two electrodes in the anode and cathode chambers with a conductive wire. In a hydrogen fuel cell, a membrane separates the anode and cathode chambers.

When hydrogen meets the anode electrode, it splits into protons and electrons, with protons going across the membrane to the cathode chamber, and electrons passing over the wire between electrodes to create a current.

Oxygen is added to the cathode chamber, and on the electrode there is a reaction of electron plus proton plus oxygen to form water. Catalysts, such as platinum, are needed on both electrodes to promote the reactions.

"We are doing basically the same thing as is done in a hydrogen fuel cell with our microbial fuel cell," Angenent said.

"We've found that the bacteria

on the anode electrode can act as the catalyst instead of platinum."

"The bacteria form a biofilm on the anode electrodes, and what I want to do is optimize this process so that we get higher currents, which should allow us to scale up the system."

Angenent said that producing energy from wastewater should be a high international priority because of population growth and worldwide depletion of energy resources.

Anaerobic wastewater treatment can also produce methane or hydrogen gas as fuels.

The advantage of biological electricity generation over methane and hydrogen production is the higher yield of readily useful energy.

He noted that a bioelectricity generating wastewater treatment system in just one large food-processing plant could power as many as 900 American singlefamily households.

Employment

Go online to hr.wustl.edu (Hilltop Campus) or medicine.wustl.edu/wumshr (Medical Campus) to obtain complete job descriptions

Hilltop Campus

For the most current listing of Hilltop Campus position openings and the Hilltop Campus application process, go online to hr. wustl.edu. For more information, call 935-5906 to reach the Human Resources Employment Office at West Campus.

Clinical Study Coord.

Asst. Dir. for Disability Resources 050099 Software Developer

050104 Coord. Of Experimental Computing 050186 Curator 050226 Zone Manager 050231 Faculty Asst. 050242

Department Secretary 050244 Exec. Dir. Regional Development Progs 050248

Deputized Police Officer 050251 Islamic Studies Catalog/Subject Librarian 050260 Reference/Web Services Librarian

Reference Asst. (Evening) 050263 Health Services Physician 050266 Senior Internal Auditor 050269

Administrative Asst

Accounts Payable Service Rep. 050273 Accounts Payable Scanner 050274 Business Office/ Support Services Asst. 050276

Assoc. Dir. MBA Career Advising 050278 Lab Technician IV 050279 Admissions Officer

050283

Employee Relations Manager (Generalist) 050286 PEP Loan Processor

050287

Dir. of MBA Admissions and Financial Aid 050288

Recruitment Manager
050289

Academic Programs

362-7196. Extern candidates: Subn résumés to the Confluman Resource 4480 Clayton Ave Campus Box 800 St. Louis, M0 63 or call 362-7196.

Technical Director/ Master Electrician 060001 Systems Support Associate 060002 Media & Technical Support Specialist 060003

Medical Campus This is a partial list of positions in the Scho

This is a partial list of positions in the School of Medicine. Employees: Contact the medical school's Office of Human Resources at 362-7196. External candidates: Subristen to the Office of Human Resources, 4480 Clayton Ave., Campus Box 8002, St. Louis, MO 63110,

Medical Asst. III 051402 Research Patient Coord. 051408 Medical Asst. II 051428 Clerk II 051429 Medical Records Supervisor 051430

Research Technician I 051431 Medical Asst. II 051432

Secretary III 051433 RN Staff Nurse 051434 Research Technician I 051436 Patient Billing/Services Rep. II 051439 Sr. Research Technician 051441 Adminstrative Coord. 060001 Specialist 060003 User Support Asst. 060005 Staff Scientist 060006 RN Research Patient Coord. 060007 Statistical Data Analyst 060008 Division Administrator 060010 Programmer Analyst II 060011

Patient Billing/Services Rep. I 060002

Multimedia

Professional Rater I 060012 Clinical Nurse Coord. 060015 System Support Technician II

Notables

Clay receives Gloria White service award on Staff Day

By Andy Clendennen

hen Rudolph Clay started working at the University nearly 30 years ago, he joined the audio-visual unit of Olin Library as a technician.

Now, Clay is one of the most recognizable faces at the library, thanks to both his longevity and his rise through the ranks to his current position of head of reference.

Clay was honored with the Gloria W. White Distinguished Service Award in a May 23 ceremony in Edison Theatre, part of the Staff Day celebration.

"I was flabbergasted," Clay said. "I couldn't believe it. I have been an employee here since 1979, and I had known Gloria White and witnessed firsthand her commitment to the University, to anyone she met, and to the larger community.

"I was very, very happy to even be nominated for this award. And then to win was wonderful."

In his time at the University, Clay has earned a master's degree in library science, a master's in human resources management, and has been promoted within the University several times.

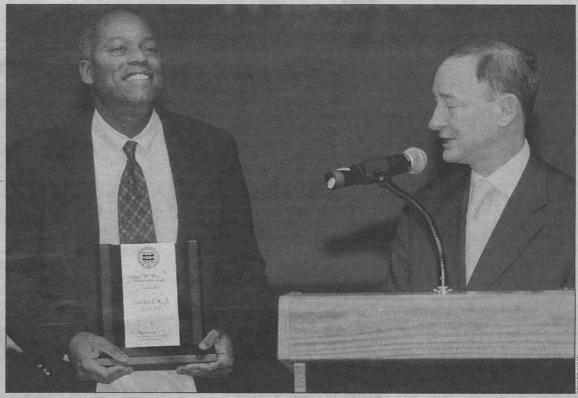
His responsibilities include assisting students and faculty

with research needs; working with the Department of English in Arts & Sciences to incorporate library instruction into the Freshman Writing Program curriculum; serving as subject librarian for the African and African-American Studies Program in Arts & Sciences; and serving as a lecturer on research materials in African and African-American Studies.

In addition, Clay has taken the time to assist in diversity outreach efforts for student and faculty recruitment and worked with the Ervin Scholars and Mellon Fellows programs.

He is also working with Gerhild Williams, Ph.D., associate vice chancellor and the Barbara Schaps Thomas and David M. Thomas Professor in the Humanities in Arts & Sciences, and James E. McLeod, vice chancellor for students and dean of the College of Arts & Sciences, to develop a database to support minority recruitment for faculty.

"It's part of the culture of the University," Clay said of his willingness to help others and serve on various committees. "Gloria White was a prime example of that. She was interested in the well-being of others, and people who talked with her got a clear sense that she was a great citizen of the University.



Rudolph Clay, head of reference at Olin Library, accepts the Gloria W. White Distinguished Service Award from Chancellor Mark S. Wrighton in a May 23 ceremony as part of Staff Day. "Within the libraries, Rudolph has been a mainstay of reference for years," Shirley K. Baker said. "He is a strong subject specialist, and he is a superb reference librarian."

"You were encouraged to follow in her footsteps and find opportunities for service. The University is filled with people who are certainly worthy of receiving this award, but it's definitely humbling."

People have described Clay as someone who is always willing to assist with any project, big or small. He is genuinely enthusiastic about what he does, making him a valuable resource and mentor to those who have had the opportunity to work with him.

"Within the libraries, Rudolph has been a mainstay of reference for years," said Shirley K. Baker, vice chancellor for information technology and dean of University Libraries. "He is a strong subject specialist, and he is a superb reference librarian.

"But he also has a University life. He is involved with so many different constituencies trying to forward the aims of the University; he is just always ready to step forward and help. He's a real member of the University."

Olin School appoints associate deans, Ph.D. director

By Shula Neuman

The Olin School of Business appointed two people to serve as senior associate deans and named a new director of the

Ph.D. program, all effective July 1.
Glenn MacDonald, Ph.D., the
John M. Olin Distinguished
Professor of Economics and Strategy, and Anjan Thakor, Ph.D.,
the John E. Simon Professor of
Finance, are now serving as senior
associates deans.

Chakravarthi Narasimhan, Ph.D., the Philip Siteman Professor of Marketing, is now director of the Ph.D. program.

The appointments represent a change in the structure for the school's administration. For the past two years, one of the senior associate deans oversaw the Ph.D. program as well.

The new appointments replace William P. Bottom, the Joyce and Howard Wood Distinguished Professor of Organizational Behavior — who was also director of the Ph.D. program — and Mahendra Gupta, Ph.D., the cur-

rent dean and the Geraldine J. and Robert L. Virgil Professor of Managerial Accounting, who served as associate dean.

MacDonald is responsible for faculty development in his role as senior associate dean.

MacDonald's research covers a broad range of topics. He is interested in industry dynamics, strategy and value appropriation, innovation, investor protection, industrial organization, technological change, economic growth and fluctuations and other applications of game theory.

Prior to working at the Olin School, MacDonald taught at the universities of Rochester and of Western Ontario.

MacDonald is co-director of the Center for Research in Economics and Strategy at the Olin School. He also is a research associate of the University of Chicago's Economics Research Center/NORC.

Thakor's responsibilities center on programmatic and curricular issues.

Thakor is a relative newcomer

to the University. He joined the business school in 2003 and teaches M.B.A. courses in financial valuation and corporate value creation, and a Ph.D. course in information economics and corporate finance.

In addition to corporate finance, Thakor's research interests lie in financial intermediation and the economics of asymmetric information.

Thakor is managing editor of the Journal of Financial Intermediation and associate editor of both The Journal of Banking and Finance and Financial Management.

He is president of the Financial Intermediation Research Society, a global society of scholars conducting research in the area.

He served on the Nobel Prize in Economics Nominating Committee for 12 years and has also served as a member of an academic review committee that examined the work of the Federal Reserve System on the pricing of central bank services.

Narasimhan joined the Olin

School's faculty in 1988 after a seven-year stint at the University of Chicago.

Narasimhan has distinguished himself through his scholarly work, teaching and mentoring.

His primary research interest is in the economic analysis of marketing problems, and he has done extensive research in the area of price promotions, sales force compensation, competitive strategies, customer relation management, new product entry and distribution channels.

His work has earned accolades from the marketing science community; in 1984, his publication "A Price Discrimination Theory of Coupons" won the best paper award, a feat he repeated in 2001 for his paper "Individual Marketing With Imperfect Targetability.

In 1989, his paper, "Incorporating Consumer Price Expectations in Diffusion Models" was the runner-up.

In 2001, his paper "Customer Profitability in a Supply Chain," published in the *Journal of Marketing*, won the prestigious MSI/H. Paul Root award.

In 1991, the graduating M.B.A. class selected him as Teacher of the Year. In 2003, he was awarded the Outstanding Faculty Mentor by the Graduate Student Senate.

Of note

Shirley K. Baker, dean of University Libraries and vice chancellor for information technology, has been appointed for a three-year term to the National Institutes of Health's PubMed Central National Advisory Committee. She has also agreed to serve a two-year term on the Advisory Board for the Canadian Research Knowledge Network, a collaborative program of Canadian universities to provide access to digital publications for the academic community nationwide. ...

The **WUSTL Model United Nations club** recently was named "Best Small School Delegation" at a Model UN conference hosted by the University of Chicago. ...

John B. McCarthy, Ph.D., professor of mathematics in Arts & Sciences, received a five-year, \$270,000 grant from the National Science Foundation to study "Operator Theory and Complex Geometry." ...

The Movement Science
Program received recognition with the MENTOR Award from the National Institute of Child Health and Human Development. The award is presented to the school that received top reviews on its grant application and provides superior training to its pre-doctoral students. Only one school receives the MENTOR award each year.

University Libraries names Neureuther Competition winners

By Andy Clendennen

University Libraries recently announced the 2005 graduate and undergraduate winners of the annual Carl Neureuther Student Book Collection Competition. Awards are \$1,000 for each first-prize winner and \$500 for each second-place winner.

Graduate category

• First place: Rachel Slaughter's entry, Well-Tempered Elegance: A Collection Of 1950's Literary Criticism, is an outgrowth of her doctoral research in English literature. She wrote, "Coming of age during a time when it feels like English departments are experiencing their most severe crises of confidence, ... my collection of 1950s literary criticism forms a kind of museum to an era of English studies that seems (though only in retrospect) more stable, more cohesive, more ideal than my own."

• Second place: James W. Hofman II, completing a combined law degree and master's in East Asian Studies in Arts & Sciences, entered *Japan, The Ambiguous, and My Shelf.* His essay takes its title from a work by a Japanese author that symbolizes his read-

ing interests in works mingling themes on memory, solitude, regret or the mercurial nature of human morality.

Undergraduate category

• First place: Devin Naar, a senior in history in Arts & Sciences, submitted his essay From Salonika to America and Back about Ladino-speaking Sephardic Jews. Some items in his collection are in the Ladino language, the Spanish of Jews exiled from Spain in 1492, and written in Hebrew characters, which he taught himself to read.

• Second place: Temu Brown, a freshman working on a degree in biology, titled his entry *On My Friends*. From an early age, he has built his collection of children's books pertaining to nature and the environment; they in turn have nurtured " ... my passion about the environment."

An exhibition of the winners' essays and books is on view in Olin Library's Whispers Café.

This competition is made possible by an endowment from Carl Neureuther, a 1940 WUSTL graduate who sought to encourage University students to read for pleasure throughout their lives.

Curtiss awarded Grand Challenges grant

Poy Curtiss, Ph.D., the George William and Irene Keochig Freiberg Professor of Biology Emeritus, has been awarded a \$14.8 million Grand Challenges in Global Health initiative grant from the Bill & Melinda Gates Foundation and the Wellcome Trust and the Canadian Institutes of Health Research.

Curtiss is one of 42 other recipients of the first-ever awards headed by the Gates Foundation; He will tackle the grand challenge of developing a *Salmonella*-based oral vaccine to protect infants from bacterial pneumonia.

Curtiss will build upon Salmonella techniques he devel-

oped at Washington University to develop his vaccine. Curtiss presently is professor of biology at Arizona State University and will perform his research there.

Curtiss came to Washington University in 1983 and was biology department chair in Arts & Sciences from 1983-1993.

Service list omission

Glenna Dixon was recognized for 10 years of service to the University on Staff Day; her name was omitted from the list that was published in the June 17 Record.

By Shula Neuman

Washington People

alking to Martin Cripps is bound to make anyone just slightly jealous.

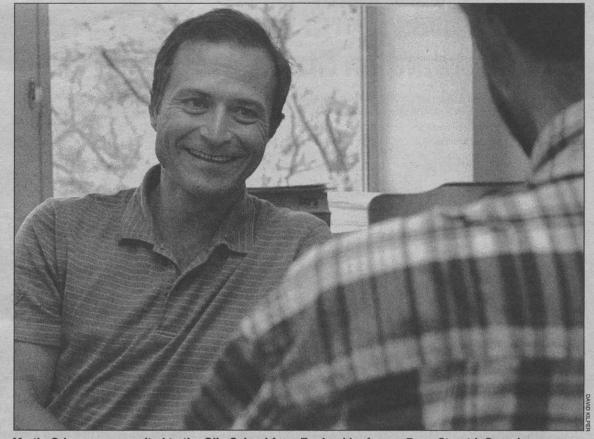
For one thing, the man is unusually giddy.

Whether he's talking about his London upbringing, his family or his work, the youthful economics professor finds a way see the lighter side of life and laughs readily at it.

Cripps, Ph.D., was recently installed as the John K. Wallace and Ellen A. Wallace Distinguished Professor of Managerial Economics at the Olin School of Business, which tells you that his jolliness doesn't get in the way of producing work worthy of such accolades.

It's easy to understand where the happiness comes from when you consider how he sees the world. When it comes to his job, for example, Cripps finds it amazing that someone pays him to sit around and create mathematical theories about topics such as what makes or breaks a reputation or how to optimize efficiencies in auctions. His work is abstract to the layperson, yet the way Cripps presents it is at once concrete and

"Take gazelles," Cripps says to explain his research on why repu-



Martin Cripps was recruited to the Olin School from England by former Dean Stuart I. Greenbaum.
"He's proof that you can be nice and have high standards," says Olin School colleague Glenn
MacDonald. "Martin definitely hands out the criticism. But he's such a nice guy that you know the critique comes from a good place and that turns out to be quite constructive."

It's all about the love of the job

Olin School's Cripps is very happy with his place, and he isn't afraid to let people know it

Martin Cripps

Born: April 25, 1960

Nationality: United Kingdom

Family: Married to Louise. Children: Edward, 22; Robert, 21; Grace, 13; Daisy, 5.

Cripps says he ascribes to the sentiment expressed by T.H. White in the novel *The Once and Future King:* learning is the only thing " ... which the mind can never exhaust, never alienate, never be tortured by, never fear or distrust and never dream of regretting. Learning is the only thing for you. Look what a lot of things there are to learn."

SA SA

Martin Cripps with his wife, Louise, and daughters Grace, 13, and Daisy, 5, outside their home.

tation matters. "There's a certain type — Thomson's gazelle — that engages in something called 'stottine'"

ting."

That's when a gazelle starts jumping up and down when the herd is confronted with a predator. Not all gazelles in the herd start stotting when they're aware of the predator; it's mostly the young and strong.

"Why would they do that? What are they signaling by hopping up and down?" Cripps asks. "Are they saying, 'Hey, eat me. I'm tired and can't run away?' Or are they trying to warn the other gazelles? Or perhaps they're frightened?"

As it turns out, Cripps says, jumping is a clever way for the gazelle to signal to the predator, "Hey, I'm a really fit gazelle. Don't even try to catch me."

That message establishes the stotting gazelle's reputation with the predator.

The gazelle has learned that hopping around might tire him out in the short term but over the long hall, stotting every time the predator appears builds the reputation that he is not a gazelle to be trifled with.

Since Cripps is an economist and not a biologist, he didn't come up with this theory about stotting. But he does create theories that

help explain the larger impact signals have on one's reputation — not just for gazelles, but for businesses in general or people trying to sell stuff on eBay or the even for the federal government.

"And they pay me to do this!" he says — a recurring theme for Cripps.

Luckily, his open appreciation for his privileged position makes it impossible to bear him any malice. Cripps doesn't come from a family of academics. Born in the East End of London, he's the first one in his family to have graduated from a university.

"All my family are plumbers or whatnot," Cripps says. "My grandfather was a glazier and my dad grew up in the East End. He was the only boy in the family to go to grammar school. He actually got a spot in Oxford

but he wasn't allowed to take it because he needed to get out there and earn money. So, he was a welleducated probation officer."

Between his well-read father and his schoolteacher mother, Cripps was instilled with the love of learning. So when it came time to graduate from college, he passed up an opportunity to work as a foreign exchange trader for a bank and continued his studies instead, eventually earning a doctorate from the London School of Economics.

"I just couldn't see myself doing those sorts of things," Cripps says. "It really is much more fun to come in and do something you want to do everyday. And the fact that someone is going to pay you to do it is unbelievable."

Cripps climbed up the academic ladder in England, eventually holding a professorship at the University of Warwick.

He was living what he describes as "middle-class bliss," when a letter arrived from Stuart I. Greenbaum, Ph.D., the Bank of America Professor of Managerial Leadership and the Olin School dean at

Greenbaum had heard of Cripps through some mutual acquaintances at Northwestern University, and he asked Cripps if he would want to come teach at Washington University for a year.

"This was extraordinary because I had spent a lot of time writing letters to people in America asking if I could come visit and it never worked out," Cripps says.

"My kids were all at the right age where they could miss a year of school if necessary, so it was pretty much now or never."

With a bit of trepidation, Cripps, his wife, Louise, and their three children packed up the house and made the journey across the pond.

Everything worked out even better than expected, Cripps says, for himself as well as his children.

"The boys, Edward and Robert, were teenage boys with English accents in an American high school," Cripps says. "They probably thought they'd died and gone to heaven; there were cell phones, cars and pretty women. The only thing they couldn't do was drink boor."

Edward, now 22, and Robert, a 21-year-old WUSTL student, fit easily into American culture, revealing their British blood mostly when they're out on the soccer field. Cripps' daughter Grace is 13 and one year shy of starting high school.

Since moving to St. Louis, the Cripps family has grown. Daisy was born in 2000 and that, Cripps quips, gave Louise something to do that first year.

These days Louise spends half of her time working with a friend in property management and the other half working as a homemaker.

After that first year, Cripps decided to stay at the Olin School. He says he enjoyed teaching business students who were different from the economics majors he taught in England. Cripps also was surprised to discover practical applications for his skills.

applications for his skills.

"It was weird because I had spent my time doing theory, which is very unpractical," Cripps says. "But at the same time, I discovered I actually could do something that was useful," Cripps says. "And beyond the students, I was — am — absolutely impressed by my colleagues. It was thrilling to be around so many great academics that everyone knows about."

His colleagues were — are — equally impressed with Cripps. Glenn MacDonald, Ph.D., senior associate dean and the John M. Olin Distinguished Professor of Economics and Strategy, says Cripps stands out because he has high standards for himself, his students and other people's scholarship.

MacDonald says everything Cripps publishes is very high quality. All that, and he's a really nice guy, too.

"He's proof that you can be nice and have high standards," MacDonald says. "Martin definitely hands out the criticism. But he's such a nice guy that you know the critique comes from a good place and that turns out to be quite constructive."

MacDonald also describes Cripps as witty, an omnivorous reader with a depth of knowledge that makes MacDonald envious. However, MacDonald says, he can't be too envious because Cripps is so likeable.

That seems to be the opinion shared by nearly everyone who meets him.

Katie Morrow is administrative assistant for Cripps — as well as

11 other business school professors. Morrow says working with Cripps is easy; he treats her with respect and he doesn't demand an inordinate amount of work. What's more, Morrow says, he keeps her in stitches.

"He's very comical," Morrow says, recalling a risqué tale he shared recently. "I've never seen the guy stressed, although I have noticed he can't sit still very well."

Indeed, sitting at his unusually clean desk in his unusually Spartan office, a conversation with Cripps is a veritable physical activity. He frequently curls a leg up to his hip and fiddles with his foot. Then he'll shift forward placing both hands on the desk when he's really excited about something — like the history of Counter-Reformation Spain. Or he'll lean back and stretch out to contemplate an answer to some question.

Cripps is athletic, says Mac-Donald, referring to Cripps' prowess at squash. MacDonald says he's also competitive, which is evident from the odd rivalry he has with his co-authors to see who can last the longest riding their bikes to work — no matter the weather.

"He's the anti-British academic," MacDonald says. "The stereotype of an English professor is having an office with junk all over the place, books on the walls and elbow patches on his jacket. Martin is completely the opposite."

Still, MacDonald says, Cripps has maintained a few British traits. He still calls sweaters "jumpers" and trucks "lorries." And — while it might not be a purely national characteristic — Cripps is incredibly self-effacing. MacDonald describes Cripps as an extrovert who doesn't like being the center of attention.

"He was squirming for months prior to his installation (as the John K. Wallace and Ellen A. Wallace Distinguished Professor of Managerial Economics)," MacDonald says. "It's so odd because when you talk to him one-on-one he's so funny and lively, but publicly he doesn't want to be noticed."

Which means that for anyone who feels the slightest twinge of jealousy over Cripps' good fortune and charming qualities, one can take just a small amount of gratification from knowing that Cripps is cringing right now—not at all comfortable being featured so prominently in this issue of the *Record*.