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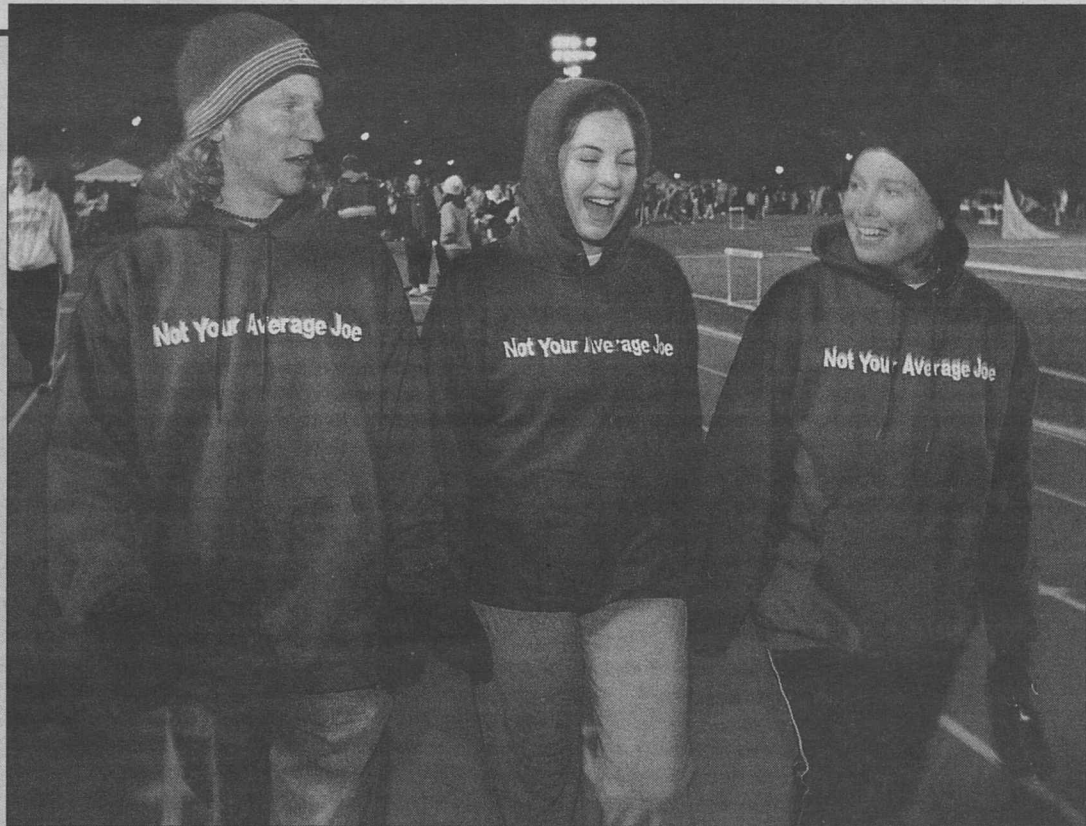
Record

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Washington University in St. Louis



Relay for Life (From left) Patrick Weaver, Lauren Seffel and Heather Hutson, members of Uncle Joe's Peer Counseling, walk around Bushyhead Track at Francis Field during Relay For Life March 19-20. "I participated in 'Relay' because it's a way for me to honor my friends and family whose lives have been touched by cancer, at an event which is really all about maintaining hope," Seffel said. "I think it was incredibly successful, and I'm very proud to have been a part of it." The overnight event included approximately 1,600 participants on 153 teams and raised more than \$224,000 for the American Cancer Society.

Supplier Diversity Initiative Great progress made; efforts 'must continue'

By ANDY CLENDENNEN

The Supplier Diversity Initiative annual report for fiscal year 2004 shows the University is continuing to make great strides in incorporating minority- and women-owned businesses into the mainstream of procurement activity.

At the same time, many involved recognize that there is still a long way to go and that the University still has room for improvement.

The 2004 report shows that the University spent \$11.2 million with minority-owned firms and \$17 million with women-owned firms, for a total of \$28.2 million.

Construction spending continues to represent the majority of the total dollars spent directly with minority- and women-owned firms (78 percent of the total dollars spent with minorities and 68 percent of the total dollars spent with women).

Additionally, spending with joint-venture contracts (those that are at least 25 percent minority-owned) came in at \$8.8 million in fiscal year 2004.

In 1999, the University started to build new relationships with women- and minority-owned firms and businesses, and those relationships are continually being built. Sandra Marks, director of the Supplier Diversity Initiative, pointed out that the original goal was to cultivate and nurture these relationships.

The approach is working. "Initially, the community needed validation that Washington University was serious about its commitment to change," Marks said. "As an established institution for 150 years, WUSTL had a past that did not often reflect our commitment."

"After the visible changes of new relationships and new programs offered by the University, the community began to take a

This is the third of a three-part series on the University's Supplier Diversity Initiative.

more serious look. We serve as a model now for others who are looking at best practices for supplier diversity.

"Although we continue to recognize the challenges and pitfalls we still have to overcome, we welcome the opportunity to share what we have accomplished."

There are always more — and better — ways to incorporate minority- and women-owned businesses into the University's goals. And to help get those businesses headed in the right direction, the University has several programs in place.

"We have indeed made some progress and have new systems and procedures in place to build involvement with women-owned and minority-owned businesses," Chancellor Mark S. Wrighton said. "But we still have not yet achieved the extent of engagement that would seemingly be possible."

"We must continue our efforts to build capacity and sustain our proactive efforts to work with existing and new companies."

One of those efforts, a "Business of Construction" series for emerging contractors, is a joint effort between the University and the Associated General Contractors of St. Louis. To date, more than 80 individuals representing 42 firms have participated in the course.

"The program of Business of Construction is a great snapshot of what some of these contractors need to know because a lot of them are very small," said Marion Hayes III, a University alum and owner of BRK Electric. "Some of them might only work in residential areas, but have not been exposed to the major construction

See Diversity, Page 6

Genomic analysis offers trauma treatment tool

By MICHAEL C. PURDY

Genomic analysis may one day be a primary diagnostic tool for physicians deciding on a treatment course for trauma and other critically ill patients in intensive care units (ICUs), according to a new study by a national collaboration of more than 70 physicians and scientists.

The researchers showed that state-of-the-art techniques for rapidly analyzing changes in activity of all human genes will likely produce useful insights into the health of critically ill patients.

The findings, which are online and will be published in the March 29 issue of the *Proceedings of the National Academy of Sciences*, make it possible for physicians to begin answering important questions about critical care through genomic analysis.

"It's a very exciting time because our field has experienced such frustration with some of these questions, many of which have important ramifications for how we treat patients," said lead author J. Perren Cobb, M.D., associate professor of surgery and of genetics.

Nearly 5 million Americans are admitted to ICUs

annually, according to the researchers. Preliminary 2003 National Centers for Disease Control statistics cite accidental injuries and trauma as the fifth-leading cause of death for that year.

However, despite significant advances in organ support technology, a physician's ability to predict whether a particular patient will respond or not to a specific course of treatment has been poor.

To address these and other questions, countries such as Canada and Germany have established networks for critical care research.

The new study, conducted by Cobb and his colleagues in the Inflammation and Host Response to Injury Large Scale Collaboration Program, is a significant step toward establishing such a U.S. research network.

Scientists tested two aspects of applying genomic technology in the ICU: Could the technology detect

See Genomic, Page 6



Cobb

University reaches out to develop mobile classrooms

By DANA BENEDICKTUS

The Monsanto Fund has awarded the University \$3.7 million to develop, build and operate two custom mobile classrooms. WUSTL will lead a partnership — including the St. Louis Science Center, the Missouri Botanical Garden, the Saint Louis Zoo and the University of Missouri-St. Louis — to create and provide programming on the vehicles.

Through interactive experiences and exhibits, the program will help elementary-school students develop enthusiasm for learning and doing science.

It will also assist teachers in doing classroom science investigations through workshops and materials loans.

The program is designed to reach underrepresented public schools and districts that have low average scores on the third-grade science Missouri Achievement Program test.

"We wanted to bring a new level of excitement to science education by creating something that doesn't currently exist," said Deborah Patterson, president of the Monsanto Fund. "We came to Washington University because of their

See Classrooms, Page 6

New type of RNA polymerase discovered in plants

By TONY FITZPATRICK

WUSTL biologists have discovered an entirely new cellular "machine" in plants that plays a significant role in plant flowering and DNA methylation, a key chemical process essential for an organism's development.

A team headed by Craig S. Pikaard, Ph.D., professor of biology in Arts & Sciences, has discovered a fourth kind of RNA polymerase found only in plants and speculated to have been around for more than 200 million years.

RNA polymerase is an enzyme, or protein machine, essential for carrying out functions of cells and for expression of biological traits. It does its job by copying a template of DNA genetic information in order to make

RNAs that encode proteins or that function directly in the cell.

Biologists have studied three kinds of RNA polymerase for decades in organisms ranging from brewer's yeast to humans. In all eukaryotes, the RNA polymerases Pol I, II and III perform the same distinct, though separate, functions in different species.

But then along came Pol IV. Pikaard first noticed the evidence for a fourth polymerase when analyzing gene sequences after *Arabidopsis thaliana*, the "laboratory rat" of the plant world, was



Pikaard

sequenced in 2001. It originally looked to him like an alternative form of either Polymerase I (Pol I), which makes the largest of the ribosomal RNAs; Pol II, which makes RNAs for protein-coding genes; or Pol III, a specialist in making the shortest of the ribosomal RNAs and tRNAs.

The big subunit

He and his colleagues looked specifically at two polypeptides that would be the key subunits if the fourth polymerase were functional, namely the largest and second largest subunits, what Pikaard refers to as the catalytic, or "business end" of any known polymerase.

"So, we took a reverse-genetics approach," Pikaard said. "We

See RNA, Page 6



Bayly installed as first Hughes professor in engineering

BY BARBARA REA

Philip V. Bayly, Ph.D., was installed as the first Lilyan and E. Lisle Hughes Professor in Engineering March 8 in Uncas A. Whitaker Hall for Biomedical Engineering.

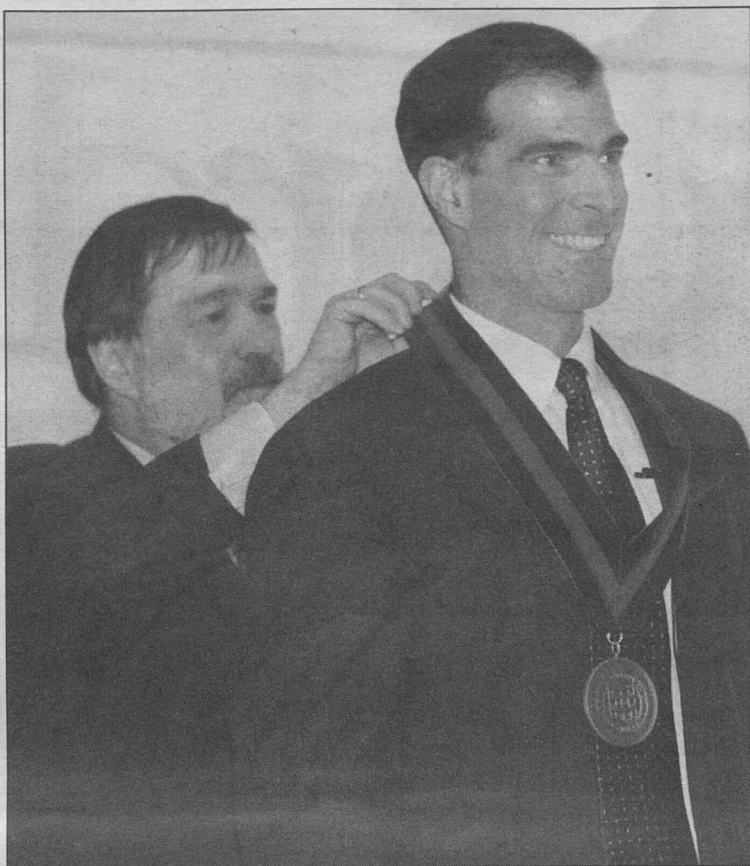
Before passing away in 2001, Lilyan Hughes established the professorship because, as she once said, her late husband would have wanted it. Elmer Lisle Hughes Jr. died in 1991.

"Although both Lilyan and Lisle Hughes are no longer with us, they will be long-remembered for their tremendous generosity to Washington University," Chancellor Mark S. Wrighton said. "Through this professorship, they have ensured that future generations of students will benefit from the extraordinary scholarship and teaching of outstanding faculty members."

Christopher I. Byrnes, Ph.D., dean of the School of Engineering & Applied Science and the Edward H. and Florence G. Skinner Professor of Systems Science and Mathematics, concurred.

"We are deeply honored by this wonderful gesture, and we are very grateful for the opportunity to create a lasting remembrance for a distinguished alumnus," Byrnes said. "I am also delighted that Philip Bayly is the initial holder of the Hughes professorship. As a distinguished faculty member in mechanical engineering and biomedical engineering, he will bring added distinction to the title."

Bayly has taught at WUSTL since 1993 and holds a joint appointment in the School of Engineering & Applied Science's departments of Mechanical Engineering and of Biomedical Engineering. He has also worked as a research engineer for Shriners Hospital, designing prosthetic and orthotic devices for children with limb deficiencies and disabilities, and as a design engineer for Pitney-Bowes Inc.



Christopher I. Byrnes, Ph.D., dean of the School of Engineering & Applied Science and the Edward H. and Florence G. Skinner Professor of Systems Science and Mathematics, puts the medallion of the Lilyan and E. Lisle Hughes Professorship in Engineering around the neck of Philip V. Bayly, Ph.D., at an installation ceremony March 8 in Uncas A. Whitaker Hall for Biomedical Engineering. The professorship's first holder, Bayly has been at the University since 1993.

His research, though quite varied in function and scope, involves the study of dynamics in mechanical and biomedical systems. Working with colleagues across the University, Bayly has conducted research on projects ranging from high-speed machining to measuring deformation of the human brain.

Bayly has received a number of teaching honors, including the School of Engineering & Applied Science Professor of the Year in 2004 and the Adviser of the Year in 2001. Graduate students gave him the "Big Fish" award in 2001 for mentoring.

In addition, Bayly received a Faculty Early Career Development Award from the National Science Foundation in 1996.

He serves as associate editor of the *Journal of Biomechanical Engineering*. Among his professional associations are the American Society of Mechanical Engi-

neers and the Biomedical Engineering Society.

He earned a bachelor's degree from Dartmouth College, a master's degree from Brown University and a doctorate from Duke University.

Like his father, Lisle Hughes earned a bachelor's degree in mechanical engineering from the University (father in 1917; son in 1943). He served on the USS *Biloxi* during World War II, and then earned a degree in naval architecture from the University of Michigan in 1946.

A year later he joined his father's Kansas City business, Hughes Machinery Co. He ran the steam generator and power plant machinery manufacturer until his retirement.

Before marrying Hughes, Lilyan worked for TWA.

Among her hobbies were raising registered poodles, sailing and golfing.

University launches annual Arts & Education Council fund drive

BY LIAM OTTEN

Research has shown that high-school musicians score 57 points higher on the verbal section of the SAT and 41 points higher on the math section than nonmusicians. Students who have taken music appreciation courses score 63 and 44 points higher, respectively.

Of course, the Arts & Education (A&E) Council of Greater St. Louis has known such facts for decades. Since 1963, the A&E Council — which does not receive government support and relies solely on donations from local individuals and institutions — has raised more than \$86 million to support St. Louis-area arts, culture and education.

In 2005, it will provide assistance to nearly 100 organizations throughout the region.

University employees are again being asked to contribute to the A&E Council's annual fund drive.

"Every day, in schools and neighborhoods across the St. Louis community, someone is being changed and challenged by the magic of the arts," Chancellor Mark S. Wrighton wrote in a recent letter to University employees. "Our goal is to raise \$28,000 from Washington University faculty and staff for the campaign."

"It's amazing to think that if just 2,000 of our 14,000 employees gave \$4 a month, we could raise nearly \$100,000!"

Faculty and staff received Wrighton's letter last week, along

with a packet of information about this year's campaign, called "Keep Art Happening," and a pledge card that explains how contributions are used and the benefits to those who contribute.

All contributors of \$50 or more receive the A&E Card, which entitles them to receive two-for-one or discounted admission to more than 200 events and performances each year. Participating venues include Jazz at the Bistro, The Black Rep, Dance St. Louis, Opera Theatre of St. Louis and many others.

Such contributors also receive the bi-monthly *Arts Newsletter*, where all the special deals are listed.

More significantly, that \$50 contribution will provide pointe shoes for a ballerina, or fuel a theater touring van for a week, or allow an aspiring artist to attend a six-week drawing or painting class. A contribution of \$100 underwrites a summer scholarship, creates a teacher-education packet or supplies a needy dance student with shoes and clothing.

"I think it's important for Washington University to stand front-and-center as an advocate for the arts in St. Louis," said Henry I. Schvey, Ph.D., professor and chair of the Performing Arts Department in Arts & Sciences, who is heading the campus campaign. "The arts bring us together in unique and essential ways. They help us to recognize the diversity of our community even as they create a real sense of unity that benefits us all."

'State of American Public Opinion' is topic of Weidenbaum Center forum

BY GERRY EVERDING

Morris Fiorina, author of a new book on the perceived deep divide between America's "red" and "blue" states, will lead a discussion on "Polarization, Tolerance and the State of American Public Opinion" in a community forum at 7:30 p.m. March 28 in Simon Hall's May Auditorium.

James L. Gibson, Ph.D., the Sidney W. Souers Professor of Government in the Department of Political Science in Arts & Sciences, will join Fiorina for public discussion of his comments.

Fiorina, a senior fellow at the Hoover Institution and the Wendt Family Professor of Political Science at Stanford University, is the author of *Culture War? The Myth of a Polarized America*, which maintains that most Americans stand in the middle of the political landscape, preferring centrist candidates from either party to the

extreme partisans who often emerge from the primary process.

Fiorina, who specializes in elections, public opinion and Congress, contends that political parties and the media have distorted the reality of most Americans' actual views about the social, political and economic issues of the past 30 years.

"Increasingly, we hear politicians, interest group leaders and assorted 'activists' speak half-truths to the American people," Fiorina said. "They tell us that the United States is split right down the middle, bitterly and deeply divided about national issues, when the truth is more nearly the opposite."

Sponsored by the Weidenbaum Center on the Economy, Government, and Public Policy, the event is free and open to the public.

For more information, contact Melinda Warren (935-5652; warren@wc.wustl.edu); or go online to wc.wustl.edu.

Graduate Student Research Symposium is April 2

BY NEIL SCHOENHERR

The Graduate Student Research Symposium, celebrating its 10th year, will be held from 1-4 p.m. April 2 in Uncas A. Whitaker Hall for Biomedical Engineering.

The symposium, which is open to the entire WUSTL community, provides graduate students an opportunity to present their research to a broad and diverse audience, while helping them develop their communication skills by requiring them to present their material in a way that is accessible to a general audience.

"The symposium answers several needs in graduate education at Washington University," said Dawn Cardace, president of the Graduate Student Senate and co-chair of the Graduate Research Symposium Committee, along with James Williams.

"Those include promoting interdisciplinary communication and community building, increasing awareness of the diverse and high-quality research being carried out by students on both the Hilltop and Medical campuses, providing a forum for polishing aural and visual presentation skills and recognizing laudable accomplishments of graduate students."

Developed in 1996 by the Graduate Student Senate in partnership with the Graduate School of Arts & Sciences, the event aims to enhance the professional development of graduate students. The

"The symposium answers several needs in graduate education at Washington University. Those include promoting interdisciplinary communication and community building, increasing awareness of the diverse and high-quality research being carried out by students on both the Hilltop and Medical campuses, providing a forum for polishing aural and visual presentation skills and recognizing laudable accomplishments of graduate students."

DAWN CARDACE

first symposium had 19 presenters in three categories. Last year, nearly 70 participants presented work in five categories.

The symposium's development has been fostered since its inception by Robert E. Thach, Ph.D., dean of the Graduate School of Arts & Sciences, and Elaine P. Berland, Ph.D., associate dean of the graduate school.

The event provides students a great chance to explore the research of their peers. The symposium provides a unique forum for interaction among students and faculty across the University, encouraging students to mingle with other graduate students, to share their experiences and to learn about ongoing research outside of their specific disciplines.

In past years, graduate students from a variety of fields throughout the graduate school

have presented their research in poster format. Many students have also begun to use computer displays or audio-visual materials.

The presentations are judged by members of the University community, who award three cash prizes in each of five categories — humanities, engineering, professional degree programs, sciences and social sciences — based on students' abilities to present their work to a broad audience.

The symposium is sponsored by the Graduate Student Senate of Arts & Sciences, the Graduate Professional Council, the Association of Graduate Engineering Students and the Graduate School of Arts & Sciences.

For more information, go online to artsci.wustl.edu/~gss/research_symposium/index2005.html.

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Washington University in St. Louis

School of Medicine Update

Breast cancer patients benefit from art program

By KIM LEYDIG

A kaleidoscope of colors transforms the Siteman Cancer Center as B.J. Cokley and 12 other kids — dressed head-to-toe in surgical attire — create silk head wraps for their mothers and grandmothers with breast cancer.

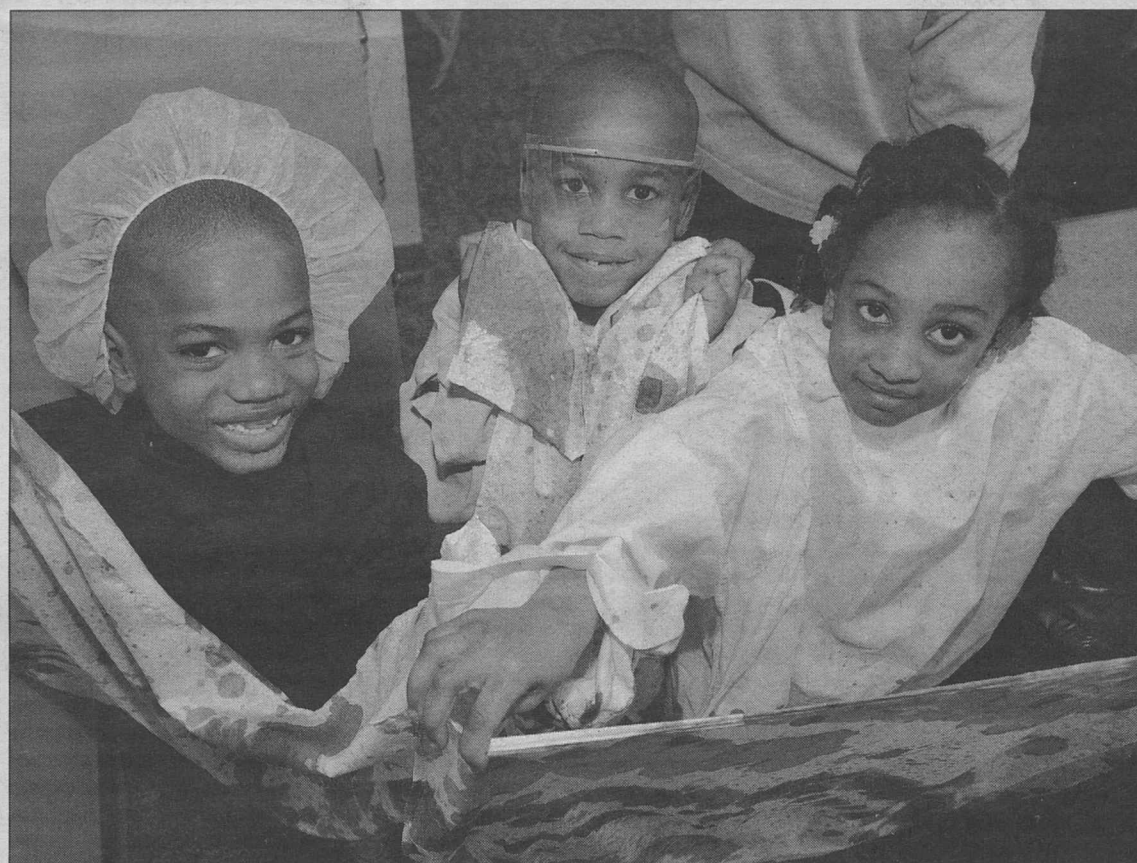
The volunteer staff of the Arts as Healing program proudly overlooks the kids as they huddle together to blow colorful bubbles of paint that create vibrant bursts of abstract color onto the fabric.

The art program, recently developed by Vicki L. Friedman, director of Medical Photography, Illustration and Computer Graphics (MedPIC) at the School of Medicine, offers children the opportunity to take an active, artistic role in the healing process while providing a group support network.

With the support of the MedPIC staff, Friedman recently created the project out of her desire to have her small children more involved with her fight against breast cancer 19 years ago.

To help meet the support needs of kids with family members who have breast cancer, Friedman, in collaboration with the School of Medicine and the Barnes-Jewish Hospital Foundation, applied for and received a \$20,000 grant from the Trio Foundation for Siteman's Arts as Healing program.

"We wanted to develop artistic projects for kids that encouraged both team spirit and personal



(From left) Sam, Dylan and Ashley Mopkins showcase the scarves they made for their mom, April Villars, at the Arts as Healing program at the Siteman Cancer Center March 21. "This is such a wonderful outlet for my children to do something fun together as a family," Villars says. "And most importantly, it allows all of us to be a part of the healing process."

self-expression as part of the healing process," says Friedman, who's worked at the University for 30 years.

Four years ago, Beth Bryson was diagnosed with breast cancer. Her treatment program included chemotherapy, radiation

and a mastectomy — an intensive therapy regimen that took a heavy toll on her family.

Just days before she was set to have reconstructive surgery, a bad feeling set in — she knew the cancer was back.

When Bryson got the devastating news that the cancer had spread to her bones and spine, it wasn't her life she was most concerned about — it was the effect the disease would have on her 5-year-old son, B.J.

After Bryson was rushed by ambulance to the emergency department in severe pain, B.J.'s fear of losing his mom was too much for Bryson to take.

"He was terrified I was never going to come home," she says. That night she knew she had to get her son some support.

"He needs to know that he's not the only kid who has a parent who is going through this," she says. "He needs to know he's not alone."

Last month, Bryson enrolled B.J. in the Siteman Cancer Center's HUGS (Help Us Give Support) program, a support group

for children 4-12 with family members who have breast cancer.

B.J. says he couldn't wait to make a scarf for his mom at the March 21 HUGS meeting, spon-

sored by Arts as Healing.

"I am so excited that I've made something for my mama," B.J. says as he proudly ties a bow around the colorful scarf he just created for his mom.

"I hope this makes her feel better."

In addition to making his mom a beautiful head wrap, B.J. has also made a lot of friends — ones that are going through the same difficult situation as he is.

B.J. has befriended Sam, Dylan and Ashley Mopkins, whose mom, April Villars, has also battled breast cancer.

"This is such a wonderful outlet for my children to do something fun together as a family," says Villars, who is now cancer-free.

"When I was sick, it was hard for us to do things together as a family. That aspect of our lives was really broken up. This program offers us a chance to be together as a family — and most importantly, it allows all of us to be a part of the healing process."

And that's exactly what Friedman intended when she and the MedPIC staff developed the Arts as Healing program.

"Our office creates art for the School of Medicine from a scientific and research perspective," she says, "but this program gives us a wonderful opportunity to reach out to the community and touch patients' lives."



B.J. Cokley has a blast blowing bubbles as part of the group painting process. "I am so excited that I've made something for my mama," he says. "I hope this makes her feel better."

Diabetic heart complications is focus of \$14 million grant

By MICHAEL C. PURDY

A five-year, \$14 million grant from the National Heart, Lung, and Blood Institute will establish a University center that will develop better ways to prevent and treat heart disease in diabetic patients.

Diabetics who have heart attacks confront a poor prognosis, according to Daniel P. Kelly, M.D., professor of medicine, of pediatrics and of molecular biology and pharmacology.

"Heart disease is the leading killer of diabetics," Kelly said. "When we treat diabetic patients following a heart attack with standard cardiac therapies, they do not respond as well as the non-diabetic patients."

The grant establishes a Specialized Center for Clinically Oriented Research (SCCOR) in Cardiac Function and Disease at the University. Kelly will direct the center, one of the first of a new generation of National Institutes of Health-sponsored research centers designed to emphasize clinical research.

"One of the main goals of the new SCCOR grants is to aggressively link research discoveries to improving patient treatments," Kelly said.

Kelly also is the director of the University's Center for Cardiovascular Research and co-director of the Cardiovascular Division. In addition to his clinical work, he oversees an extensive research program to develop and study mouse models of diabetes and heart disease.

A major research initiative of the new center will be to study heart attacks in animal models and use findings of new diagnostics and treatments for human diabetics.

"One of our hypotheses is that too much fat is entering the dia-

betic heart, where it doesn't belong," Kelly said.

"If you don't treat the fat accumulating in the heart, all the cardiologic therapies in the world may not remedy the heart failure caused by the fat."

Through research in mouse models, Kelly aims to identify new drugs to eliminate fat in cardiac tissues. Kelly and his colleagues will also use the animal research to identify biochemical markers and genetic factors associated with increased risk.

Another research program will be run by John Spertus, M.D., professor of medicine and health outcomes research at Mid-America Heart Institute and the University of Missouri-Kansas City.

To begin the process of applying animal-model results to patient populations, Spertus will enroll 4,500 heart-attack patients across the nation. Approximately 1,500 of those patients will be diabetic.

"We will compare what we learn from the mice with human diabetic and non-diabetic populations," Kelly said. "This will allow us to confirm whether the biomarkers we identify are useful in humans."

Spertus also plans to study differences in outcomes based on patient race and ethnicity.

A third facet of the SCCOR grant, led by Howard L. McLeod, Pharm.D., associate professor of genetics, will examine how genetic differences in diabetic patients affect their response to drug therapies.

"The final goal is to develop something called 'a diabetic cardiovascular panel,'" Kelly said.

"It will help us stratify diabetic patients based, in part, on the severity of the metabolic disease, a key step toward choosing treatment strategies."



Kelly

Sciatica nerve pain study seeks volunteers

By JIM DRYDEN

School of Medicine researchers are testing the effectiveness of an investigational drug for the treatment of sciatica pain.

Sciatica involves pain in the lower back and hip that radiates down the thigh into the leg. It usually is caused by a combination of compressed nerve roots in the spinal cord and inflammation in the sciatic nerve and often occurs with inflamed or herniated disks.

Pain from sciatica is called neuropathic pain because it is caused by damage to the nervous system. Many new therapies have been introduced to treat neuropathic pain, but not all patients benefit from existing therapies. The study is recruiting people with sciatica pain due to inflamed nerve roots in the lower back.

"Patients with sciatica often refer to their problem as a shooting pain like electricity down the leg," said principal investigator Rahul Rastogi, M.D., instructor of anesthesiology, who sees patients at the Pain Management Center. "Sometimes it also can be more of a burning pain or a tingling pain that resembles the feeling people get when their leg goes to sleep."

Rastogi and his colleagues are studying the ability of the investigational drug REN-1654 to help control or eliminate that pain.

The investigational medication is a novel, orally active, small-molecule inhibitor of TNF-alpha, a known proinflammatory cytokine that has been

shown to be involved in neuropathology and pain associated with sciatica.

REN-1654 is thought to have promise as a treatment for sciatica because it has been shown to interfere with communication between nerve cell receptors that may carry pain messages.

To be eligible for the study, volunteers must be 18-55 and have leg pain radiating from the lower back to or below the knee that has been diagnosed as pain due to sciatica or to lumbar or lumbosacral radiculopathy.

The onset of pain must have occurred two to 12 weeks prior to the initiation of study treatment.

Those who qualify for the study will receive a daily dose of either the study medication or an inactive placebo for three weeks.

All participants will have their leg and back pain evaluated at one and three weeks after the start of treatment.

Volunteers will then discontinue treatment and remain off medication for three weeks.

At the end of those six weeks, participants will be evaluated again.

Volunteers will receive free study-related physical exams, laboratory tests and investigational study medication. They will also be compensated for time and travel.

The study will require five visits to the Pain Management Center, in the Center for Advanced Medicine.

For more information, call study coordinator Patty Suntrup at 747-1709.

University Events



Undergraduate research Craig Wilen, a senior majoring in biology and economics, both in Arts & Sciences, delivers the presentation "The Malarial Parasite and Hemoglobin Degradation" as part of the first Arts & Sciences Undergraduate Research Symposium March 21-23. The event showcased undergraduate research performed by students across several academic disciplines and was held in Room 250 of the Arts & Sciences Laboratory Science Building. The presentations of March 21 focused on the natural sciences; March 22 featured trio student research; and March 23 had the social science/humanities symposium.

Creator of *Family Guy* to speak at Assembly Series

By CAROLINE BROOME

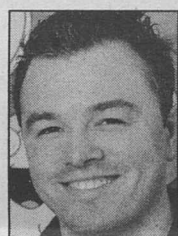
The animated adult series *Family Guy* broke the mold for its genre, created a large cult fan base and made famous its creator, 33-year-old Seth MacFarlane.

He'll talk about his controversial series for the Assembly Series at 11 a.m. March 30 in Graham Chapel.

Family Guy has been nominated for an Emmy award and has a strong following, particularly among young adult males. The satirical show, partly inspired by *The Simpsons*, features a dysfunctional family with a toddler bent on world domination and a talking dog. The program is infused with pop-culture references.

The show's controversial humor has unnerved its host network, Fox, which has censored programs more closely since the

Federal Communications Commission tightened restrictions on indecency. Fox canceled *Family Guy* but made the unusual decision to re-air it when the show became even more popular as reruns on the Cartoon Network.



MacFarlane

The show's DVD compilations of the three seasons have sold more copies than other DVDs for any television series to date.

Family Guy is based on an 11-minute film MacFarlane made as a student at Rhode Island School of Design. Fox purchased the film and hired its newly graduated creator to transform it into a sitcom. At 24, he was the youngest

television executive producer in the industry's history.

In addition to writing for the show, MacFarlane is the voice of several characters.

MacFarlane is also producing a second animated sitcom, *American Dad*, which Fox will begin airing on a regular basis in May. He has also worked on the popular Cartoon Network shows *Johnny Bravo*, *Cow and Chicken* and *Dexter's Laboratory*, and he has appeared on *Crank Yankers* and *Gilmore Girls*.

All Assembly Series lectures are free and open to the public, but due to anticipated popularity of MacFarlane's talk, seating for the general public will be severely limited.

A remote telecast will be in Simon Hall's May Auditorium.

For more information, go online to assemblyseries.wustl.edu or call 935-4620.

WUSTL to host forum on 'Poverty, Wealth and the Working Poor'

By JESSICA MARTIN

The School of Law and the George Warren Brown School of Social Work will host the fifth annual Access to Equal Justice Conference, "Poverty, Wealth and the Working Poor: Clinical and Interdisciplinary Perspectives," from 8:30 a.m.-5:30 p.m. April 1 in the Bryan Cave Moot Courtroom of Anheuser-Busch Hall.

The conference will explore the many barriers to economic prosperity and well-being for America's working poor. Particular emphasis will be given to the interplay of race, gender, wealth and power in regards to employment, welfare, housing, health care, education and the environment.

Co-sponsored by the WUSTL law school's Clinical Education Program, the Center for Interdisciplinary Studies and the *Journal of Law and Policy*, the conference is designed for academics and practitioners in multiple disciplines, including law, social work, political science, psychology, education, economics and business.

William P. Quigley, the Janet Riley Distinguished Professor of Law at Loyola University in New Orleans and author of *Ending Poverty as We Know It: Guaranteeing a Right to a Job at a Living Wage*, will present the keynote

address at 9 a.m.

Other featured speakers are:

- Mark R. Rank, Ph.D., the Herbert S. Hadley Professor of Social Welfare at the WUSTL School of Social Work and author of *One Nation Underprivileged: Why American Poverty Affects Us All*;

- Laura Lein, Ph.D., professor of social work and of anthropology at the University of Texas and co-author of *Making Ends Meet: How Single Mothers Survive Welfare and Low Wage Work*;

- Thomas M. Shapiro, Ph.D., the Pokross Professor of Law and Social Policy at the Brandeis University Heller School for Social Policy and Management and author of *The Hidden Cost of Being African American: How Wealth Perpetuates Inequality*; and

- Sheila R. Foster, professor of law and co-director of the Stein Center at the Fordham School of Law, and Luke W. Cole, director of the Center on Race, Poverty and the Environment in San Francisco. Foster and Cole are co-authors of *From the Ground Up: Environmental Racism and the Rise of the Environmental Justice Movement*.

The conference is free and open to the public; however, attendees must pre-register.

For more information, call Shelly Nelson, clinical program coordinator at the School of Law, at 935-6419.

Registration and a conference agenda are available online at law.wustl.edu/clinics/conferences/interdisciplinaryconf/2005/agenda.html.

How to submit 'University Events'

Submit "University Events" items to Genevieve Podleski of the Record staff via:

- (1) **e-mail** — recordcalendar@wustl.edu;
- (2) **campus mail** — Campus Box 1070; or
- (3) **fax** — 935-4259.

Upon request, forms for submitting events may be e-mailed,

mailed or faxed to departments to be filled out and returned.

University Events lists happenings sponsored by the University or its departments, schools, centers, organizations and recognized student organizations. It usually covers a 13-day time period from the Friday publication date to a week from the next Wednesday.

Corporate Scandals • Greenhouse Effect • Injury Prevention

"University Events" lists a portion of the activities taking place March 25-April 7 at Washington University. Visit the Web for expanded calendars for the Hilltop Campus (calendar.wustl.edu) and the School of Medicine (medschool.wustl.edu/calendars.html).

Exhibits

Inside Out Loud: Visualizing Women's Health in Contemporary Art. Through April 24. Kemper Art Museum. 935-4523.

Mona Van Duyn Exhibition. Presented by University Libraries. Olin Library, Lvl. 1 Grand Staircase Lobby. Through March 25. 935-5495.

Perspective. Presented by University Libraries. Olin Library, Lvl. 1, Ginkgo Reading Room. Through March 25. 935-5495.

Wednesday, April 6

Documenting Change: Abolition Through Reconstruction. Presented by University Libraries. (5:30 p.m. remarks; 6:30 p.m. reception.) Olin Library, Lvl. 1, Ginkgo Reading Room. 935-5495.

Film

Friday, March 25

7 p.m. Kemper Art Museum Presentation. *Citizen Ruth.* Alexander Payne, dir. Kemper Art Museum. 935-4523.

7:30 p.m. St. Louis Italian Film Festival Presentation. *La Meglio Gioventù (The Best of Youth).* (Also 7:30 p.m. March 26.) Co-sponsored by the Program in Film & Media Studies Program and the Istituto Italiano di Cultura di Chicago. Brown Hall, Rm. 100. 935-4056.

8 p.m. Cinema St. Louis Screening. *The Staircase.* Jean-Xavier de Lestrade, dir. Co-sponsored by the Film & Media Studies Program and the Sundance Channel. Rebstock Hall, Rm. 215. 935-4056.

Friday, April 1

7:30 p.m. St. Louis Italian Film Festival Presentation. *Il Cuore Altrove (Incantato).* Co-sponsored by the Program in Film & Media Studies and the Istituto Italiano di Cultura di Chicago. Brown Hall, Rm. 100. 935-4056.

Tuesday, April 5

7 p.m. University Libraries Presentation. *Documenting Change: Eyes on the Prize.* Loudermann Hall, Rm. 458. 935-5495.

Lectures

Friday, March 25

9:15 a.m. Pediatric Grand Rounds. "Reductions in Carbohydrates Don't Always Make You Smaller: A Developmental Biologist's Response to Atkins." Scott Saunders, asst. prof. of pediatrics. Clopton Aud., 4950 Children's Place. 454-6006.

Noon. Cell Biology & Physiology Seminar. "Evading P53 Action During Tumor Development and Therapy." Scott W. Lowe, prof., Cold Spring Harbor Laboratory, N.Y. McDonnell Medical Sciences Bldg., Rm. 426. 362-7437.

12:30-4:30 p.m. St. Louis STD/HIV Prevention Training Center CME Course. "STD Clinician." (Continues 12:30-4:30 April 1 & 8.) Cost: \$125. U. of Mo.-St. Louis, South Computer Bldg., Rm. 200A. To register: 747-1522.

Sunday, March 27

8 a.m.-8 p.m. Visiting East Asian Professionals Program Conference. "Translations and Transformations: The Heike Monogatari in Nô." (Continues 8:30 a.m.-7 p.m. March 28, 8:30 a.m.-11:50 p.m. March 29.) McMillan Hall Café. To register: 935-8772.

Monday, March 28

Noon. Neurology Monday Noon Seminar Series. "Untold Pathways to Neurodegeneration." Minh Dang Nguyen, dept. of pathology, Harvard U. Maternity Bldg., Schwarz Aud. 747-3243.

Noon. Work, Families, and Public Policy Brown Bag Seminar Series. "The Wealth of Women." Lena Edlund, assoc. prof. of

economics, Columbia U. Eliot Hall, Rm. 300. 935-4918.

4 p.m. Immunology Research Seminar Series. "STATs in Action." John Darnell, Vincent Astor Professor Emeritus of Molecular Cell Biology, Rockefeller U. Eric P. Newman Education Center. 362-2763.

Tuesday, March 29

Noon. Chabad on Campus Contemporary Jewish Law Lecture. "Placing a Stumbling Block Before a Blind Person' and Deceptive Marketing Tactics." Anheuser-Busch Hall, Rm. 312. 721-2884.

12:30 p.m. Molecular Microbiology & Microbial Pathogenesis Seminar Series. "Guarding the Goods: Molecular Insights Into the Central Alarm System of Plants." Roger Innes, prof. of biology, Indiana U. McDonnell Medical Sciences Bldg., Erlanger Aud. 935-7284.

Wednesday, March 30

11 a.m. Assembly Series. Congress of the South 40 Lecture. Seth MacFarlane, creator of *Family Guy*. Graham Chapel. 935-4620.

Noon. History and Philosophy of Science Brown Bag Lecture. "The Medieval Church Encounters the Classical Tradition." David C. Lindberg, Hilldale Professor Emeritus, U. of Wisc.-Madison. Life Sciences Bldg., Rm. 202. 935-6808.

4 p.m. Biochemistry & Molecular Biophysics Seminar. "Replication Protein A: Regulation of Multiple Domains and Multiple Interactions." Marc S. Wold, prof. of biochemistry, U. of Iowa. Cori Aud., 4565 McKinley Ave. 362-0261.

Thursday, March 31

4 p.m. Chemistry Seminar. "Structural Basis of ssDNA and Cleavage by F Factor Trai." Joel F. Schildbach, assoc. prof. of biology, Johns Hopkins U. McMillan Lab., Rm. 311. 935-6530.

4 p.m. Ophthalmology & Visual Sciences Seminar. "Eyeballing the Immune System: Implications for Angiogenesis." Rajendra S. Apte, asst. prof. of ophthalmology & visual sciences. Maternity Bldg., Rm. 725. 362-1006.

4 p.m. Religious Studies Lecture. Annual Witherspoon Lecture in Religion and Science. "The Florentine Heretic: Galileo, the Church and the Cosmos." David C. Lindberg, Hilldale Professor Emeritus of the History of Science, U. of Wisc. Lab. Sciences Bldg., Rm. 300, Jerzewiak Family Aud. 935-7752.

Friday, April 1

9 a.m. School of Law "Access to Justice" Public Interest Law Speakers Series. "Ending Poverty as We Know It: Guaranteeing a Right to a Job at a Living Wage." William P. Quigley, dir., Loyola Law Clinic and Gillis Long Poverty Law Center, Loyola U., New Orleans. Anheuser-Busch Hall. 935-4958.

Noon. Cell Biology & Physiology Seminar. "Studies of Mice and Fruit Flies to Discover Mechanisms Controlling Pancreatic Islet Growth and Function." Seung K. Kim, asst. prof. Stanford U. McDonnell Medical Sciences Bldg., Rm. 426. 362-7437.

4 p.m. Dept. of Music Lecture. "Injury Prevention for the Performing Musician." Stephanie Baird, physical therapy graduate student. Music Classroom Bldg., Rm. 102. 935-4841.

7 p.m. Performing Arts Department Talk. "An Interview With James Lapine." James Lapine, dir., writer and librettist. Mallinckrodt Student Center, A.E. Hotchner Studio Theatre. 935-5858.

Saturday, April 2

10 a.m. Physics of the Environment Saturday Series. "The Latest on the Greenhouse Effect." Carl Bender, prof. of physics. Sponsored by the Dept. of Physics and University College. Crow Hall, Rm. 201. 935-6276.

Monday, April 4

Noon. Neurology Monday Noon Seminar Series. George Wittenberg, asst. prof. of neurology. Wake Forest U. Maternity Bldg., Schwarz Aud. 747-3243.

3 p.m. Dept. of Mechanical & Aerospace Engineering Special Seminar. "Transition Between Regular and Mach Reflections in Shock-shock Interaction." Mikhail S. Ivanov, head, Computational Aerodynamic Laboratory, Institute of Theoretical & Applied Mechanics,



Emily Grosland as Little Red Riding Hood and Ben Ogilvie as the Wolf in the Performing Arts Department's production of *Into the Woods* at Edison Theatre in early April.

Into the Woods to explore the darker side of fairy tales

By LIAM OTTEN

What happens after "happily ever after"?

Find out when the Performing Arts Department in Arts & Sciences presents *Into the Woods* — Stephen Sondheim and James Lapine's musical amalgam of fairy tale favorites — as its spring mainstage production.

Performances in Edison Theatre will begin at 8 p.m. April 1-2; 2 p.m. April 3; 8 p.m. April 8-9; and 2 p.m. April 10.

In addition, the PAD will present "An Interview With James Lapine" at 7 p.m. April 1 in the A.E. Hotchner Studio Theatre.

Weaving together a host of familiar themes and characters, *Into the Woods* centers on the Baker and his Wife (Justin Huebener and Amy Schwarz), who have been placed under a curse of childlessness by their neighbor, the Witch (Cheryl Howard).

To lift the curse, the couple must bring the Witch four magical items: a cow as white as milk; a cape as red as blood; hair as yel-

low as corn; and a slipper as pure as gold.

Yet the quest goes well, and by the end of Act I the couple has secured the necessary items from Jack (as in "the beanstalk," played by Chris Jensen), Little Red Riding Hood (Emily Grosland), Rapunzel (Alecia Long) and Cinderella (Kameron Averitt), while helping each to fulfill their own goals and desires. The Giant is slain, the Wolf (Ben Ogilvie) is killed, damsels and princes are reunited.

Even the Witch, freed from a spell of ugliness, is revealed as a stunning beauty.

The end? Not quite.

In Act II, matters grow considerably more complicated. The Baker and his wife squabble over baby care. Rapunzel's Prince (Chris Wilson) falls for Snow White (Liz Neukirch). Cinderella's Prince (Ben Ogilvie again) falls for Sleeping Beauty (Luciana Bonifazi).

The Witch loses her powers.

The Giant's wife descends to earth, demanding vengeance and destroying houses.

"Act I is about getting what you wish for," said William Whitaker, senior artist-in-residence, who directs the cast of 21. "It's light and funny and immensely entertaining. Act II pushes things further, as if real life were intruding upon these characters."

"It basically asks, 'What happens when we get what we wish for and still aren't happy?'"

Whitaker pointed out that Lapine and Sondheim were deeply influenced by Bruno Bettelheim's book *The Uses of Enchantment*, which explores the underlying psychology of fairy tales, their moral lessons and deeper resonances.

"Fairy tales do have a darker side," Whitaker said. "In a way, that's the point of the play. If Act I is about simplicity, Act II is about embracing complexity. It's about facing life and making tough decisions and not giving up, because that's how you achieve clarity."

The lavish set — by Christopher Pickart, artist-in-residence — was designed to pull a kind of theatrical "double duty," appearing last fall in professional production at The Clarence Brown Theatre in Knoxville, Tenn., before being brought to St. Louis, where it has been adapted to the Edison stage.

Costumes are by senior Megan Morey. Musical director is Lisa Campbell, lecturer in music in Arts & Sciences.

Choreography is by Christine Knoblauch-O'Neal, senior artist-in-residence and director of the Ballet Program. Lighting is by David Vogel, technical director for the PAD.

Tickets are \$12 — \$8 for students, senior citizens and WUSTL faculty and staff — and are available through the Edison Theatre Box Office, 935-6543, and all MetroTix outlets.

For more information, call 935-6543.

Co-writer Lapine to speak before April 1 premiere

By LIAM OTTEN

Veteran Broadway writer, librettist and director James Lapine will introduce the Performing Arts Department in Arts & Sciences' production of *Into the Woods*, his 1987 collaboration with Stephen Sondheim, with a talk at 7 p.m. April 1.

Moderated by director William Whitaker, senior artist-in-residence in the PAD, "An Interview with James Lapine" is free and open to the public and will take place in the A.E. Hotchner Studio Theatre in Mallinckrodt Student Center.

The premiere performance will begin at 8 p.m. in Edison Theatre.

In addition to *Into the Woods*, Lapine served as librettist for Sondheim's *Sunday in the Park With George* (1985) and *Passion*

(1995). He collaborated with William Finn on *March of the Falsettos* (1981), *Falsettoland* (1990), *A New Brain* (1998) and, most recently, *The 25th Annual Putnam County Spelling Bee*, which will move to Broadway this spring.

Other Broadway credits include directing Michel Legrand's *Amour* (2002); David Henry Hwang's *Golden Child* (1998); and the 1997 revival of *The Diary of Anne Frank*. With writer Claudia Shear, Lapine conceived and directed *Dirty Blonde* (2000).

In 1999, he wrote the book and directed Disney's *The Hunchback of Notre Dame*, which premiered in Berlin and ran for three years. In 2004, he directed Daniel Goldfarb's off-Broadway hit *Modern Orthodox*.

Lapine has written five plays: *Table Settings* (1979); *Twelve Dreams* (1978); *Luck, Pluck & Virtue* (1993); *The Moment When* (2000); and

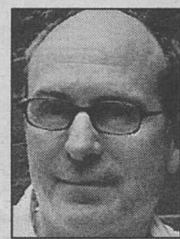
Fran's Bed (2003).

He has directed television productions of *Into the Woods* (1991) and *Passion* (1996) as well as the films *Impromptu* (1991), with Hugh Grant and Judy Davis; *Life With Mikey* (1993), with Michael J. Fox; and *Earthly Possessions* (1999), with Susan Sarandon.

Lapine has won three Tony Awards, having been nominated 10 times.

Other honors include five Drama Desk Awards; an Obie Award; the British Evening Standard Award; an Olivier Award; and the prestigious Pulitzer Prize for drama.

For more information, call 935-5858.



Lapine

Russian Academy of Sciences, Novosibirsk, Russia. Lopata Hall, Rm. 101. 935-6012.

4 p.m. Condensed Matter/Materials and Biological Physics Seminar. "Nanoscale Order in Amorphous Materials for Fluctuation Electron Microscopy." Paul Voyles, prof. in Materials Science and Engineering dept., U. of Wis. (3:45 p.m. coffee). Compton Hall, Rm. 241. 935-6276.

Tuesday, April 5

Noon. Molecular Biology and Pharmacology Seminar. "Stress Responses That Determine Lifespan in *C. elegans*." Gordon J. Lithgow, assoc. prof., Buck Institute for Age Research, Calif. Needleman Library. 362-0183.

12:30 p.m. Molecular Microbiology and Microbial Pathogenesis Seminar Series. "Host Genes Affecting Retroviral Replication." Stephen P. Goff, Higgins Professor of Biochemistry, Columbia U. McDonnell Sciences Bldg., Erlanger Aud. 362-4826.

3 p.m. Dept. of Mechanical & Aerospace Engineering Special Seminar. "Direct Stimulation Monte Carlo (DSMC) Method: Recent Advances and Applications." Mikhail S. Ivanov, head, Computational Aerodynamic Laboratory, Institute of Theoretical & Applied Mechanics, Russian Academy of Sciences, Novosibirsk, Russia. Cupples II, Rm. 100. 935-6012.

7 p.m. Kemper Art Museum Lecture. "Paradoxes of Visibility: Women's Health in a 'Post-reproductive Era.'" Paula Treichler, prof. of social medicine, cultural studies and feminist theory, U. of Ill. Kemper Art Museum. 935-4523.

Wednesday, April 6

11 a.m. Assembly Series. Martin Luther King Jr. Memorial Lecture. Robert Moses, organizer of "Freedom Summer" voter registration drives. Co-hosted by University Libraries. Graham Chapel. 935-4620.

Noon. Earth and Planetary Sciences Colloquium. "Geometry Driven Interfacial Phenomena in Semiconductor-metal

Hybrid Structures." S.A. Solin, Charles M. Hohenberg Prof. of Physics and dir. of the Center for Materials Innovation. Earth and Planetary Sciences Bldg., Rm. 203. 935-5610.

12:15 p.m. Jewish Medical Ethics Class. "Ruminations on Using Medical Data From Nazi Experiments." Rabbi Hershey Novack of Chabad. Olin Residence Hall, Lvl. 1 lounge. 721-2884.

4-5 p.m. Biochemistry and Molecular Biophysics Seminar. "Unfolded Is Not Unstructured." Trevor P. Creamer, assoc. prof., U. of Ky. Cori Aud. 362-0261.

7:30 p.m. University Libraries Panel Discussion. *Documenting Change:* Eyes on the Prize. Judy Richardson, Orlando Bagwell & Louie Massiah, filmmakers. Whitaker Hall Aud. 935-5495.

Thursday, April 7

Noon. African and Afro-American Studies Lecture. "Historicizing the Unspeakable: Bad Death and Dangerous Sexuality in South Africa From the Colonial Era to Age of AIDS." Benedict Carton, assoc. prof., George Mason University. Eliot Hall, Rm. 200F. 935-5690.

Noon. Center for Health Policy Ethnic & Racial Disparities in Health Care Brown Bag Seminar Series. "Health Disparities in Diabetes." Edward F. Lawlor, dean and William E. Gordon Professor, George Warren Brown School of Social Work. Simon Hall, Rm. 241. 935-9108.

4-5 p.m. Ophthalmology & Visual Sciences Seminar. "In Vivo Retinal Uptake of Permeation Peptide Constructs in Rodents and Potential Uses." Edward M. Barnett, asst. prof. of ophthalmology and visual sciences. Maternity Bldg., Rm. 725. 362-1006.

4:15 p.m. Earth and Planetary Sciences Colloquium. "Vesicular Basalts From Asteroids: Where and How Did They Form and Why are They so Rare?" Timothy J. McCoy, curator, Dept. of Mineral Sciences, National Museum of Natural History, Smithsonian Institution. Earth and Planetary Sciences Bldg., Rm. 203. 935-5610.

Music

Sunday, March 27

8 p.m. Visiting East Asian Professionals Program Presentation. *The Tale of the Heike*. Yasuko Arai, professional biwa player. Brown Hall, Rm. 100. 935-8772.

On Stage

Friday, April 1

8 p.m. Performing Arts Department Presentation. *Into the Woods* by Stephen Sondheim and James Lapine. William Whitaker, dir. (Also 8 p.m. April 2, 8 & 9; 2 p.m. April 3 & 10.) Cost: \$12, \$8 for seniors, students, WUSTL faculty & staff. Mallinckrodt Student Center, Edison Theatre. 935-6543.

Sports

Friday, March 25

All Day. Track & Field. Washington University Open. Francis Field. 935-4705.

Noon. Baseball vs. Coe College. Kelly Field. 935-4705.

Noon. Softball vs. MacMurray College. Annual Midwest Region Invitational. WUSTL Field. 935-4705.

4 p.m. Softball vs. Illinois Wesleyan U. Annual Midwest Region Invitational. WUSTL Field. 935-4705.

Saturday, March 26

Noon. Baseball vs. Coe College. Kelly Field. 935-4705.

Noon. Softball vs. Wartburg College. Annual Midwest Region Invitational. WUSTL Field. 935-4705.

2 p.m. Softball vs. Centre College. Annual Midwest Region Invitational. WUSTL Field. 935-4705.

Monday, March 28

2 p.m. Baseball vs. U. of Mo.-Rolla. Kelly Field. 935-4705.

Tuesday, March 29

12:30 p.m. Baseball vs. Maryville U. Kelly Field. 935-4705.

Thursday, March 31

4 p.m. Softball vs. Maryville U. WUSTL Field. 935-4705.

6:30 p.m. 17th Annual Mountain Dew College Slam Dunk and 3-Point Championships. Field House. Cost: \$10; \$8 for students or those 18 or under. 977-3167.

Friday, April 1

All Day. Track & Field. Washington University Invitational. Francis Field. 935-4705.

3:30 p.m. Women's Tennis vs. Grinnell College. Tao Tennis Center. 935-4705.

Saturday, April 2

All Day. Track & Field. Washington University Invitational. Francis Field. 935-4705.

10 a.m. Women's Tennis vs. Rhodes College. Tao Tennis Center. 935-4705.

12:30 p.m. Baseball vs. Knox College. Kelly Field. 935-4705.

1 p.m. Softball vs. Millikin U. WUSTL Field. 935-4705.

1 p.m. Men's Tennis vs. U. of Chicago. Tao Tennis Center. 935-4705.

Wednesday, April 6

4 p.m. Men's Tennis vs. Lindenwood U. Tao Tennis Center. 935-4705.

Thursday, April 7

4 p.m. Softball vs. Rose-Hulman Inst. of Tech. WUSTL Field. 935-4705.

Worship

Friday, March 25

7 p.m. Catholic Good Friday Services. Sponsored by the Catholic Student Center. Graham Chapel. 935-9191.

Saturday, March 26

7 p.m. Catholic Easter Vigil Mass. Sponsored by the Catholic Student Center. Graham Chapel. 935-9191.

Sunday, March 27

11 a.m. Catholic Easter Sunday Mass. Sponsored by the Catholic Student Center. Graham Chapel. 935-9191.

Friday, April 1

7:15 p.m. Shabbat Dinner Faculty Guest Series. "Corporate Scandals and Their Costs." Stuart I. Greenbaum, dean and Bank of America Professor of Managerial Leadership, Olin School of Business. Hosted by Chabad on Campus. 7240 Forsyth Blvd. 721-2884.

And more...

Wednesday, March 30

11:45 a.m. Career Center Event. Lunch With a Pro: Communications & Marketing. Umrath Hall, Rm. 157, The Career Center. 935-5930.

5:30 p.m. Career Center Event. Etiquette Dinner. Whittemore House. 935-5930.

Thursday, March 31

8 p.m. Writing Program Reading Series. Talk: Frank Bidart, poet. Duncker Hall, Rm. 201, Hurst Lounge. 935-7130.

Friday, April 1

7 p.m. Kemper Art Museum Public Exhibition Tour. Led by student docents. Kemper Art Museum. 935-7918.

Fun for the kids

'Pioneer Days' at Tyson Research Center

By DANA BENEDICKTUS

Children ages 3-6 and an accompanying adult are welcome to attend Tyson Research Center's "Pioneer Days" from 9:30-11:30 a.m. April 5.

Through activities such as building a toy or making a candle, attendees will explore what life was like for pioneers who lived in St. Louis County more than 100 years ago.

Pioneer Days is sponsored by the Tyson Field Science Program, an outdoor education resource for pre-K-12 students, families and scouts. The program's naturalist-teachers help children

learn about ecology through explorations of the forests, fields, caves, streams, ponds, springs, and archaeological sites.

Future Pioneer Days are being planned.

Tyson Research Center is located at the Beaumont Antire Road exit off of Interstate 44 (exit 269), 7.5 miles west of Interstate 270 and five miles east of Eureka.

Call 935-8437 to register, which is required. Cost is \$5 per child; there is no charge for accompanying adults.

For more information, go online to www.biology.wustl.edu/tyson.

RNA

Many aspects of Pol IV yet to be unraveled

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thought, 'What happens if we knock these genes out?' So, we knocked out the genes responsible for these subunits, and there were no huge consequences.

"The plants survived, but there were slight delays in flowering and some strange floral defects. The plants were having trouble with organ identity — stamens tried to turn into petals, for instance.

"Our first hypothesis was that the fourth polymerase was involved with what are known as micro RNAs, which are known to regulate flower development, but that proved wrong."

In a series of genetic and biochemical tests, Pikaard and his collaborators discovered that Pol IV does not share in the duties of Pol I, II or III. But when the Pol IV subunits are knocked out, the most tightly packed DNA in the nucleus becomes less condensed, small RNAs called siRNAs corresponding to highly repeated 5S rRNA genes and retrotransposons (jumping genes) are completely eliminated, and DNA methylation at 5S genes and retrotransposons is lost.

Methylation is a vital process involving a chemical modification in cytosine, one of the four chemical subunits of DNA. Without proper DNA methylation, higher organisms from plants to humans have a host of developmental problems, from dwarfing in plants to tumor development in humans to certain death in mice. Pikaard thinks that Pol IV helps make siRNAs that then direct DNA methylation to sequences

matching the siRNAs.

The results were recently published in the journal *Cell*.

"Pol IV is somehow involved in maintaining the integrity of the *Arabidopsis* genome, principally in keeping the silent DNA silent," Pikaard said.

"Plants can get by without Pol IV, whereas they can't do without the other three. We don't see anything obviously like Pol IV in any other genome, but it's possible it might have been overlooked."

While Pikaard and his collaborators have indirect evidence that Pol IV is a distinct RNA polymerase, they still have many aspects of Pol IV to unravel.

"We know what happens when it's gone, but not how it behaves, at this point," he said.

"We don't know its template, or what kind of RNA — long or short — it makes. Presumably, because it is inherently different from the other RNA polymerases, the rules of activity are different for Pol IV."

Pikaard said the Pol IV has a perfect match in rice, the only other plant genome to be sequenced, despite rice being a monocotyledon and *Arabidopsis* a dicotyledon.

"These two plants diverged 200 million years ago, and there is some speculation that this form of polymerase might extend twice as far back in evolution," Pikaard said.

Pikaard said that it's strange that so far this kind of polymerase has been found only in plants.

"Why would plants only have these?" he said.

"It is a bit of a mystery how other organisms that use small RNAs and that also do methylation get by without a Pol IV. It might be possible that they have something equivalent, and maybe we haven't looked hard enough."

future when special effort to seek MBEs (Minority Business Enterprise suppliers) to do business with is no longer necessary. On that day, doing business with MBEs will be the norm; the economic playing field will have been leveled."

And when all is said and done, the minority- and women-owned firms won't be the only beneficiaries of the University's effort.

Nor will the University be the lone beneficiary.

"We anticipate continuing to invest time and resources in these efforts to better reflect the face of our region on our capital projects and in the firms from whom we purchase products and services," Wrighton said. "I am encouraged that so many from the University are actively participating in these efforts. These efforts are good for the University and bring benefit to many in our region as well.

"Much progress has been made, and yet we know there is more we can do. The entire University team involved in this effort is making a big difference, and I am grateful for its efforts."

Classrooms

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experience working hand-in-hand with teachers to effect positive change in the classroom, as well as their research and evaluation expertise."

Wide involvement

The science outreach office is one of many University groups involved in the project.

Graduate students in the Department of Education in Arts & Sciences did a review of early childhood programs and will develop evaluation plans.

Business graduate students Tanya Fagaly, Tycho Ferrigni, Max Harris and Jordan Stadler worked with Glenn M. MacDonald, Ph.D., the John M. Olin Distinguished Professor of Economics and Strategy in the Olin School of Business, to research costs and operations.

As the project moves into the design phase, faculty and students from the School of Art's Visual Communications Research Studio will develop concepts to demonstrate how the vehicle might communicate its content. The studio will also explore several approaches to the design of the curricular materials, which will be an important form of communication between the program and teachers.

"This project is a perfect fit for our skills in visual information design, as well as in brand devel-

opment," said Scott A. Gericke, director of the Visual Communications Research Studio.

Gericke; D.B. Dowd, professor of art; and Heather A. Corcoran, assistant professor of visual communications, will provide their own design services as well as guidance and direction for the students.

"This program incorporates many of the intellectual resources here at the University," said Edward S. Macias, Ph.D., executive vice chancellor, dean of Arts & Sciences, and the Barbara and David Thomas Distinguished Professor in Arts & Sciences.

"As part of our mission to be a community resource, we are committed to helping local schools better prepare their students in science. An enrichment program like this one can be an important first step."

Program concept

The first vehicle will be designed for grades K-2 and will be developed this spring. It's expected to make its first school visits in the fall. The second vehicle will be built next year.

To create the program concept, Victoria L. May, the University's director of science outreach, convened a number of local science educators. The group agreed that the project had to offer more in-depth content than a single visit could provide.

"We didn't feel it was enough to just go to a school and have kids come in for one activity," May said. "We wanted the project

to be a starting point so schools could do more investigative science."

The program includes a pre-visit workshop, where teachers can learn the basics of doing science that allows students to explore and ask questions. This type of teaching, called inquiry, can be challenging because it is time-consuming and requires teachers to prepare materials.

The Monsanto program will help bridge these constraints by allowing teachers to borrow a science materials kit to use in their classrooms.

"By the time the mobile classroom comes to the school, the kids will be ready to do an extension of the activities they did in class," May said.

A program coordinator will be based at a warehouse at the St. Louis Science Center's Taylor Community Science Resource Center, and will provide scheduling support, teacher assistance and science kit refurbishment.

The Monsanto program will also help teachers align their curricula with Missouri standards.

"Teachers are required to cover the Missouri grade-level expectations (GLEs)," said Mark R. Kalk, coordinator and instructor for science outreach at the University. "We realized that we could provide hands-on activities around the GLEs for grades K-2."

The GLEs for primary grades cover six areas: earth systems, universe, living systems, matter and energy, force and motion, and ecology.

Genomic

— from Page 1

significant differences in the activity levels of genes in critically ill patients versus healthy patients? And could they establish testing procedures that would prevent local differences in ICUs and research laboratories across the United States from introducing noise or bias into the results?

"We wanted to make sure that we could consistently get the same results from an analysis regardless of where the sample was gathered," Cobb said.

Researchers applied DNA microarrays, a genomic analysis technology, to blood samples and skeletal muscle from 34 severely injured patients and 23 healthy individuals.

Critically ill patients were studied at the University of Washington and the University of Rochester.

Healthy patients were studied at Washington University, the University of Florida, the Uni-

versity of Rochester and the Robert Wood Johnson Medical School at the University of Medicine and Dentistry of New Jersey.

Scientists identified key aspects of microarray testing procedures that were vital to obtaining results that could be reproduced regardless of where the studies were conducted, an essential criterion for rigorous science. The protocols they established also move researchers closer to enrolling large number of patients in longitudinal studies.

They also showed that genetic analysis technology has achieved levels of sensitivity and resolution sufficient to "see" dramatic changes in gene-activity levels that take place in cells in the critically ill.

Such changes in gene activity can, for example, reprogram white blood cells, immune system cells that circulate in the bloodstream. This reprogramming alters the relative populations of the different types of white blood cells and the genes they express.

One white blood cell, the neutrophil, normally makes up 40 percent to 60 percent of circulat-

ing white blood cells but rises to comprise 80 percent to 90 percent after critical injury. For the first time, the new approach will allow the investigators to monitor neutrophil gene activity genome-wide in injured patients.

In the new era of genetically based critical care research, one focus will be developing a better understanding of how these cells and other factors control inflammatory responses to severe injury.

"It has been clear for approximately two decades that critical injury can trigger the release of immune factors that cause massive inflammation, and this can sometimes overwhelm the body's ability to cope," Cobb said.

"We have produced a great deal of insight into how those inflammatory responses are generated, and we've tried a number of strategies to block or weaken them, but so far we've had relatively little success."

As scientists' picture of how multiple genes interact to produce inflammatory responses becomes more complete, they may be able to develop more effective ways to dampen those responses and save lives.

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.

Research Statistician 040221

Clinical Study Coord. 050048

Dir. of Development, School of Law 050085

Reference Librarian/Instruction & Outreach Coord. 050098

Asst. Dir. for Disability Resources 050099

Research Asst. 050105

Medical Public Policy Specialist 050110

Systems Administrator/Data Manager 050131

Asst. Dir. of Admissions 050157

Accounting Manager 050159

Animal Care Technician 050166

Residential College Dir. 050167

Sr. Prospect Researcher 050170

Assoc. Coord. of Gift Acknowledgements 050173

Staff Psychologist/Counselor/Clin. Soc. Worker 050174

Coord. for Advising & Freshmen Programs 050175

Assoc. Dir., Chief Physician 050176

Dir. of Communications 050177

Coord., Student Involvement/Multicultural Spec 050178

Coord., Student Involvement/Programming Spec 050179

Accounting Asst. 050180

Asst. Dean 050181

Administrative Asst. 050183

Asst. Dean Undergrad Prog. & Advising 050184

Asst. Intramural Director 050185

Coord. Of Experimental Computing 050186

Admin. Asst. 050187

Managing Editor 050188

Special Collections Asst. 050189

Senior PC Support Specialist 050190

Research Review Specialist 050191

Medical Campus

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: Submit résumés to the Office of Human Resources, 4480 Clayton Ave., Campus Box 8002, St. Louis, MO 63110, or call 362-7196.

Dialysis Technician II 050955

Dialysis Technician II 050976

Research Asst. 051029

Clinical Research Specialist 051034

Accounting/Purchasing Asst. II 051036

Grant Asst. II 051044

Dialysis Technician II 051045

Research Technician II 051055

Supervisor, Clinical Office 051056

Statistical Data Analyst 051057

Sr. Research Technician 051058

Research Statistician 051059

Coder, Certified 051060

Secretary III 051062

Research Patient Coord./Professional Part Time 051063

Research Technician II 051064

Human Resources Consultant 051065

Project Manager 051066

Research Lab Manager 051067

Animal Care Technician I 051068

Animal Care Technician I 051069

Animal Care Technician II 051070

Animal Care Technician III 051071

Sr. Research Technician 051072

Research Patient Coord./Professional 051078

Secretary III 051088

Administrative Asst.: Special Projects Administrative 051090

Diversity

Efforts are good for University, the region

— from Page 1

process. So if they just dropped into a WashU job, they wouldn't know the process of running the business."

Marks and some of her colleagues are working on a development plan to address other non-construction spending opportunities.

"Without a plan, one doesn't know what progress has been made," said Alan Kuebler, executive director for resource management and one of the people working on the plan. "The plan that we have developed serves to be a constant reminder of the importance of this Supplier Diversity Initiative.

"This is necessary as we work to provide meaningful business opportunities at the University for minority-owned firms. We are working toward that day in the

Notables

Braxs receives award for community service

BY NEIL SCHOENHERR

Virginia Braxs, lecturer in Spanish in Romance languages and literatures in Arts & Sciences, has received the Esperanza Award for excellence in community service from the Hispanic Leaders Group of Greater St. Louis.

Braxs is coordinator of community service programs for students of Spanish.

"It is wonderful to be recognized by the community we are serving," Braxs said. "I think this award should also be shared with the Romance languages and literatures department's Spanish student tutors and volunteers involved in the Cambios, Ninios, Amigos and La Clinica volunteer programs, serving underprivileged Hispanic adults, kids and youth groups in St. Louis."

The Cambios Program was created six years ago in conjunction with Catholic Community Service's Hispanic Center, a nonprofit agency in St. Louis. The Ninios Program was started three years ago in connection with Accion Social Comunitaria, another non-

profit agency serving Hispanics in St. Louis.

Both programs, and Amigos, aim to involve Spanish students tutoring local Hispanic youths.

La Clinica is a free clinic for St. Louis Hispanics staffed by volunteers from WUSTL and Saint Louis University.

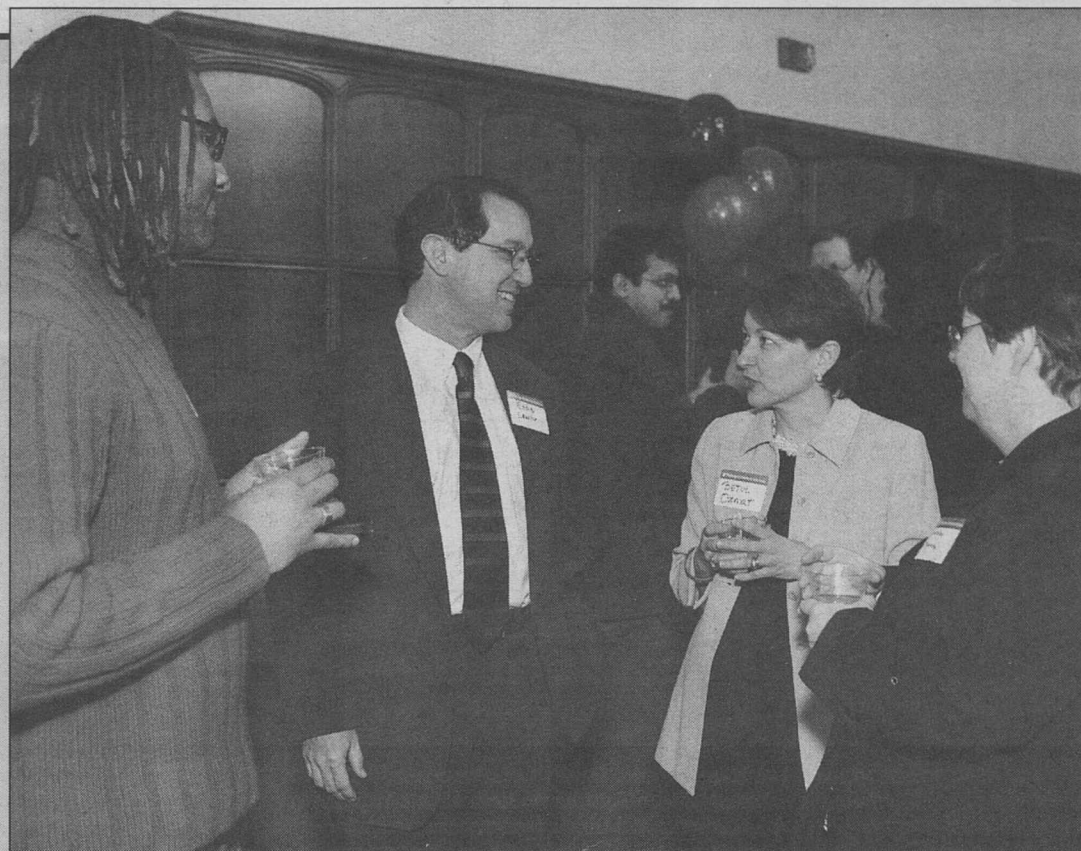
Braxs is creating a "Gateway to the Future Program" for next year, which will be a bridge between high school and either community college or the job market for underprivileged Hispanic youth, with the collaboration of faculty and graduate students at the George Warren Brown School of Social Work and the students of Spanish in Romance languages and literatures.

"I am grateful and privileged to be part of the outreach efforts in the department and the possibility they give me and the students to serve the Hispanic community in St. Louis," Braxs said.

For more information on Romance languages and literatures' volunteer programs for students of Spanish, go online to artsci.wustl.edu/~rll/Volunteer.htm.



Braxs



Celebrating social work (From left) Vincent Flewellen, a Danforth Urban Fellow in the George Warren Brown School of Social Work, chats with Edward F. Lawlor, Ph.D., dean of the School of Social Work and the William E. Gordon Professor; Betul Ozmat, special assistant to the dean; and Carolyn Manning, a School of Social Work alumna, during a March 16 Social Work Month celebration in Brown Hall Lounge. Social Work Month is sponsored by the National Association of Social Workers, the discipline's largest professional organization.

Sports

'Jewzapalooza' set for March 31

BY NEIL SCHOENHERR

"Jewzapalooza," an annual celebration of Jewish culture, people and religion sponsored by the Jewish Student Union, will be held from 11 a.m.-3 p.m. March 31 in Bowles Plaza.

This year's theme is "Rated J for Jewish."

The event will feature five main areas: Jewish-American pop culture, Judaism on campus, Israel, social justice, and a stage area with performances and music.

"Jewzapalooza unites many Jewish student groups on campus and encourages them to not only program together financially and logistically, but also to support each other's efforts in order to provide a day of enjoyment for all of Washington University students," said senior Corey Helfand, one of the event's organizers.

"It also gives community members an opportunity to participate in these activities and introduces them to the strength of student programming available on campus."

Jewzapalooza provides an opportunity for more than 20 different Jewish student groups from WUSTL and approximately 20 Jewish community groups from the St. Louis area to join together to celebrate Jewish culture and to share information about the Jewish community on and off campus.

The primary goals for this year's event are a greater emphasis on Jewish traditions, to draw a more diverse community and to work with other campus cultural student groups to show an integration of multiple ways of life.

For more information, contact Helfand at (913) 486-9868 or cmhelfan@artsci.wustl.edu.

Slam dunk, 3-point contest here March 31

In conjunction with the NCAA Final Four at the Edward Jones Dome April 2-4, the University will host the 17th Annual Mountain Dew College Slam Dunk and 3-Point Championships at 6:30 p.m. March 31 at the Field House.

Tickets are \$10 for adults and \$8 for students or those 18 and under. Tickets are on sale at the Edison Theatre Box Office, all MetroTix locations, or can be charged by phone at 534-1111 or online at metrotix.com.

The Field House will also host the NCAA Men's Final Four YES Clinic April 2 from 8:30 a.m.-noon. Girls and boys, ages 10-18, will have the opportunity to meet college coaches and student-athletes and learn how to excel as a student-athlete.

For more information on the clinics, contact Lisa Miller at 977-3167 or millerlm@slu.edu.

Baseball wins first outright UAA title

The baseball team had a monumental week, winning its first outright University Athletic Association championship and third overall title in Sanford, Fla., before returning home for a three-game sweep over the weekend.

The Bears opened the week by defeating Brandeis University, 14-4, March 14. Junior Kent Wallace pitched a complete game and allowed just six hits in the victory, which gave WUSTL at least a share of the UAA title.

The Red and Green clinched the UAA championship with an 11-1 win against Case Western Reserve University March 15.

Senior Dan Rieck batted .440 for the Championship (six games) with two home runs, 10 RBI and seven runs. Sophomore Andy Shields batted .353 with a pair of homers and eight runs, and he pitched a complete-game, 4-3 win against No. 14 Emory University.

On March 19, WUSTL swept the Milwaukee School of Engineering, 13-1 and 17-3, at Kelly Field. The Bears then recorded their eighth-straight win with a

15-4 decision against Concordia University March 20.

Softball team wins third UAA crown

The No. 9 softball team won its third UAA championship March 14, and then followed that up by posting a 3-1 record at the Marriott West Fastpitch Invitational March 19-20.

The Bears posted a perfect 8-0 record en route to winning their second straight UAA title.

WUSTL claimed the title with a 4-0 win over Emory March 14.

The Bears continued their hot streak by winning the first three games of the Marriott invite, beating Clarke College, 2-0, and No. 12 Central College, 4-3, on March 19. Next was a 6-0 win over Loras College on March 20.

The Bears suffered their first loss, 5-4, to No. 8 Augustana College.

Men swimmers, divers take 8th at NAAs

The men's swimming and diving team placed eighth of 56 teams March 17-19 at the NCAA Championships in Holland, Mich.

The finish was the best in program history, surpassing the 10th-place finish the team had established the previous two years.

Junior Michael Slavik took third place in the 100- and 200-

yard freestyles and fourth in the 50 free. He also led off the Bears 800-free relay squad and was joined by freshman Ross Vimr, sophomore David Stein and junior Eric Triebe to clock a school-record time of 6:47.93 to take second place in the event, marking the best individual finish in school history.

Slavik ended the weekend with seven All-America citations. Triebe also garnered seven All-America nods.

Men's tennis beats No. 19 Graceland

The No. 13 men's tennis team improved to 4-2 with a 4-3 win over Graceland University March 19 at the Tao Tennis Center. Graceland, which is ranked 19th in the NAIA top-25 poll, took the doubles point by winning two of three matches.

The Bears responded in singles winning four of six matches to gain the one point victory.

Women's tennis team takes care of Cornell

The No. 16 women's tennis team returned from California to a light week, defeating Cornell College, 8-1, March 19 at the Tao Tennis Center.

The Bears took two of three doubles matches and swept all six singles matches in straight sets.

Campus Watch

The following incidents were reported to University Police **March 16-22**. 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.

March 16

6:19 p.m. — A student reported being assaulted and threatened by a partner from a previous relationship while in Snow Way garage. The victim refused to prosecute the suspect; therefore, contact was made with the suspect to warn that any further contact with the victim would result in prosecution for harassment and any further trips to the campus would result in a trespassing arrest.

March 18

11:23 a.m. — A secretary in the Department of Physics in Arts & Sciences reported an unknown person vandalized the walls on the first floor of Crow Hall with what appeared to be a green marker. The incident

occurred between 6 p.m. March 17 and 7 a.m. March 18. An investigation is continuing.

March 19

1:27 a.m. — A moldy half-gallon of milk was thrown through the front window of the Sigma Alpha Epsilon fraternity house by an unknown person. The subject was a white male, approximately 20 years old, wearing dark sunglasses, blue jeans and a brown leather coat. He had short, curly, brown hair. A damage estimate for the carpet was not available. An investigation is continuing.

Additionally, University Police responded to four larcenies, two auto accidents and one report each of fire alarm, burglary, judicial violation & property damage.

For the Record

Of note

Henric Stefan W. Krawczynski, Ph.D., assistant professor of physics in Arts & Sciences, has received a three-year, \$225,000 grant from NASA for research titled "High-performance Low-cost Thick CZT Detectors." ...

Gregory C. DeAngelis, Ph.D., associate professor of neurobiology, has won a Troland Research Award from the National Academy of Sciences for his research into

visual mechanisms that contribute to depth perception. The awards recognize unusual achievement in experimental psychology research by scientists under the age of 40. The award includes a \$50,000 grant. ...

Heinz M. Schaeffler, Ph.D., associate professor of electrical and systems engineering, has received a one-year, \$43,748 grant from the National Science Foundation for research titled "Collaborative Research: Optimal Control of Mathematical Models for Cancer Treatments."

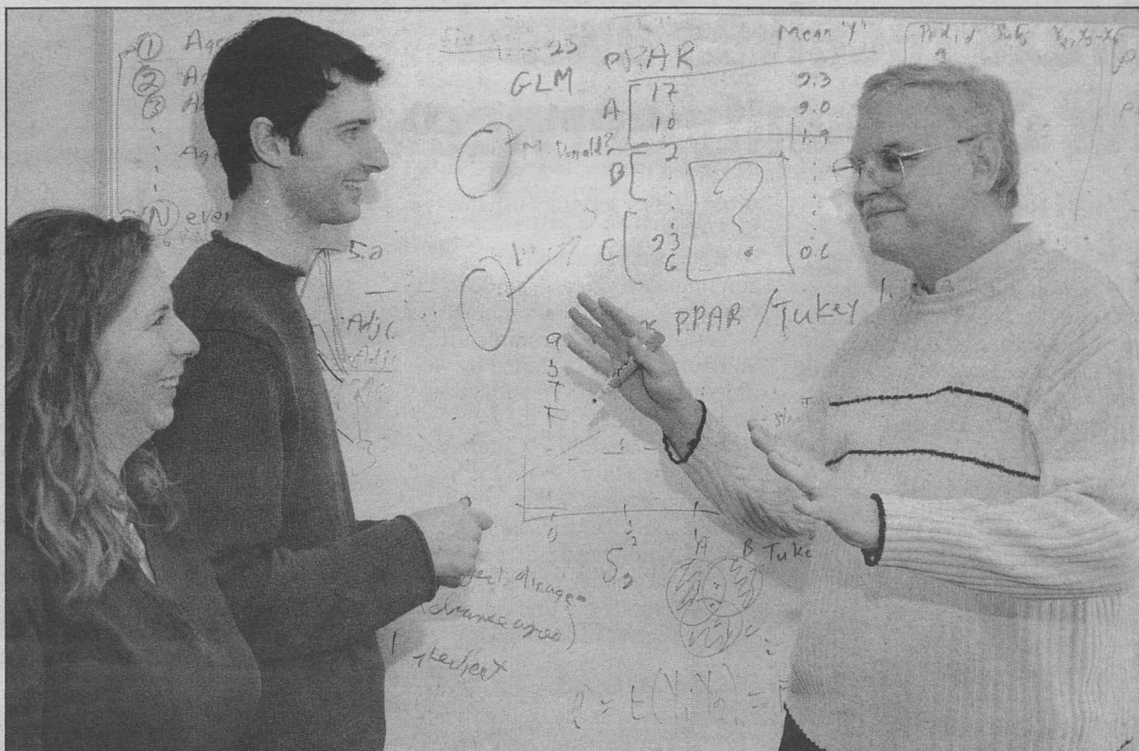
Washington People

Gesturing as if turning sections of a large object over his head, Michael A. Province, Ph.D., tries to communicate the scope of his research field. "It's like we're all manipulating different parts of a huge, multidimensional Rubik's cube," he says.

By "we," Province means the worldwide community of geneticists, biostatisticians, physicians and molecular biologists who seek medical solutions hidden within raw genetic data.

"We're making progress, but the puzzle has turned out to be much more complex than most researchers had predicted," he says.

For his role in solving the genetic Rubik's cube, Province, professor of biostatistics and genetics



Michael A. Province, Ph.D., professor of biostatistics and genetics, discusses genetic analytic results with statistical data analyst Steve Hoffner and Laura Budde, both of whom are students in the Genetic Epidemiology Masters of Science Program. "I like being in a field that is so wide open for discovery," Province says. "We're looking for what accounts for why we are the way we are. That can be how fat you are, how smart you are, how depressed you are. ... I believe some day that puzzle will be solved."

Solving the genetics puzzle

Biostatistician
Michael A.
Province isn't
afraid to think
outside the box

in the Division of Biostatistics, creates powerful mathematical models to sort out the patterns and relationships inherent in genetic studies. The statistical models can home in on chromosome regions likely to contain genes affecting health, disease and response to medications and other environmental factors.

Province's specialties are population genetics and genetic epidemiology. The genetic studies in which he participates investigate populations and track characteristics through families or racial and ethnic groups.

By studying inheritance patterns of genes and traits in populations and factoring in demographic information or biological and environmental influences, biostatisticians like Province can identify potential risk factors for disease and help determine ways of prevention.

An innovative thinker

"Back in the early '80s or late '70s, prominent geneticists went out on a limb asserting that the big diseases like heart disease, cancer and Alzheimer's are determined by three or four genes," Province says. "They proclaimed that within 20 years, we would find the genetic causes for disease after disease."

Unfortunately, such optimism proved unfounded. The genetic and environmental influences that contribute to most widespread, chronic diseases proved far more complex than thought and remain largely unknown.

Still, for Province, this brings a degree of challenge that keeps things interesting.

"I like being in a field that is so wide open for discovery," he says. "We're looking for what accounts for why we are the way we are."

"That can be how fat you are, how smart you are, how depressed you are. No one knows right now how or who or when, but I believe that some day the puzzle will be solved."

Collaborator Howard L. McLeod, Pharm.D., associate professor of medicine, of genetics and of molecular biology and pharmacology calls Province "a model of the modern faculty member. He's not afraid to work with people that think outside the box."

Longtime colleague Ingrid B. Borecki, Ph.D., associate professor of biostatistics and genetics, agrees that Province is a very innovative thinker — always coming up with fresh ways of looking at things and solving problems effortlessly.

"Mike once developed a model for genetic analysis using what we call path analysis," she says.

"Then he realized there might be innumerable ways to alter the model for specific applications. But instead of writing different programs for all the different cases, he just wrote a program that writes programs based on the model a researcher would like to use."

A groundbreaking biostatistician

Province earned a doctoral degree in mathematics from Washington University and has been on the faculty of the biostatistics division since he finished his dissertation in 1987.

During that time, he has witnessed the rapid advancement of computer technology, which has fortuitously paralleled the exponential growth of genetic data from genome sequencing and large-scale population studies.

At the same time, new statistical methods — several of which Province has created — have been developed.

"It's a real challenge to understand how the complex pathways that underlie states of health and disease dynamically interact to produce a final outcome," Province says.

"Statistics has grown along with the information to try to make sense of it. Plus, with the help of computers, we are able to perform statistical analyses that would have been impossible even 10 years ago."

When Province started at the University in the late 1980s, both the computing tools and the math tools "were very crude."

Back then, he remembers staying late into the evening feeding punch cards into a card reader. "With the computer programs we were coding, we were thrilled to be estimating 10 parameters in a matter of days or even weeks," he says. "Now we input hundreds of parameters and it takes just a few minutes to run the program. It's no big deal."

A multitasking expert

Province serves as principal investigator or co-principal investigator on several genetic studies conducted in multiple centers across the world, a fact that keeps him traveling frequently to ensure connections are maintained.

The division, and Province's lab especially, often serves as the data coordinating center for these studies.

"We're the traffic cops, directing how the data gets put together," Province says. "Then, of course, we also take a big responsibility in analysis of the data."

Province's projects include studies of longevity, hypertension, heart disease and obesity as well as response to exercise.

A recent collaborative project with McLeod, also the core director of pharmacology at the Siteman Cancer Center, looks for genes that govern whether chemotherapeutic medications will be effective.

"Identifying these genes will allow physicians to choose the drug that is apt to work best for each individual," Province says.

The project tests varying doses of chemotherapeutic drugs on cell cultures derived from the white blood cells of volunteers. Because chemotherapeutics are toxic by design, cell death in these cultures is a measure of drug effectiveness.

The cells used in the study came from volunteers who were members of large families and the familial relationship of the donors allows the researchers to trace genes through pedigrees and find gene sequences responsible for dose responses.

"Our current understanding of drug therapy is based on our current impression, rather than objective, genome-wide analysis," McLeod says.

"The statistical approach that Mike and his team bring to this project has allowed us to go beyond the standard one-gene, one-effect model and let the biology tell us which genes are really of importance."

An innate comedian

Province has built an interesting reputation among his colleagues. They know him as an excellent leader, a brilliant strategist — and a darned good comedian.

In fact, the biostatistics division annually calls on him to produce a comedy routine for the holiday party.

"It started one year almost accidentally with a silly Christmas poem," Province says. "People liked it and every year since, I've been trying to outdo what happened the year before."

Borecki says the staff really looks forward to the Christmas party every year to see what he'll come up with.

"He can be a little edgy and irreverent," she says. "I think he could have had an alternate career as a comedy writer or stand-up comic."

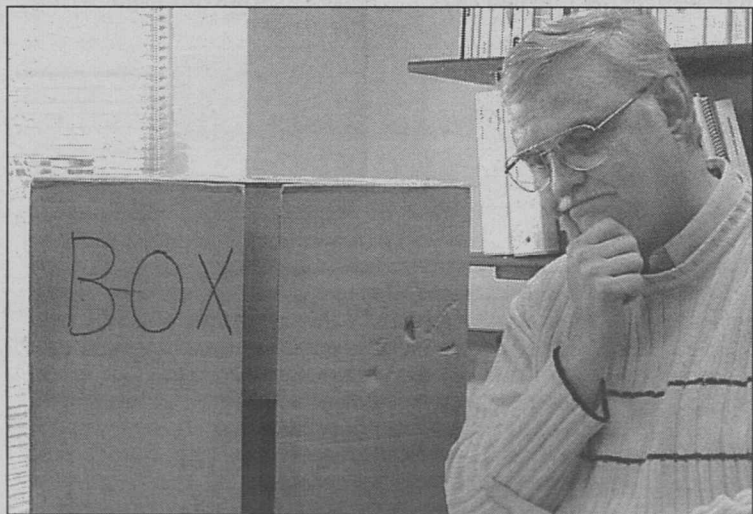
D.C. Rao, Ph.D., director of the Division of Biostatistics and professor of biostatistics, of genetics and of psychiatry, concurs.

"I think Mike Province could run a late night show like David Letterman's," he says. "He's got a knack for humor and at the same time he is also an unusually creative mathematician."

Maybe because of his innate sense of humor, Province takes his multiple projects and busy schedule in stride.

And when faced with a new, intricate and ambitious statistical project, his response is: "Sure it's a huge task, but it'll be a lot of fun."

BY GWEN ERICSON



Here Province offers another example of his zany humor as he demonstrates how he likes to think outside the box. "He can be a little edgy and irreverent," says longtime colleague Ingrid B. Borecki, Ph.D. "I think he could have had an alternate career as a comedy writer or stand-up comic."

Michael A. Province

Below is an excerpt from a humorous "study" Province developed to test mathematical techniques.

Province had to design a simulated dataset for a large group of pharmacogeneticists. But instead of labeling the variables X and Y he conjured up a disease condition — called *tenureitis* — to make things more interesting.

Tenureitis is a disease characterized by an obsessive drive for job security. It's estimated that it's responsible for more than 99.44 percent of the pollution of prestigious scientific journals with useless, red-herring publications, costing billions for postdocs to debunk.

Treatment options are limited but include isolation, massive doses of alcohol and lobotomy. Anecdotal success has been reported with electroshock and/or assignment of administrative duties.