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Camels & Llamas provide for quick caffeine test

By GWEN ERICKSON

Three llamas and two camels have provided a way to tell whether your waiter swapped regular coffee for decaf in your after-dinner cup. Using the heat-resistant antibodies that camels and llamas make, School of Medicine researchers are developing a quick test for caffeine that works even with hot beverages. The researchers plan to adapt their technology to a simple test ("dipstick") that can be used to check for caffeine in a variety of drinks. Their research appeared in the June issue of the American Chemical Society's journal Analytical Chemistry.

Caffeine causes restlessness, irritability, dehydration or heart arrhythmias. Those who are highly sensitive to caffeine can feel its stimulating effects for as long as 20 hours. In addition, some medicines adversely interact with caffeine.

"We believe our test would be the first consumer test for caffeine and would be beneficial for anyone wishing to avoid caffeine for health or personal reasons," said senior author Jack H. Ladenson, Ph.D., the Orree M. Carroll and Lilian B. Ladenson Professor of Clinical Chemistry and director of the Division of Laboratory Medicine.

Interestingly, the key to the caffeine test comes from llamas and camels — pack animals that have transported caffeinated commodities such as coffee, tea and coca for centuries. These camelids happen to be among the few creatures with immune systems that can produce antibodies that aren't destroyed at the high temperatures common to brewed beverages.

The researchers reasoned that if they could create heat-resistant camelid antibodies that reacted to caffeine, they could potentially build a durable assay suitable for use almost anywhere.

They gave intramuscular injections of a caffeine-linked protein to three llamas and two camels to elicit an immune response to caffeine. They found that blood from the animals contained antibodies that were heat-stable and reactive to caffeine.

The most stable version of the caffeine-specific antibody, which came from a llama named Very Sehoria, recovered 90 percent of its activity after being heated to 194 degrees Fahrenheit (90 degrees Celsius) — about the temperature of a really hot cup of coffee. A similar antibody produced from mice broke down at the same temperature.

Miller's HHMI grant enhances science learning

By TONY FITZPATRICK

Kathryn Miller, Ph.D., professor of biology in Arts & Sciences, has been awarded a four-year, $1.6 million grant from the Howard Hughes Medical Institute (HHMI) to fund undergraduate science education initiatives. Miller is assuming leadership on this grant from colleague Sarah C.R. Elgin, Ph.D., professor of biology, who first secured funding from HHMI in 2000.

The grant involves a large number of WUSTL faculty and staff as activities designed to enhance the learning of science and math by students from K-12 and at the undergraduate level. It also presents opportunities for undergraduate, graduate students and postdoctoral researchers to mentor younger students.

Competition for this grant is highly competitive. Miller's grant application was among about 500 submitted to HHMI in 2005. Each grant awarded is an average of $160,000 a year, and the number of WUSTL faculty and staff involved is 17.

Miller has overseen the running of the HHMI program since Elgin stepped down about two years ago. The submission of the new proposal was done last fall under Miller's name.

Previous and current grants have funded science-outreach activities such as professional development courses for teachers, activities for K-12 students, summer research programs for undergraduate students and curriculum development in math, biology, chemistry and physics. Also funded are the bio-physics lab, a major overhaul of the advanced physical chemistry lab, new lab components for the biology introductory sequence and enhancements in advanced biology lab.

A web-based tutorial and diagnostic test for incoming freshmen are also being developed over the last few years, Miller said. The Natural Sciences Learning Center was

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Sitemans honored with Harris award for strong community leadership

By BARBARA REA

In recognition of their extraordinary service to the St. Louis region, Ruth and Alvin Siteman received the seventh annual Jane and Whitney Harris St. Louis Community Service Award. Chairman Mark S. Wrighton presented the Sitemans with the award at a recent event at Harbison House. The Sitemans received the annual community-service award for their extraordinary service to the St. Louis region.

"Today we honor two persons who have made a permanent positive change to our community. Our community is better today because of the significant contributions of the Sitemans." MARK S. WRIGHTON

(From left) Ruth Siteman displays the Harris award as Chancellor Mark S. Wrighton, Ann Liberman, chair of the Harris award selection committee, and Alvin Siteman look on, during a recent ceremony at Harbison House. The Sitemans received the annual community-service award for their extraordinary service to the St. Louis region.

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Kevin Z. Truman, Ph.D., was installed as the Albert and Blanche Greensfelder Professor of Civil Engineering at the University of Uncas A. Whitaker Hall for Biomedical Engineering.

"Kevin Truman's career has been exemplary, both in teaching and research, and his involvement with outreach locally with the National Science Foundation is admirable," Chancellor Mark S. Wrighton said.

"His voice to the University has been well-recognized in his numerous honors and awards. Dr. Truman is a very worthy recipient of the Greensfelder chair, and I'm sure he will continue to do marvelous work in structural engineering and seismic analysis in that capacity."

Barna A. Subo, Ph.D., the previous holder of the Greensfelder professorship, will become a senior professor in mechanical and aerospace engineering July 1.

Truman was born in Galesburg, Ill., in 1936 and raised in St. Louis. In 1959, Truman earned a bachelor's degree in mathematics and physics from Washington University. Through WUSTL's Program in Engineering (now called the Dual Degree Program), he earned a master's degree in civil engineering that same year.

In 1961, Truman earned his master's degree in civil engineer from WUSTL and in 1965, was awarded a doctorate in civil engineering from the University of Illinois at Urbana-Champaign. Truman began his career in 1965 at the U.S. Army Corps of Civil Engineering at Washington University and was promoted to associate professor in 1968. In 1996, he became a full professor of civil engineering. He headed the department in 1998.

Thomas A. Blake, Ph.D., senior associate dean and the John E. Simon Professor of Finance, opened the event by noting this goal when he co-founded the Financial Intermediary and Securities Research (FIRS) three years ago.

"The aim of the group is to provide a way for those interested in financial intermediation and corporate finance to have access to each other's work and to be able to communicate and coordinate further research more efficiently," said Blake. "FIRS is the first financial association to actively engage scholars from three continents — North America, Europe and Asia — in this exchange of ideas.

The group's aim is to bridge the gaps that exist in the ideas of the different continents, he said. "We really think that this is being done in the United States, and scholars in European countries are already productive, but there is a need to create greater communication between North America, Europe and Asia," Blake said.

"If you don't proactively do anything, then the opportunity to build the necessary bridge is very slowly to develop.

"We're really interested in the ongoing interaction of the two continents, he said. "We recognize the importance of emerging research and strengthening relationships with scholars in emerging markets."

Thakor isn't the only one who sees the value of FIRS' efforts.

"Dr. Truman has received numerous awards, including the 1996 Governor's Award for Excellence in Teaching, the 1998 American Society of Civil Engineers (ASCE) State-of-the-Art in Civil Engineering Award, the 1999 Monmouth College Distinguished Young Alumni Award, the College of Engineering and Applied Science 1996-87 Professors of the Year Award and the 1997 Year of the Award. Truman has also been an ASCB member, a material of the Earthquake Research Engineering Interchange, a distinguished chair, and a member of several national governmental and professional bodies.

William F. Darby, Ph.D. (left), professor and vice dean of student affairs and associate dean of the School of Engineering & Applied Science and Civil Engineering and former dean of engineering, presided over Kevin Z. Truman, Ph.D., with a medal at his rededication as the Albert and Blanche Greensfelder Professor of Civil Engineering in the auditorium of Uncas A. Whitaker Hall for Biomedical Engineering.

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Bleak outlook for third-year med student's hopes for AIDS research

BY DIANE DUCK WILLIAMS

When third-year medical student James Hudspeth saw many patients with end-stage disease, he decided he wanted to do something about it. Now, School of Medicine researchers are preparing a study and will also receive an in...
The Gateway Festival Orchestra will begin its 43rd season of free summer concerts with "Midwest Musical Masters," high- holding Parkview Physicians and artists from Missouri and Illinois, at 7:30 p.m. July 9 in Brookings Quadrangle.

Subsequent concerts will take place July 16, 23 in Brookings Quadrangle. The season will conclude at 7:30 p.m. July 30 in Graham Chapel.

The concerts are conducted by James Richards, professor of orchestral studies at the University of Missouri-St. Louis. "Midwest Musical Masters" will include performances of Brahms by Robert Howard, professor emeritus at St. Louis Community College at Florissant Valley and conductor of the Belleville Philharmonic; One of Ours: A Cello Symphony by Barbara Harbach, composer-in-residence at the University of Missouri-St. Louis; and music of Scott Joplin.

Clayton Pfenning — a 13-year-old student in the magnet program at St. Luke Middle School in Springfield, Ill. — will be soloist. The Gateway Festival Orchestra, for violin and orchestra. The concert season will continue July 16 with "Molto Italiano," co-sponsored by the Italian-American Federation of St. Louis. Takeshi Sugistaka, a violinist with the Chicago Symphony Orchestra, will be featured as soloist for selections from Antonio Vivaldi's The Four Seasons.

Also included on the program is music from four Italian operas: Semiramide by Gioachino Rossini; Ernani Wolf-Ferrant's The Seer of St. George; Canadian violinist Piero Mascagni; and Giovanni Pacini's La Boheme. The concert will conclude with Peter Tchaikovsky's Capriccio Italian and Thomas Bouc's Italian Folk Fantasy.

The July 23 concert — Classics From the Classics — will honor the 250th anniversary of Wolfgang Amadeus Mozart's birth with performances of the composer's overture to the opera La Clemenza di Tito and his Serenata Notturna.

For information on tickets, call 935-4259.
Chemistry's Hiss receives Gloria White award at Staff Day

BY ANDY CLELDERSEN

It's not often that a staff member has a surprise party of appreciation thrown by his dedicated students, but Ed Hiss has received that rare honor.

This party goes to show how highly regarded the administrative officer in the Department of Chemistry in Arts & Sciences is.

And apparently graduate students aren't the only ones who appreciate Hiss. He was awarded the Gloria W. White Distinguished Service Award in a May 22 ceremony at Edison Theatre, as part of the annual Staff Day activities.

Hiss plays a critical role in the department by serving as a resource for information about all aspects of the University—from student advising, to setting up research labs, to finding contacts on campus for nearly any activity. He ensures that the department runs smoothly, and his efforts impact both teaching and research.

He has also taken on responsibilities outside of his department on a regular basis but there were numerous suggestions of him stepping in to take care of a problem that he learned about.

"Ed's formal job description only scratches the surface of his commitment and dedication," wrote Joseph A. Ackerman, Ph.D., the William Greenleaf Eliot Professor of chemistry, in his letter nominating Hiss. "His door is always open to anyone who needs his help or advice. He constantly solves late-breaking mini-crisis in chemistry and other units of Arts & Sciences."

"In this department of nearly 250 faculty, staff and students of various levels, Ed Hiss knows the names of everyone, and they come to him for assistance with every problem.

"We were lucky to recruit Ed to our department 16 years ago. At that time we were replacing Frank Williamson, Ph.D., who had held the position for over 26 years and was known throughout the University as 'Mr. Chemistry.' We had no real expectations that Frank could be replaced with anyone of the same caliber.

"Fortunately, we were wrong, and now, 16 years later, Ed Hiss clearly is identified as 'Mr. Chemistry' and is a strong ambassador for the University."

Other winners

Staff Day also featured several events for Ed Hiss. All staff members were drawing for donated goodies. Winners of a $25 gift certificate to Bass Pro Shops; Lisa Woodson, Dave Jolley, William Hicks and Gennie Turnbough (winning $25 gift certificate to Bass Pro Shops); and Deborah Booker.

Other winners were Mary Meits (overnight stay at the Chase Park Plaza); Kristin Hyde (samsung phone from Cingular Wireless); Chris Mitchell, Jim Johnson and Rachel Silver (all winning two field box tickets to a Cardinals game); Rick Tyler (overnight stay at the Crown Plaze); Linda S. Cob (one pair of Ovation TONIS! season tickets); Susan Kellerng McClintock (one $25 gift certificate and a case of root beer from Finz'); Scott Lorbach (two $200 travel vouchers on American Airlines); Ann Nicholson and Pat Stern (each winning two $25 gift certificate to Bask Pro Shop).

All photos by Mary Bultkus
Track's Badowski nabs Academic All-District
Junior Natalie Badowski garnered ESPN THE Magazine first-team Academic All-District VII (College Division) honors for Cross Country/Track and Field, as announced by GCoSIDA. With her first career recognition, Badowski is eligible for selection to the Academic All-America Team that will be announced June 22.

A two-time 2005 NCAA indoor and outdoor All-America honoree in the 4000-meter relay, Badowski helped that same relay to the 2006 indoor and outdoor championships. Badowski also placed third in the NCAA indoor and outdoor 4000-meter relay races this season.

Badowski, a biology and philosophy/neuroscience-psychology major, has a chance to become just the third individual in WUSTL men's and women's track and field history to earn Academic All-America honors twice.

Asst. SID Povalitis earns regional award
Assitant Sports Information Director Nick Povalitis has been named the 2005-06 Missouri Volleyball Coaches Association Grant Burger Media Award winner for the Central Region. Povalitis enters his fourth season at the University, hitting public for all 11 matches this season, he hit .35 in 34 of 44 matches. He has been a member of the Bears' career batting average list (.409) and is tied for 51st. D'Andrea joins Liz Swary (2003, career batting average list (.409). D'Andrea, a psychology/neuroscience-psychology major, led the Bears in batting average (.476), hits (60), triples (2), home runs (4) and RBIs (21) this past season. The Saint Louis Art Museum, he is an emeritus trustee of the Jewish Community. The first Harris award was presented in 2000 to Lucy and Paul Gerdine, for St. Louis Black Repertory. The Horace S. Gerdine, for St. Louis Black Repertory, a company he helped found and originally funded (headed by Victoria L. May, out-...
New roles for Roloff, Hoffner

BY ANDY CLENDENNING

Richard A. Roloff and Steven F. Hoffner will assume new responsibilities with the University effective July 1, announced John E. Klein, J.D., executive vice chancellor for administration.

Roloff will become vice chancellor for capital projects and will report to Klein and Chancellor Mark S. Wrighton. In his position, Roloff will oversee the planning, cost estimating, and timely completion of the large slate of major construction projects currently in development, including the Social Science/College of Law building, the underground parking garage, the second phase of the Snow Way Garage and the University Center.

Hoffner will become assistant vice chancellor for real estate and president of Quadrangle Management Co. and Quadrangle Housing Co. He will also lead the internal real estate committee and be a key player on real estate strategy and execution.

The position will give him a broader role relating to real estate activities, in addition to his current responsibilities of overseeing off-campus housing, police and transportation. He will report to Klein.

Amacher named Hillel director

BY NEIL SCHOENHERR

Carolyn Amacher has been named director of the St. Louis Hillel at Washington University. She will begin July 10.

Amacher spent the past 13 years working in executive management of Community Centers throughout the United States, most recently as chief operating officer of the Meseret JCC of Orange County, Calif. Amacher has bachelor’s degrees in journalism and psychology from Syracuse University. She also earned a master of social work degree from Yeshiva University and a Jewish studies certificate from the International Program for Israel and Jewish Learning in Israel, Arbel.

She has served as vice president and executive director of both Jewish Community Centers and the University's commercial property acquisitions and management of the University's commercial properties.

She will report to Hoffner.

Eight from Arts & Sciences awarded Fulbrights

BY NEIL SCHOENHERR

Eight Arts & Sciences students have been awarded Fulbright Scholarships for the 2006-07 academic year, announced Priscilla Stone, Ph.D., executive director of international programs in Arts & Sciences.

Six are recently graduated seniors, and two are graduate students. They will spend a full academic year in a host country.

The graduate students, along with their fields and locations of study, are: Marc Fourestier, anthropologist, Gabon; and Jennifer Wiemstra, anthropologist, Argentina.

"We are very pleased and honored that so many WUSTL students have been chosen for this very competitive award," said Amy Sadilek, the University's Fulbright Program adviser.

"They certainly reflect the tremendous talent and accomplishments of our graduate and undergraduate students. We wish them much success during their Fulbright years."

Under the Fulbright Program, 1,125 American students have been offered grants to study and conduct research in 140 countries throughout the world, beginning as early as fall. This year, the program, established in 1946, is sponsored by the U.S. Department of State.

More than 100,000 Americans have held Fulbright grants since its inception. This year’s Fulbright students were selected from more than 5,000 applicants. The awardees come from all 50 states as well as the District of Columbia and Puerto Rico.

They are drawn from a diverse cross-section of American higher education, with more than 250 institutions representing.

For the Record

A. Peter Mathiakos, J.D., professor of law, has been appointed to the Panel of Arbitrators and the Panel of Conciliators of the International Centre for Settlement of Investment Disputes. Some 143 countries are contracting parties to this World Bank center, which serves as the tribunal for resolving international investment disputes.

Mathiakos is an expert on international economic law, international law and comparative constitutional law. He has played a leading role in the conceptualization and structuring of Malawi's new democratic Constitution; served as general counsel of the Malawi Action Committee, a human rights organization; and advised his brother's successful campaign for the presidency of Malawi.

Professor Schuffler, M.D., associate professor of medicine and molecular biology and pharmacology, was named the associate director of the Diabetes Research Training Center.

Feder submitted "Women's Writing: Sharing Her Voice," which discusses her collection of memoirs and autobiographies by women. These stories, often about bridging cultural barriers and overcoming hardships, help Feder understand her life in a larger context and inspire her to action.

Second place: Wendy Xin, pursuing a double major in English literature and in finance and marketing in the Olin School of Business. Xin entered "The Kindred Spirits of My Dusty Upper shelf," about her collection of children's literature. As a child, three books expanded her world. Today, she still considers them a "refuge for peace and for comfort."

The winning essays can be found online at library.wustl.edu /collections/winners.html.

The competition is made possible by an endowment from Carl Neureuther, a 1940 WUSTL junior in mathematics in Arts & Sciences.

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BY GWEN ERICSON

Louis J. Muglia

Relaxing in a harried world
Louis J. Muglia studies how stress responses can lead to further affections

You're late for work and up ahead traffic is backing up. You know you're never going to make the 11 a.m. deadline for that big report. Plus, you skipped breakfast and you suspect you're getting the flu.

You're suffering from stress — both psychological and physical. Louis J. Muglia, M.D., Ph.D., understands stress at a level most people can't. While projecting a decidedly stress-free and calm demeanor, Muglia spends much of his time thinking about the stress response.

He is investigating the factors that turn on and off the signals regulating hormone release from the adrenal glands, where "stress hormones" are made.

Muglia, associate professor of pediatrics, of molecular biology and pharmacology and of obstetrics and gynecology, came to the School of Medicine in 1996 with a bachelor's degree in biology from the University of Michigan and a doctorate and medical degree from the University of Chicago. Attracted early to the lab bench, he was continually involved in research projects during his education and training.

"In fact, if I graduated from Chicago and went into my pediatric residency at Children's Hospital in Boston, I short-tracked into a fellowship program," he says. "I wanted to be able to get back into a laboratory as quickly as I could." In the spirit of the true physician-scientist, he looked for research that would allow him to continue investigating basic science, but that could answer questions that would arise in his clinical practice.

"Lou is an outstanding clinician, a gifted educator and a creative and passionate investigator," says Alan Schwartz, Ph.D., of the University of Chicago and professor of pediatrics and professor of molecular biology and pharmacology. "Lou is the real deal — a triple-threat physician-scientist of the 21st century."

That apprenticeship is echoed by another of Muglia's colleagues, Jonathan Gitlin, M.D., the Helene B. Spoehrer Professor and head of pediatrics and professor of molecular biology and pharmacology. "Lou is the real deal — a triple-threat physician-scientist of the 21st century." And yet, Muglia says, "I want to understand better how to treat disruptions in the areas that control stress hormones," he says. "We've begun to see how such disruptions extend to other diseases like depression and autoimmune disorders. It's an area that spans disciplines and affects many, many people.

The stress response occurs when the hypothalamus, a small region of the brain that sits just above the sinuses cavities, receives signals that the body is under stress — signals that say "fight or flight" or "clear blood sugar" or "get another ADH". The hypothalamic-pituitary-adrenal axis then also releases the pituitary gland, which in turn tells the adrenal gland to secrete stress hormones.

"The adrenal hormones affect every tissue in the body," Muglia explains. "The couple has too much. Hypertension, diabetes, depression, osteoporosis, obesity, and immune disorders. When you have any of those diseases, it's harder to have a disease process, and we don't yet have a complete understanding of how large their impact is in the course of their work on the hypothalamic-pituitary-adrenal mechanism, Muglia and his research team have found that certain adrenal hormones, called glucocorticoids, start things off after the infection is gone." It's called the acute stress response, and it goes something like this: When the hypothalamus, a small organ above the brain, sends signals to the pituitary gland, it produces adrenocorticotropic hormone (ACTH) which engages the adrenal glands to make stress hormones.

"This area of research is so important that we can't stop finding new things," Muglia says. "And our research has led to new opportunities to mentor very talented postdoctoral and student levels," Schwartz says.

"I am truly honored to count Lou among my closest colleagues," Gitlin says. "He has a passion for excellence in the scientific pursuit of new knowledge, a compassionate and gifted approach to patient care and teaching and a devotion to the obligation to the University that make that a department great."

"We are so very proud to count him among our faculty and institutional leaders," Schwartz says. "When not devoting time to his work at the School of Medicine, Muglia spends his time with his family. He has been married for 22 years to Lisa Muglia, Ph.D., who teaches associate in pediatrics. Lisa Muglia has worked in her husband's department almost since the two moved to St. Louis.

"I have a great great asset to the lab," Muglia says. "But I probably talk less with her than anyone else in the lab because I know I'll catch up with her at home."

"The couple has two children. Their daughter, Sarah, will be 21 this year and attends Wellesley College in Wisconsin where she's studying French and religious studies. Their son, Peter, is a senior in high school and plans to attend George Washington University in the fall. His interests lie in the study of history."

Asked about not having any scientific offspring, Muglia gives a tongue-in-cheek answer: "I haven't given up yet."

"But then he continues, "Whatever makes them happy and how ever they feel they can impact the world is great with me."

In the course of his career, Muglia has been honored with many awards, including the Graduate Student Senate award for excellence in teaching, the Louis J. Muglia Family: Wife, Lisa, daughter, Sarah (21); son, Peter (19).

Years at the University: 10

Hobbies: Wine and cooking: "In my office, I have a tongue-in-cheek answer: "I haven't given up yet." But then he continues, "Whatever makes them happy and however they feel they can impact the world is great with me." No stress there.

Louis J. Muglia