Dec. 6, 2006

Medical News: C-TRAIN launches to fight heart disease and cancer

Assembly Series: An actor, a graphic novelist and a mathematician to speak

Washington People: Kelle Moley is doing groundbreaking reproductive research

WASHINGTON UNIVERSITY IN ST. LOUIS

Cutting-edge art museum to be dedicated Oct. 25

BY LIAM OTTEN

In 1960, a young Japanese architect professor named Fumihiko Maki completed his first commission — Steinberg Hall — while teaching at Washington University. For years that building, which showcased the university’s renowned art collection, represented Maki’s only built work in the United States.

Four decades later, Maki is among the world’s premier architects, a Pritzker Prize winner known for creating monumental spaces that fuse Eastern and Western sensibilities. His current projects include both the $330 million U.N. expansion in Manhattan and Tower 4 at the World Trade Center site.

Maki is architect for U.N. expansion, Tower 4 at the World Trade Center site

The southern facades of the Kemper Art Museum and Earl E. Myrtle E. Walker Hall. Also pictured are the original commission, Steinberg Hall, which will be renovated during the 2006-07 year. Both new buildings will be dedicated during a ceremony at 3 p.m. Wednesday, Oct. 25. Press services also will include openings for the museum’s inaugural exhibitions as well as an open house of the entire Sam Fox School complex, from 4:30-8 p.m. Shuttle service from The MUNY parking lot in Forest Park to the Sam Fox School will be available from 2:30-8 p.m. For more information, call 935-7382 or e-mail mibryan@wustl.edu.

“The Sam Fox School strengthens the arts at WashU,” said J. Lawrence Long, chancellor.

An actor, a graphic novelist and a mathematician to speak

BY JIM DRYDEN

BY ANDY CLENDENNEN

See Energy, Page 2

Cigarette smoking shown to delay tendon-to-bone healing

BY JOE DRYDEN

School of Medicine orthopaedic surgery researchers have identified another reason to not smoke.

Studying rotator cuff injury in rats, the research team found exposure to nicotine delays tendon-to-bone healing, suggesting this could cause failure of rotator cuff repair following surgery in human patients.

Smoking is implicated in a host of physical problems, from cardiovascular disease to lung disorders. Many people probably don’t think about smoking’s effects on orthopaedic conditions, but several studies have shown that nicotine interferes with healing of bone fractures and also inhibits bone fusion processes.

Many spine surgeons, for example, won’t do certain operations on people who smoke because of the risk of failure. But little is known about the effects of cigarette smoking on tendon and ligament healing.

There also are some gaps in medical knowledge about the prevalence of rotator cuff injuries. The rotator cuff is a group of four muscles and their tendons in the shoulder that provide rotation, elevation and abduction. Rotator cuff injuries involve one or more of the tendons. The injuries are more common among people age 40 and more common in the dominant arm.

The true incidence of the injuries is hard to determine because between 5 percent and 10 percent of people who may have a torn rotator cuff have no accompanying pain symptoms.

What surgeons do know is that rotator cuff repairs will fail in the days and weeks after surgery. Some studies have reported a short- to intermediate-term repair failure rate from 30 percent to 90 percent, depending on the size of the tear.
Experts on aging, long-term care to speak at School of Social Work

BY CYNTHIA GEORGES

Robert L. and Rosalie A. Kane, Oct. 24, in Brown Hall Lounge at the University of Minnesota, will present "Long-term Care for the Public."

In their talks, the Kane's will present principles and personal experiences from the context of their scholarship and professional experiences in geriatrics, health services and long-term care. They will speak about their personal experiences as caregivers for their own parents, drawing from the content of their scholarship and the larger national scope of long-term care reforms.

Robert Kane, M.D., is a physician and chairman of the Department of Family Medicine at the University of Minnesota's Clinical Outcomes Research Center. The author or editor of more than 30 books, treatises and articles, Kane serves on the World Health Organization's Expert Committee on Aging. He has been distinguished with many awards, including the President's Award of the American Society on Aging, which he shared with his wife, Rosalie.

Rosalie Kane, Ph.D., is a professor in the Division of Health Policy and Management at the School of Public Health. She also serves on the faculties of the Center for Biomedical Ethics, the School of Social Work and the Center on Aging.

Her research centers on long-term care services, organizations, policies and financing in settings that include nursing homes, assisted living and home care.

A prolific author and past editor-in-chief of both the Gerontological Society of America and a Robert Wood Johnson Foundation Investigator Award in Health Policy Research. "This lecture comes at a time when the field of geriatrics is losing critical mass in importance," said Michelle Putnam, Ph.D., WUSTL assistant professor of social work and a policy fellow with the University's Gerontology Program. She has worked with both the Kane's to improve policies and services for the aging population.

"Long-term care is a poorly understood and extremely expensive component of our system. Many of our policies are based on outdated views of patients as passive recipients of care," Putnam said. "Non-ideological reformers must focus on the role that patients can and do play in their own care."

The Kane's will present "Long-term Care for the Public." Their discussion will address the planning and policy aspects of using the "Space Invaders" game to actually move the patient's tongue and hand. The University Police also responded to an injury and the age of the patient.

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One Brookings Drive, St. Louis, MO 63130.

For more information, call 314-935-4259.

Campus Watch

The following incidents were reported to University Police Oct. 11-21. Readers with information that could assist in investigating these incidents are urged to call 314-5365.

This week's report is provided to ensure that safety awareness is available on the University Police Web site at police.wustl.edu.

Oct. 12

8:27 a.m. — A visitor to the Olm Living and Learning Center in a female took his black Ford Escort in a male dorm room on the first floor. The incident occurred between 8:20-8:25 a.m., on this date. Total loss is estimated at $100.

11:42 a.m. — A person in January Hall. A known person stolen $225 from a cash box kept inside a suite in the University College Office. There was no sign of forced entry. The theft occurred between 9 a.m. Aug. 16 and 9 a.m. Oct. 15.

10:23 a.m. — It was reported that unknown people broke windows in a dorm. The dorm was parked in the Mill Brook Parking Garage, and a stereo valued at $100. The incident occurred between 8:10-8:25 a.m., on this date.

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With approval of the patient and his doctors, Matthew Smyth, M.D., assistant professor of neurosurgery and director of the WUSTL Spinal Cord Injury and Trauma Research Center, New York State Department of Health in Albany) which involves a video game that is linked to the EEG grid.

They will speak about the boy to do various motor and speech tasks, moving his hands various ways, talking and smiling. The team could see from the data which parts of the brain signals correlate to these movements.

The doctors asked the boy to play a simple video game. "Space Invaders" game by actually moving his tongue and hand. Then was asked to imagine the game, then was asked to control it with his brain.

"He cleared out the whole level just using his imagination," Leuthardt said. "He learned almost instantaneous control. That was a much more challenging version in two dimensions. He controlled it with his brain.

In 2004, Leuthardt and Moran led a team which was the first to perform this in four adult patients. The researchers were anxious to get data from a teenager to see if there are any differences between how teens and adults operate.

"It's exciting to be able to look at differences and see what that tells us about the brain," said Moran, who added that the team plans to test more pediatric subjects. "No one has ever seen if these brain signals are different."

The doctors then asked the boy to try if there are different frequency distributions when their test comes in. We might question if the frequency alterations are different — will that make a difference in performance?"

"We would have to look at others to get a sense of how children and teenagers have the same set of skills as adults, or if there is a difference that these experiments be important to the field of research."

The clinical pediatric portion of the team was led by Smyth and Zenner.

"This really was a symptom of expertise ranging from neuro- surgery, neurology, neuroscience, engineering and computer science, which were the years in the masking. The end result is something that we can really be proud of," Leuthardt said.

"I think we have enough evidence to state that nicotine has a negative impact on healing in terms as well as bone."

"We would have to look much more closely to clearly see exactly what the mechanism is, but blood supply is a potential culprit."

"Nicotine and cigarette smoke may cause damage to new blood vessels, and basically, all healing and all repair processes are aided by the formation of new blood vessels that support healing.

That process is assisted by increased blood supply that may not happen as efficiently in smokers.

"Doing this is a win-win situation, both for science and the child. We devised this to be enjoyable and entertaining while we get groundbreaking information on the brain."

ERIC L. LEUTHARDT

WASHINGTON UNIVERSITY IN ST. LOUIS

Reader's comments are welcome at wuweekly@wustl.edu.
Surgery corrects vision in kids with neurological disorders

BY BETSEY MILLER

Children with cerebral palsy and other neurological disorders can now have surgery to correct their near- or far-sightedness, thanks to the success of a procedure pioneered at the University of Missouri-Kansas City.

Tychsen said that children with cerebral palsy who have only 20/200 vision or worse can benefit from the procedure. "These techniques can provide vision correction surgery for children who are not diabetic but have mild defects in glucose tolerance and are at risk for type 2 diabetes," he said.

The children who are the best candidates for vision correction surgery are those who cannot or will not wear glasses and have snubbed social interactions because of their visual impairment. Tychsen said that these children suffer a kind of "visual autism." About 80 percent of children with severe neurological disorders have some kind of vision impairment. Tychsen and his staff perform laser-assisted subepithelial keratectomy or LASEK, in which the cornea is reshaped with a laser. This technique doesn't require a surgical flap to be cut in the eye and is safer for children, who inately rely on their eyes after surgery. In addition, the LASEK technique is able to correct much higher degrees of myopia, or nearsightedness, than LASIK (laser-assisted in situ keratomileusis) commonly used on adults. Children also can correct extreme farsightedness.

For children focusing deaths so large that they are beyond the range of laser correction, Tychsen uses other surgical techniques. One of these is implantation of a phakic intraocular lens, leaving the natural lens in place. The other is a less invasive technique, in which the natural eye lens is removed and replaced with another type of implant. These techniques can provide vision correction surgery in a child with profound nearsightedness, such as 20/1,500, to nearly 20/20, Tychsen said.

Because many of the children Tychsen treats are unable to communicate clearly or are uncooperative, he said his team uses several noninvasive, electronic techniques to measure eyesight and determine the success of surgery. A computer-recording method measures the improvements that can be achieved in the visual brain while the child is awake. Other instruments take precise measurements before surgery while a child is under anesthesia.

Although the surgeries can make significant improvements in the children, Tychsen said, the overall quality of life, most laser-treated children would still have mild retardation in vision over time. Tychsen said, but for most parents, the decision to have their child go through the surgery is relatively simple.

"For special-needs children, there is often no alternative," Tychsen said. "When contemplating what it could mean to the overall development of the child, most parents opt for surgery."

Julie Lawrence is one of Tychsen's patients whose life has changed significantly since she had vision correction surgery about three years ago, said her mother, Greta Lawrence.

Julie has Angelman Syndrome, a chromosomal disorder, and was extremely nearsighted with astigmatism.

Because of her autistic tendencies and poor vision, Julie would withdraw into herself. Tychsen often reminded the Lawrences that Julie needed vision correction to become interested in things and engaged in the world. However, Greta Lawrence said she also tended to have the most "special needs".

"We learned to do as much as we could for Julie’s other doctors discouraged them from having the surgery. "Because she can't read or do academics, some doctors said it wasn't worth it," Greta Lawrence said tearfully. "But Dr. Tychsen always treated her like she was important and thought she was worthwhile."

"She's been performing Julie's surgery, which corrected her vision to ‘almost perfect,’” Julie can now recognize her family from across the room and is less likely to have a recurring seizure," Greta Lawrence said. "She’s more content to sit and watch people people are doing. If she couldn't see, she wouldn't be doing that."

Academia, industry bring future of medicine to public

Word of praise

John Morris, M.D., Ph.D. (center), the Harvey A. and Dorislaus Hacker Friedman Professor of Neurology and director of the Alzheimer’s Disease Research Center at the School of Medicine, presents Jennifer Manly, Ph.D., assistant professor of neuropsychology in neurology at Washington University in St. Louis, with a plaque recognizing her efforts to promote diversity in Alzheimer’s disease research at the first annual Norman B. Sealy Lecture, Sealy (right), a civil rights leader and an advocate of Alzheimer’s disease research, looks on.

BY CAROLINE ARRAZAS

Moving new technology from the laboratory to patients' bedside requires more than just a clever idea. It often requires the intense expertise of university researchers who develop the technology and industrial scientists who understand the challenges posed by commercial companies. That's exactly why the Washington University in St. Louis School of Medicine has developed medical beads called nanoparticle technologies. It takes to the marketplace.

The consortium is the vision of Samuel A. Wickline, M.D., and Gregory M. Lanza, M.D., Ph.D. Both are professors of medicine and biotechnology at the School of Medicine and heart specialists at Barnes-Jewish Hospital. Together, they developed microscopic beads called nanoparticles that have the potential to revolutionize the way cancer and disease are diagnosed and treated. "This technology has been proven effective against tumors in the laboratory," Wickline said.

"C-TRAIN provides a venue for investiga- tion into relevant research in molecular imaging and nanomedicine for the benefit of patients," said Wickline.

"We don't only want to collaborate with basic and clinical researchers but develop a fertile environment for transferring technology to industry partners in the St. Louis area and beyond."

The consortium will focus on developing a broad range of technology, including nanotechnology. It is the umbrella organization for more than 40 researchers and has in vision correction surgery for more than $23 million in federal grants and the largest grant to a direct awarded to a single investigator.

"Nanotechnology has the po- tential to dramatically change the way patients are treated," Lanza said. "C-TRAIN’s collaborative, multidisciplinary approach is likely to speed our ability to bring nanomedicine and other innovations to the marketplace."
Wong, Satrapi and Strogatz to speak at seminar series

By MARY KATTING

*****

A scientist, a graphic novelist, and a mathematician will deliver Assembly Series lectures over the next week.

Tony award winner B.D. Wong will deliver a lecture called "Vita and Death" on Monday, Oct. 23, in Graham Chapel.

Wong gained national attention with his Broadway debut starring in M. Butterfly. In the role, he played the character of a Chinese diplomat who seduces and betrays his bride. He lost his voice to that character and had only a few vowel sounds he could produce. It was then that he learned to accept and have pride in his Asian-American background.

He learned to shed his past and from adolescent racial self-hatred to transcend self-acceptance as an Asian from struggling with inequality to breaking down barriers in his professional and personal lives.

Iranian-born graphic novelist Marjane Satrapi will discuss her work at 11 a.m. Wednesday, Oct. 25, in Graham Chapel. Wong, who has performed memorable roles in films such as American Crime Story: The People vs. O.J. Simpson and M. Butterfly, will play Chingi in the US film, a character created by the late French graphic artist Art Spiegelman.

In production is Wong's directorial debut, East Broadway, a story about a Chinese-American girl who longs to be part of New York's society. It won't be until Wong lands his role in M. Butterfly that he has learned to accept and have pride in his Asian-American background.

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Satrapi, who won critical acclaim in films such as the Oscar-winning The Inbetweeners, is the second woman to be honored on the series, after M. Butterfly. Satrapi will discuss her groundbreaking discoveries in chaos and complexity theory, and the rhythms of nature, which can be seen in firesides flashing in unison, sleep patterns, the behavior of cancer cells, convection currents, storing a climate interplay of millions of brain cells, etc.

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Escape from the ordinary; explore world through the Travel Lecture Film Series

By Barbara Rea

The popular Travel Lecture Film Series, brought to campus each year courtesy of the Washington University Alumni Association, returns this season with films featuring guests from around the world. Created by some of the most esteemed artists in the travel film genre, this series features footage that is both visually enthralling and thought-provoking. These films often explore the depths of human experience and the grandeur of our planet, offering viewers a unique glimpse into cultures and landscapes they might otherwise never see.

The School of Law will host a special session of the Missouri Center for the Study of Ethics & Human Values. For more information, call 935-5285.

Wednesday, Nov. 1

8:30 a.m. - 4 p.m. Center for the Appli- cation of Intergroup Understanding Day-long Workshop: “The Business of Community Building.” Cost: $200, reduced fee available for WUSTL employees. For more information, contact Dr. Ann Leavel, 935-8144.

11 a.m. Assembly Session: Black Arts & Culture Celebrations

Music

Thursday, Oct. 26

8 a.m. Jazz at Holmes: Latin Music

On Stage

Wednesday, Oct. 25

7 a.m. School of Medicine Presentation Day. Featuring artists from around the world.

Worship

Saturday, Oct. 28

4 p.m. Chapel Service: Chapel Service. Sponsored by the Center for Student Life.

Sunday, Oct. 29

11 a.m. Catholic Mass: Sponsored by the Catholic Student Center. Fortunato U. Chapel. 935-1031.

More and more...

Women's soccer keeps winning streak alive

The women's soccer team extended its winning streak to 10 games with two UAA road victories last weekend. On Oct. 14, the Bears defeated the University of Rochester, 3-2, Oct. 10 despite facing a 2-0 deficit. On Oct. 12-13, the Bears then faced another challenge of having to play two games in three days. Junior forward Nicole McCarthy capped the Bears' 8-0 triumph over Middlebury to stretch the winning streak to 10 games in a row.

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The court periodically holds sessions in the courthouse as part of an educational program. To limit the number of dis- tances to the proceedings, visi- tors are asked to enter and exit the courtroom only during breaks between each attorney's oral argument.

The inquirers QA on judicial clerks would finish, ending at about 11:30 a.m.

Saturday, Oct. 28


Sunday, Oct. 29

11 a.m. Women's soccer vs. N.Y.U. Francis Field. 935-9070.

3 p.m. Women's soccer vs. H. Y. D. Francis Field. 935-9070.

Football team regains Founder's Cup with win against Case Western Reserve

The football team regained the Founder's Cup with a 26-7 victory over Case Western Reserve Oct. 14. The Bears defense forced three turnovers, one coming in the fourth quarter and two in the first. The Bears were outplayed in the first half, but scored 19 points in the second half. The game-winning touchdown was scored by senior wide receiver Derek Rinklin and returned it 52 yards for a touchdown.

Volleyball undefeated in UAA with four wins

The No. 2 volleyball team (23-1, 16-0) won five matches last weekend to remain the team to beat in the UAA.

Women runners win Oskarshamn invitational men 8th

The No. 3 team took first place (38 points) out of 11 teams at the UW-Oshkosh Invitational Oct. 14. The men placed eighth out of 19 teams with 222 points.

Senior Jeff Berthon won the individual 8k race and placed fourth on the team to pace the Bears. On the men's side, junior Jesse McDaniel finished the 8k race in fifth place.

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Men's soccer upends No. 15 Case Western

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WASHINGTON UNIVERSITY IN ST. LOUIS

WUSTL dedicates Newman Money Museum

BY LIAM OTTEN

Eric Newman is one of the foremost American numismatists of the 20th and 21st centuries. On Oct. 25, WUSTL will dedicate the Eric P. Newman Money Museum, housed within the new Mildred Lane Kemper Art Museum, features insights into the relationship between money, society, culture and the visual arts.

The 60,000-item collection, comprised of eight reals, which was created in collaboration with Island Press, the Sam Fox School of Design and the visual arts." Pike said. "For the student, the Kemper Art Museum allows for relations between inside and outside."

The museum features a selection of "Hard Times to-Dawn" prototypes have evolved from preparatory sketches and manuscript pages to finished works, redefining artistry and craft.

For more information, call 314-935-9959.

Kemper Art Museum to open inaugural exhibitions Oct. 25 internationally renowned art collection gets first permanent exhibition galleries in 100 years

BY LIAM OTTEN

Over the last 125 years, Kemper has built one of the nation's finest university art collections by focusing primarily on the acquisition and display of contemporary work. Beginning next week, WUSTL will show that acclaimed collection in its new Mildred Lane Kemper Art Museum, designed by world-renowned architect Helene Bialke.

The Kemper Art Museum will be open from 4-8 p.m. Wednesdays, and 11 a.m.-6 p.m. Saturdays. The museum is closed on Tuesdays.

"This is truly a moment for Washington University by drawing together our distinguished art, architecture and museum programs," said Chancellor Mark S. Wrighton. "It fosters a collaborative, interdisciplinary environment in which students and faculty can thrive on excellence and distinction."

And his design are thoughtful, innovative and interesting," said Tom Serfass, curator of the Newman collection since 1990. "The exhibits document the legacy of Benjamin Franklin, a central figure in the development of the American Colonial money. For example, in the 1730s, Franklin helped curb widespread counterfeiting through his invention of "nature printing," in which bills were printed with real leaf patterns.

Exhibits will also explore the lasting influence of Spanish specie coinage, which was widely used into the mid-19th century. For example, the Spanish peso — also known as the "Spanish dollar" or "piece of eight" — was used in Mexico, and Colonists often physically cut apart "made change" using a hatchet. That's where the modern terminology comes from. When the Colonists started producing their own coins, they often read "Re- deemable in Spanish Milled Dol-

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Kemper Art Museum to open inaugural exhibitions Oct. 25 internationally renowned art collection gets first permanent exhibition galleries in 100 years

BY LIAM OTTEN

Over the last 125 years, Kemper has built one of the nation's finest university art collections by focusing primarily on the acquisition and display of contemporary work. Beginning next week, WUSTL will show that acclaimed collection in its new Mildred Lane Kemper Art Museum, designed by world-renowned architect Helene Bialke.

The Kemper Art Museum will be open from 4-8 p.m. Wednesdays, and 11 a.m.-6 p.m. Saturdays. The museum is closed on Tuesdays.

"This is truly a moment for Washington University by drawing together our distinguished art, architecture and museum programs," said Chancellor Mark S. Wrighton. "It fosters a collaborative, interdisciplinary environment in which students and faculty can thrive on excellence and distinction."

And his design are thoughtful, innovative and interesting," said Tom Serfass, curator of the Newman collection since 1990. "The exhibits document the legacy of Benjamin Franklin, a central figure in the development of the American Colonial money. For example, in the 1730s, Franklin helped curb widespread counterfeiting through his invention of "nature printing," in which bills were printed with real leaf patterns.

Exhibits will also explore the lasting influence of Spanish specie coinage, which was widely used into the mid-19th century. For example, the Spanish peso — also known as the "Spanish dollar" or "piece of eight" — was used in Mexico, and Colonists often physically cut apart "made change" using a hatchet. That's where the modern terminology comes from. When the Colonists started producing their own coins, they often read "Re- deemable in Spanish Milled Dol-

WUSTL dedicates Newman Money Museum

BY LIAM OTTEN

Eric Newman is one of the foremost American numismatists of the 20th and 21st centuries. On Oct. 25, WUSTL will dedicate the Eric P. Newman Money Museum, housed within the new Mildred Lane Kemper Art Museum, features insights into the relationship between money, society, culture and the visual arts.

The 60,000-item collection, comprised of eight reals, which was created in collaboration with Island Press, the Sam Fox School of Design and the visual arts." Pike said. "For the student, the Kemper Art Museum allows for relations between inside and outside."

The museum features a selection of "Hard Times to-Dawn" prototypes have evolved from preparatory sketches and manuscript pages to finished works, redefining artistry and craft.

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Engineers Without Borders hosts regional conference

By Tony Fitzpatrick

The local chapter of Engineers Without Borders (EWB) will host the Engineers Without Borders Midwest Regional Workshop Oct. 11 on the School of Engineering and Applied Science. Since 2007, EWB faculty and students have been expected to attend. It is the engineering and applied science students' first-year's Danforth Campus theme of "A Higher Sense of Purpose."

EWB member Will Fischer said the University's EWB group was formed just 11 months ago. He added that the Midwest chapter of EWB may have selected WUSTL as a host site because of a recent campus project in Ira-

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Kelle Moley seeks the link between blood sugar levels and higher rates of miscarriage

By Diane Duke Williams

people in the world studying the effects of type 1 and type 2 diabetes on the development of mouse embryos. In 1999, she found that short-term exposure to high concentrations of glucose or insulin during the first 72 hours after fertilization is enough to alter the embryos and could help explain the higher rates of miscarriage and malformed babies among diabetic women.

Her research suggests that diabetic women who are trying to get pregnant should be very careful about controlling their blood sugar levels. The research methods Moley learned from Lowry have helped her because of her interest in reproductive biology and metabolism in the embryo has been groundbreaking, and she is recognized nationally and internationally as the expert in this area," says George A. Maamets, M.D., the Mitchell and Elaine Yaeger Professor and head of the Department of Obstetrics and Gynecology. "In addition to her tremendous talent as an investigator, Dr. Moley is a caring clinician, wonderful mentor and fine citizen of the University."

In 1998, Moley started her own laboratory, where she now spends 80 percent of her time. Maggie Chi, a technician who had worked in Lowry's lab for 25 years when Moley joined the lab, works with her. "I couldn't have done all this without Maggie," says Moley, also an associate professor of cell biology and physiology. Moley also is known for cloning and characterizing two novel glucose transporters, GLUT8 and GLUT19, the latter of which she discovered in collaboration with her husband, Jeffrey Moley, M.D., professor of surgery. Her work on carbohydrates in the embryo has demonstrated that they changed location in response to insulin and that diabetes altered their expression. Her research has significantly increased the understanding of molecular regulation in reproductive and glucose metabolism in diabetic animals and has shown how this research could apply to patients with diabetes. Moley also is director of the Fellowship Program in Reproductive Endocrinology and the Clinical Mentorship Program that provides students with a deeper understanding of disease.

Moley says her greatest love is mentoring young people to go into science. "I think that's my mission, coupled with patient care," Moley says. "We have so many people interested in science and be physician-scientists in this field, I think that would be a huge success for me."

Clinically, Moley sees women who are interested in having in vitro fertilization and prepares them for the procedure, testing their blood for hormone levels and prescribing medication to stimulate ovulation.

If a woman becomes pregnant, she follows her until she's ready to be referred to an obstetrician. She also treats women who have polycystic ovary disease, a hormonal condition that prevents many women from becoming pregnant. "If I can train more young women and men to go into science and be physician-scientists in this field, I think that would be a huge success for me."

Moley and her husband, Jeff, have three boys ages 14, 13 and 9. She spends much of her free time at their baseball, soccer and hockey games, and she also plays flute and piano when the family plays music together.

Jeff performs with a bluegrass band called Seldom Home, and the family enjoys St. Louis sports events, playing golf and relaxing at their lakeside A-frame in Innsbrook Resort. They also spend a lot of time traveling to Colorado and New York to visit relatives, and Kelle Moley's father (who is also a physician) makes family to Hawaii every other year.

Schwartz, the Harry R. and Martha J. Spideler Professor of Pediatrics, sums up Moley's contributions this way.

"She is a local, national and international leader in reproductive biology — as a scientist, as a clinician and as an educator," he says. "As a resident, she described how diabetes increases the risk of birth defects and complications in the babies of women who have this disease during their pregnancy, and she has pursued this research with laser focus and creative insight. We are thrilled that she is our colleague."

Breaking ground in reproductive medicine

Kelle Moley is one of a handful of women in the world studying the effects of type 1 and type 2 diabetes on the development of mouse embryos. In 1999, she found that short-term exposure to high concentrations of glucose or insulin during the first 72 hours after fertilization is enough to alter the embryos and could help explain the higher rates of miscarriage and malformed babies among diabetic women.

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