 **WU to invest up to $40 million in venture capital funds**

 **Mark S. Wrighton**

The “focus of the University’s strategy is to encourage investment in science-based companies, with the objective of helping establish the St. Louis region as a center of science- and technology-based industries.”

**With the objective of helping establish the St. Louis region as a center of science-and-technology-based industries,” Wrighton said.**

**With the wise counsel and strong support of the Trustees — especially Board Chair John F. McDonnell and Investment Committee Chair John H. Riggs — we see this as a way to parallel the University’s strength in science and research with the region’s potential to grow as a magnet for high-technology business and industry,” he said.

As generators of ideas and inventions, the faculty scientists of the University and other St. Louis research institutions seek to stimulate the transfer of important discoveries and technology from their laboratories to the public, Wrighton said.

**The University is the region’s largest research enterprise, and many of the innovations discovered by our faculty will benefit from strong technology-based enterprises in St. Louis,” Wrighton said.**

The funds invested by the University will only go to venture capital firms, not the actual high-technology businesses themselves. “Our strategy is to select a few strongly committed venture capital firms in the St. Louis area and then to invest in each based on its future potential,” said Barbara Feiner, vice chancellor for finance.

**“The University will develop a process through which the University will select the venture capital firms, monitor their progress, and assure that their activities are consistent with the University’s expectations for the future.”**

**Drum roll**

Wendy Miyuki Whiteside, junior biology major in Arts & Sciences, performs during the George Warren Brown School of Social Work’s seventh annual International Festival in Brown Hall. Whiteside and Abby Shelton (left), sophomore Japanese major in Arts & Sciences, are members of the St. Louis Osuwa Taiko at Washington University. They joined about 75 international social work students in presenting native foods and entertainment at the March 2 celebration.

**Arts & Sciences, are members of the St. Louis Osuwa Taiko at Washington University. They joined about 75 international social work students in presenting native foods and entertainment at the March 2 celebration.**

**By Tom Fitzpatrick**

Planetary scientists studying Jupiter’s icy moon Ganymede have combined stereo images from the Galileo mission with 1970s Voyager images and found provocative features on its surface. The researchers have mapped long stretches of bright flat terrains that they think is evidence of water or slush that emerged billions of years or so ago.

This bright terrain, long since frozen over, lies uniformly in troughs about one kilometer (a little over a half-mile) beneath Ganymede’s older, darker, cratered terrain.

Ganymede, the largest moon in the solar system, is an icy satellite of Jupiter far larger than the planet Mercury. The role that volcanism and various forms of tectonics have played in molding the complex topography of Ganymede have been hotly debated over the years.

But the newly created images, taking advantage of the numerous Voyager images and the higher-resolution Galileo ones, point to volcanism as the main impetus behind the troughs. “This is a new kind of stereotopographical information over hundreds of kilometers across Ganymede,” said William B. McKinnon, Ph.D., professor of earth and planetary sciences in Arts & Sciences and co-author of the study published in Nature on March 1.

“What we think we’re seeing is evidence of an eruption of water on the surface of Ganymede,” McKinnon said. “We see these long, smooth troughs that step down up to 30 kilometers long and 50 kilometers across.”

**An irregularly shaped caldera, or pit, within a bright swath called Sippar Sulcus on Jupiter’s moon Ganymede dominates this image taken by NASA’s Galileo spacecraft.**

**By Trent C. Stockton**

It takes a lot of stress and a little chaos to create some of the tallest mountains in our solar system.

That is the theory proposed by University earth and planetary scientists studying mountain formation and volcanic activity on Io, one of Jupiter’s many moons. The researchers analyzed images taken by the Galileo and Voyager spacecraft and found that Io’s enigmatic mountains may be the combined result of heating, melting and titling of giant blocks of crust.

The origin of Io’s prodigious mountains has intrigued planetary scientists for over 20 years. In fact, about the size of Earth’s moon, is the most geologically active body in the solar system, with mountains up to 35,000 feet tall. (In comparison, the summit of Mount Everest is a meager 29,000 feet.)

Io’s surface is dotted with active volcanoes spewing plumes of sulfurous gas and emitting vast streams of scorching lava. The heat released from Io—from lava as hot as 1,800 degrees Kelvin (2,800 degrees Fahrenheit) to about 25 to 30 times greater per square foot than the heat released from Earth. This makes Io’s mountains, which are not volcanoes, all the more interesting, because at these temperatures planetary scientists would expect the surface to be liquid or soft, with little possibility of preservation.

How, then, can mountains form in such a furnace-like environment? William B. McKinnon, Ph.D., professor of earth and planetary sciences in Arts & Sciences, Andrew L. Dombard, who earned a bachelor’s degree from St. Louis University, and then to invest in each based on its future potential,” said Barbara Feiner, vice chancellor for finance.

**“The University will develop a process through which the University will select the venture capital firms, monitor their progress, and assure that their activities are consistent with the University’s expectations for the future.”**

**By Gila Reckess**

Researchers have identified a protein that plays an important role in neonatal brain injury. The protein, clusterin, might also contribute to adult brain damage—for example after spinal cord injury or stroke.

The results appear in the March issue of the journal Nature Medicine. The first author is Byung Hee Han, M.D., research associate in neurology at the School of Medicine. David M. Holtzman, M.D., professor of neurology and of molecular biology and pharmacology, led the research team.

Blockage of blood flow to the brain before or during birth can temporarily deprive the brain of oxygen and other nutrients, as happens when an adult has a stroke. Without a continuous supply of oxygen, some brain cells die or are damaged, causing hypoxic-ischemic (H-I) injury.

The outcome may be long-term difficulties, strokes and motor problems, as well as cerebral palsy.

Scientists know of two main contributors to adult brain injury— for example after spinal cord injury or stroke. Researchers have identified a protein that plays an important role in neonatal brain injury. The protein, clusterin, might also contribute to adult brain damage—for example after spinal cord injury or stroke.

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University Libraries to host 'James Merrill: A Celebration'

Panelist Information

Panelists for the day's events are:

- Mary Jo Bang, assistant professor of English at Arts & Sciences, is the author of two books of poetry and recipient of the University of Washington Book Award.
- William Gass, the David M. Levy Professor of Humanities Emeritus in the Humanities in Arts & Sciences and former director of the International Writers Center at the University of Washington, writes on novels, fiction, literary criticism and philosophy. He has won two National Book Critics Circle Awards — for "Habitations of the Mind" and for "Finding a Form" — and a Lannan Lifetime Achievement Award.
- Jack Haiteman, professor emeritus of pathology at Columbia College of Physicians and Surgeons, co-authored a bibliography of the works of Thom Gunn and is working on a bibliography of Merrill's work.
- Tim Matter, professor of English at the University of Missouri, Columbia, wrote Merrill's "Apocalypse" and "Modernist Alchemy: Poetry, History and the Modern Scholar." He has also written several other studies of modern literature.
- J.D. McClatchy is co-editor of James Merrill's newly published "Collected Poems." He is editor of The Yale Review and has edited books of poetry and literary essays. In 1996, he was named a Chancellor of the Academy of American Poets.
- Carol Phillips, editor of The Yale Review and director of the Writers Program, has been an influential figure in American poetry. He has won an Award for Literary Excellence from the American Academy of Arts and Letters and has won dramatic and poetry awards from the Ingram-Merrill Foundation, the Guggenheim Foundation and the National Endowment for the Arts. McClatchy and Phillips have co-edited the Ingram-Merrill Foundation's "Recollections andquot; and "The Collected Poems of James Merrill." McClatchy will recite poems from the Ingram-Merrill Foundation.
- Lynne McMcClatchy, Lynn McMah, Carol Phillips, Sherod Santus and Stephen Yenser reading selected poems. This program will conclude with a slide show on Merrill, compiled by J.D. McClatchy.

The day's events are free, but reservations are required. For more information or to register online, visit www.library.wustl.edu/events/poetry.

McClatchy will recite poems from the Ingram-Merrill Foundation.

David Clayson endows chair in neurology, scholarship in psychology

BY GILA RECKESS

Luminous David Clayson, a standout in academic medicine, bestowed a chair in neurology, a scholarship in psychology at Washington University in St. Louis. Both will carry Clayson's name and will be associated with Washington University in perpetuity, Wrighton said. The endowed chair and scholarship will be administered by the Department of Neurology and the Department of Psychology in psychiatry at the University. Both will bear Clayson's name.

As a professor, I've tried to never approach his ability to mentor students and help them develop both professionally and personally. Since learning of Clayson's illness, Mohler has flown from California to visit former teacher once a month.

At his own request, Clayson has written extensively on the psychological effects of orthopedic surgery in adolescents and children.

"We are honored that Dr. Clayson's generosity has been associated with Washington University in perpetuity," Wrighton said. "His interests contribute greatly to the work of the Department of Psychology and the Department of Neurology and demonstrate his lifelong commitment to our University."

Clayson suffers from amyotrophic lateral sclerosis (ALS), or Lou Gehrig's disease, a neurodegenerative disease of the motor neuron. "I am impressed by Dr. Clayson's contribution," said Henry L. Roediger III, Ph.D., chair of the Department of Psychology. "It is satisfying to see the positive experiences our graduate students have here. And it is even more gratifying to know that such memories inspired Dr. Clayson to aid the department's mission of excelling in teaching, research and training future leaders in our field."

Clayson is emeritus professor at the Weill Medical College of Cornell University, where he served as a mentor, administrator and leader.

Checking up on health At a recent health fair for the local Chinese community, first-year medical student Peggy Cheung takes blood from Hau Hon Shih for a cholesterol check. The Asian-Pacific American Student Association (APAMSA) also sponsors an annual health fair for the Vietnamese community.

From right, the first recipient of the Dean's professorship and scholarship in psychology in psychiatry at the University. Both will bear Clayson's name. "As a professor, I've tried to never approach his ability to mentor students and help them develop both professionally and personally. Since learning of Clayson's illness, Mohler has flown from California to visit former teacher once a month. In addition to his many other honors, awards and prizes, Clayson notes with pleasure that a former student named his son after him. "I always felt students they are my purpose and my family," he said.”

Nitrous oxide reduces children's pain, anxiety during surgery

BY ANNE ENGLISH SHEPHERD

To young children and their parents, a trip to the emergency room for a broken bone can mean not only the pain of an injury but also anxiety about the procedure. Those are issues the Mini-Medical School, a study of Medicine researchers determined that nitrous oxide, or laughing gas, is effective in reducing young children during facial surgery, according to a more traditional use of an oral pain relief.

Lahmann said the method showed fewer side effects such as irritability and dizziness and reduced recovery time from approximately an hour to under five minutes.

Children ranging in age from 2 to 6 received one of four different kinds of care: (1) standard care, which included comfortably and topical anesthesia augmented with injected lidocaine if needed; (2) standard care and oral midazolam, which also included standard care and nitrous oxide; (3) standard care, oral midazolam and nitrous oxide. Videttes of the procedures were blindly scored using the Behavioral Distress-Revised to assess distress at the beginning of the procedure and the end of the recovery. Doctors inserted sutures, who were blinded to the method of sedation administered to their patients, noted adverse effects. Parents also completed questionnaires. Researchers found that the parents and physicians said use of standard care combined with nitrous oxide was the highest of all the care methods in reducing pain and anxiety. The standard care, oral midazolam and nitrous oxide method ranked second.

Nitrous oxide worked very well as reducing anxiety in the Mini-Medical School, said Jan D. Luhmann, M.D., assistant professor of pediatrics. "Prior to this study, nitrous oxide had not been commonly used in pediatric emergency units. We knew of its widespread and successful use by dentists in the outpatient setting, so we wondered that it would work well in our setting, too."

When compared to the oral pain medication midazolam, nitrous oxide showed fewer side effects such as irritability and dizziness and reduced recovery time from approximately an hour to under five minutes.

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Gelberman elected president of American Academy of Orthopaedic Surgeons

BY JIM DRUMM

We are very grateful for Dr. Clayson's contributions," said Henry L. Roediger III, Ph.D., chair of the Department of Psychology. "It is satisfying to see the positive experiences our graduate students have here. And it is even more gratifying to know that such memories inspired Dr. Clayson to aid the department's mission of excelling in teaching, research and training future leaders in our field."

Clayson is emeritus professor at the Weill Medical College of Cornell University, where he served as a mentor, administrator and leader.

Gelberman has served on the editorial boards of several medical publications and is a former associate editor of the Journal of Hand Surgery. He also serves as a reviewer for the Journal of Wound and Joint Surgery and the Journal of Orthopaedic Research.

He came to the medical school in 1993 as the first head of the then-new Department of Orthopaedic Surgery. Prior to his arrival in St. Louis, Gelberman had been a professor of orthopaedic surgery at Harvard University Medical School and chief of the Hand Surgery Service at Massachusetts General Hospital.

He received an undergraduate degree from the University of North Carolina at Chapel Hill in 1965 and a medical degree from the University of Wisconsin-Madison in 1969. Gelberman was an intern at the University of Southern California. He completed his orthopaedic surgery residency at the University of Wisconsin. He also completed a fellowship in hand and microvascular surgery at Duke University Medical Center and a fellowship in pediatric orthopaedics at Boston Children's Hospital.
**University Events**

**Washington University to perform works by Argo, Menotti**

**By Lisa Oeten**

The Washington University Opera will stage a pair of 20th-century, Italian-American composer Giacomo Menotti’s “Miss Havisham’s Wedding Night” and “The Medium.” The production is sponsored by the Department of Music in Arts & Sciences in collaboration with the School of the Arts. Performances are at 8 p.m. March 23-24 and March 25 in the University’s Bixby Gallery. 

“Miss Havisham’s Wedding Night” is based on the character from Charles Dickens’ “Great Expectations,” with libretto by John Cline Scoville and music by Menotti. The work opened to rave reviews as the World premiere production at the 1991 Festival dei Teatri in Spoleto, Italy, and has continued to tour extensively around the world since then.

“Miss Havisham’s Wedding Night” tells the story of Miss Havisham, a dowager in her wedding dress forever preserved from the night of her jilted marriage. The story explores the ways Havisham’s past traumas and lairs of self-pity have prolonged her marriage to herself.

The other opera, “The Medium,” is based on the character from the short story by O. Henry and the novella by Thomas Harris, who later became the writer of the best-selling memoir, “A Heart-Shaped Box,” for English composition classes. 

**Writer Dave Eggers will give an Assembly talk on March 22**

**By Marly Perri**

David Eggers, best-selling memoirist and “The Pearl” author, will give a talk Wednesday at 7 p.m. in Graham Chapel. The talk is free and open to the public. Large video screens will allow for a broader audience.

Eggers, who recently wrote “A Hologram for the King,” a New York Times best-seller, is a founding editor of McSweeney’s, a magazine he created in 1997, and winner of the National Book Award for Fiction with his first novel, “The Hologram for the King.”

Eggers now is editorial director of McSweeney’s, a ground-breaking publishing house that produces a popular literary journal that publishes experimental pieces by such authors as David Foster Wallace and Rick Moody. It is known for its unique combination of literary seriousness and pop culture playfulness that would spice debates on a range of topics, from family dynamics to media culture to the role of women in making sense of the world.

Washington University, with its interdisciplinary emphasis on arts and sciences, is the perfect place for Eggers to speak, according to Alexandria Loria, a contemporary literature graduate student.

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**Film**

**Why: “Black Rain” • Neurotoxicity • Mutant Mice • IT Leadership Skills**

**Wednesday, March 14**


**Lectures**

**Friday, March 18**


**Weekend, March 24-25**

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**Sunday, March 25**


**Best-selling memoirist Dave Eggers comes to Graham**

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Poet Lynne McMahon to read for Writing Program

Port Lyne McMahon will read from her work for the University Writing Program Reading Series at 8 p.m., March 21. In her Zero Hour essay, "Writing as Enactment," author and professor of English in Arts and Sciences and director of the Writing Program, "her work reminds us that intellect and emotion are not separate entities, they are luminous kin.


The reading is sponsored by the Writing Program in Arts & Sciences and is free and open to the public. For more information, call 935-7130.

Access to Equal Justice focus of law conference

A federal judge whose sentence was commuted due to new evidence is one of the professors who will be available for a speakers at a law school conference on "Access to Equal Justice." The conference is set for 9 a.m.-5 p.m., March 23 in the South Hall. It will focus on improving the delivery of legal services to under-represented individuals in the St. Louis area and will be co-sponsored by the law school, community organizations and the legal services programs.

The conference will feature presentations by law school faculty and staff, St. Louis legal service providers, legal aid and government leaders, and Missouri Supreme Court and Appellate Court judges. For more information on registering, call 935-4649.

20-point win puts women in Sweet 16

The 20-point win puts women in Sweet 16 with an 87-67 victory over Wisconsin-Eau Claire on March 23 in the second round of the NCAA Tournament. WU jumped on Eau Claire early, pulling ahead 25-3 and allowing the Hawks to shoot just 8 percent in the first 35 minutes. WU extended its lead to as much as 26 points in the second half. Four players scored in double figures, led by Tasja Rodgers' game-high 23 points to go with eight rebounds, four assists and four steals. Sophomore Jennifer Rudis finished with 19 career-high points and 10 boards. Lindsey Merrill scored 12 points and Robyn Lahargue had 10.

Men's hoops out of NCAA Tournament

Ryan Krupka had a long three pointer with four ticks left to lift Elmhurst College to a 78-77 win over the Bears men's basketball team in the second round of the NCAA Tournament on March 3 in Elmhurst, Ill.

District 6: 58-year sentence for weapons

Mary Ethel Distler of Centreville, Ill., was sentenced to 58-year sentence for weapons charges.

Reconciliation services.

For more information, call 935-7130.

Baseball opens 4-1

The baseball team won its first four games and tied a season with a 1-3 weekend at Kelby Field. Four complete-game performances propelled the Bears to the top of the standings. In the games, the team went around 55-0-2, with Karl O'Neal and Noah Valentino picking up the wins.

Track women win UA championship

The women's indoor track, led by 1-3-4 from Sarah Davidzuk, Liza Springer and Elizabeth Sholl, won the University Athletic Association (UAA) Indoor Track and Field Championship on March 2-3. The men's team finished second, trailing Emory University.

The UAA Indoor Track and Field Championships are today and Saturday, hosted by the University of Wisconsin-Oshkosh, St. Norbert and St. John's.

Music

Monday, March 19

8:30 p.m. Senior band concert. Music of The Beatles performed by Brian Baude, director.

Monday, March 22


Music Series.

Tuesday, March 17

12:30 p.m. Men's baseball vs. Westminster College, Kelly Field. 935-5220.

3 p.m. Women's softball vs. Maryville U. Scott Field. 955-5220.

Music Series.

Tuesday, March 20

1:15 p.m. Men's baseball vs. Elmhurst College, New College, Kelby Field. 935-5220.

2 p.m. Women's softball vs. Maryville U. Scott Field. 955-5220.

Music Series.

Wednesday, March 21

12:30 p.m. Men's baseball vs. Wheaton College, Kelby Field. 933-5220.

2 p.m. Women's softball vs. Maryville U. Scott Field. 955-5220.

Worship

Friday, March 16

11:15 a.m. Catholic Mass. Father Joseph Leonard, assistant chaplain to the student body. Location: Kelby Field.

8 p.m. Open mic. 

Saturday, March 17

8:30 a.m. Men's baseball vs. Aurora University.

3:30 p.m. Men's baseball vs. St. Mary's University.

Music

Sunday, March 18

1:30 p.m. Men's baseball vs. Greenville College, Kelby Field. 935-5220.

Music Series.

Sunday, March 19

11 a.m. Men's baseball vs. Wheaton College, Kelby Field. 933-5220.

3 p.m. Men's baseball vs. Wheaton College, Kelby Field. 935-5220.

Music Series.

Monday, March 20

12:30 p.m. Men's baseball vs. Elmhurst College, New College, Kelby Field. 935-5220.

3 p.m. Women's softball vs. Maryville U. Scott Field. 955-5220.

Music Series.

Thursday, March 21

12:30 p.m. Men's baseball vs. Aurora University.

Sports

Friday, March 16

11 a.m. Catholic Mass. Father Joseph Leonard, assistant chaplain to the student body. Location: Kelby Field.

8 p.m. Open mic.

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Music Series.

Wednesday, March 21

10 a.m. Catholic Mass. (Wednesday Mass) in Kelby Field.

Thursday, March 22

7 a.m. Lenten Center Reflection Series. ("Understanding Suffering and Healing.") Father Gregory Meany, O.M.I. (Monday March 6) and Father Eugene Hayes, S.J. (Tuesday March 6) in Kelby Field.

Friday, March 23

11 a.m. Catholic Mass. (Father Joseph Leonard, assistant chaplain to the student body) in Kelby Field.

8 p.m. Open mic.

Saturday, March 24

8:30 a.m. Men's baseball vs. Aurora University.

3:30 p.m. Men's baseball vs. St. Mary's University.

Music Series.

Monday, March 26

12:30 p.m. Men's baseball vs. Aurora University.

3:30 p.m. Women's softball vs. Maryville U. Scott Field. 955-5220.

Music Series.

Monday, March 27

2:00 p.m. Women's tennis vs. Wittenberg U. Tennis Center. 955-5220.

Music Series.

Tuesday, March 28

11 a.m. Assembly Music Series. Women's Week keynote, Linda Noel, author. Location: Kelby Field.

3 p.m. Biochemistry and Molecular Pathogenesis Seminar Series. Michael C. Thurn, Ph.D., associate professor of Immunology and Infectious Disease in the AIDS Department, Tissue Recipients. John Boothroyd, professor of virology and the University's director of microbiology and genetics.


6:30 p.m. Department of Biological Sciences Lecture Series. Robbi Gutierrez and "Tackling Alzheimer's disease." Location: Kelby Field.

9:30 p.m. Poetry reading. Future poetry readings will be available for on-line registration.

Wednesday, March 29

11 a.m. Assembly Music Series. Women's Week keynote, Linda Noel, author. Location: Kelby Field.

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The researchers used stereomaging, a method where three-dimensional objects are reproduced by combining two or more images of the same subject taken from slightly different angles - to reconstruct the physical topography of much of Io's surface. Maps of all the mountains and volcanoes on Io's surface were also made.

"The stereo data and high-resolution pictures taken by the ongoing Galileo mission allowed us and others to confirm that large mountains were indeed built fault blocks and not volcanoes," McKinnon said. "We can see sequences of mountains in early images of Galileo's first flyby and in images of collapses, first tall and steep with456

climbing, then intermediate, and then basically flat."

Working out the irregular and chaotic distribution of the mountain peaks - which is quite different from the linear or accurate patterns found on Earth - allowed the researchers to discover that some mountains are the result of natural disturbances in the surface crust. Io's lava makes it to the surface and normally rises to its heat into - Io has no atmosphere to speak of - of course, volcanoes are notoriously hazardous, so if volcanoes fail in one region, the surrounding crust begins to heat. This causes the crust to expand, generating compressive thermal stress, which in turn forces the crust apart, forming faults and mountains. This helps explain why concentrations of mountains are seen on Io that are separated from one another by thousands of kilometers. The researchers propose that similar events may have occurred on Europa, another satellite of Jupiter, and on the early Earth. Even though the moon has different surfaces - Io is icy, for example - certain geological phenomena. McKinnon said, show evidence of thermal and compressive stresses could operate in situations where a body gets a hot start. The early Earth was hot, and therefore could also have been acted on like in terms of tecnotectonics and volcanism than the Earth today.

McKinnon said, "For this heat, it's like trying to run up a down escalator, you run in place. If the escalator slows down, meaning the lava eruption slows down, then you (the heat) can in fact run to the top."

The researchers used stereomaging - a method where three-dimensional objects are reproduced by combining two or more images of the same subject taken from slightly different angles - to reconstruct the physical topography of much of Io's surface. Maps of all the mountains and volcanoes on Io's surface were also made.

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**Notables**

**Obituaries**

**Margaret J. Sigelnski, 62**

Margaret J. Sigelnski, department secretary in residence life, died Sunday, Feb. 4, 2001, at Barnes-Jewish Hospital after complications from a blood clot. She was 62. Sigelnski had worked for the University for 17 years. She is survived by her husband, William J. Sigelnski; four sons: Marc, of St. Louis; Steven Leperini of Torrance, Calif.; Michael Leperini of Chicago, Ill.; and Michael Leperini of House Springs, Mo.; daughter, Denise Wanser of Florissant; mother, Josephine Nagle of Theodosia, Mo.; Joan Walton of Cottage Hills, Ill., and 19 grandchildren.

**Enrique Higa, 61**

Enrique Higa, M.D., former associate professor of medicine at the School of Medicine, died Monday, Feb. 19, 2001, of cancer at his home in Chesterfield, Mo. He was 61.

**Raymond Gerfen, 33**

Raymond W. Gerfen, former medical research technologist in neuroscience and neurosurgery at the School of Medicine, died Saturday, Feb. 24, 2001, after being struck by lightning at his home in St. Clair County. He was 33.

**Protein**

**Study uncovers new contributor to brain damage**

Several organs, including the brain. But its role in nerve cell damage was unclear. So the researchers determined how mice lacking clusterin react to brain injury. The mice suffered roughly half as much brain injury as mice that were able to make clusterin.

"We thought clusterin might help protect cells against injury," Holtzman said. "But apparently, it actually contributes to cell death." Two observations made the researchers conclude that clusterin is not involved in apoptosis. First, the lack of clusterin in the genetically altered mice caused no harm to the brain cells. Second, the brain cells that accumulated clusterin and the cells with activated caspase-3 did not overlap — cells had clusterin or caspase-3 but not both.

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**Necrosis might account for the other half of brain injury after prenatal or perinatal brain trauma. It is also might account for most of the cell death after adult brain injury. But because scientists have not identified all the key components of the necrosis pathway, it has been difficult to intervene to prevent it from killing."**

To identify the main factors that contribute to the aftermaths of decreased oxygen and blood flow to the brain in newborns, Holtzman's team first examined a mouse model of cerebral palsy that mimics the effects of H-I injury. They found that an enzyme called caspase-3 became highly active in the brain cells of these mice, indicating the onset of apoptosis. But some of the dying brain cells had large amounts of clusterin. Clusterin was known to contribute to cell death during in several organs, including the brain. But its role in nerve cell damage was unclear. So the researchers determined how mice lacking clusterin react to brain injury. The mice suffered roughly half as much brain injury as mice that were able to make clusterin.

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Bruce Backus handles everything from routine questions to earthquake and flood plans

By DAVID LINZEE

Bruce D. Backus

Born: Oakland, Calif.
University position: Director, Environmental Health and Safety Office in the School of Medicine
Education: B.A., Chemistry, Massachusetts College, M.S., Chemical Engineering, University of Minnesota; Twin Cities Campus
Family: Wife Liz, children Will, 10, John, 9, Carolyn, 3

Bruce Backus and his staff draw most attention when, laden with equipment, they’re rushing down a corridor to the scene of a chemical spill or an emergency indoor air quality response. But dealing with emergencies is a small part of the Environmental Health and Safety Office’s (EHS) job.

Most of the 200 calls and e-mails that come in on an average day are mundane—questions about complying with government regulations or requests for hazardous-waste pickup. Backus, the director of EHS in the School of Medicine, wants his staff of 32 to stay in close touch with labs because he believes that cooperation is the way to avoid violations and accidents.

“We’re not the police,” Backus said. “We’re partners with the researchers.”

The faculty welcomes this approach. “The EHS is a partner with us, and Bruce helps us do it. He is knowledgeable and practical, a real

Backstopping researchers’ safety

Bruce Backus said his employer supported Backus’ pursuit of a master’s degree in chemical engineering while he continued to work full time. After graduation, Backus was undecided as to whether he wanted to go into biotechnology and the pharmaceutical industry. The opportunity to work with Fay Thompson, Ph.D., E.I.H., a leader in the environmental health and safety field, led him down the environmental path.

In 1988, he joined Thompson at the Department of Environmental Health and Safety at the University of Minnesota, which was to prove as challenging as all five university campuses. Ten years later, he came to Washington University’s medical school.

His work here has won high praise from top administrators. “Bruce has a unique ability to discern the needs of faculty, understand the regulatory issues and deploy his staff and resources to provide a safe, healthy environment,” said Denise A. McCormay, associate vice chancellor for research.

Walter W. Davis Jr., assistant dean and chief facilities officer, said, “Bruce is an enormously important part of the university’s success.”

Backus has been a partner in the school’s outreach and diplomacy rather than detective work.

In his rare quiet moments, Backus gets to sit back and contemplate disaster. He is the medical school’s point man for figuring out what to do in the event of a bioterrorism strike, earthquake, flood or other calamity.

“We have plans in place,” he said. “Our job is to protect the students, but we must also ensure the safety of medical school people and protection of our research and teaching programs.”

Backus and his family live in Kirkwood. His wife, Liz, a former real estate analyst, has a journalism degree. Currently, she is a volunteer teacher and an activities leader at church and schools their three children attend. On weekends, the family enjoys outings to such destinations as the Magic House and Elephant Rock State Park. The Backus children are also fascinated with model rockets, like dad.

His scientific curiosity, which has widened with the years, serves him well in a job that calls for many diverse research projects.

Backus was one of the first people here to see the experimental and clinical potential of our work on protein translocation and that enabled him to make sure the safety issues were covered,” said Steven F. Dowdy, Ph.D., assistant professor of pathology.

But Backus’ fascination with the medical research going on at the university goes beyond the requirements of his job.

“This is a worldclass institution,” Backus said. “I get caught up in the excitement.”