WUSTL plays key role in Phoenix Mars Mission

BY TONY FITZPATRICK

Once a stunningly successful landing of NASA's Phoenix Mars Missionlander May 25, mission researchers centered at the University of Arizona have rolled up their sleeves and commanded the lander to find soil and ice samples and are taking and analyzing pictures from the Red Planet's frigid northern hemisphere.

Among those mission workers are the chairs of WUSTL's earth and planetary sciences department, a computer specialist in the department and four earth and planetary science students.

The goal is to infer from images and other data the geological history of the landing site and imply some theories about current and past climate.

Raymond E. Arvidson, Ph.D., the James S. McDonnell Distinguished University Professor and chair of the earth and planetary sciences department, in Arts & Sciences, has extensive experience in planetary landing operations.

He participated in the two Viking Lander missions in 1976, helped select the landing site for the 2004 Mars Exploration Rover (MER) mission, and then guided the activities of the rovers Spirit and Opportunity as the mission's deputy principal investigator.

Accordingly, Arvidson is chairman of NASA's Phoenix landing site working group.

He also is co-investigator for the Phoenix robotic arm, a crucial instrument that will gather the soil and ice samples, is in charge of acquiring mission data, and was a key science lead for operations for the first week of the mission, a critical time.

The primary mission is brief, just 90 days.

Just one week after landing, the Phoenix Mars Lander took its first scoop of Martian soil to test the robotic arm and passed with flying colors.

According to Arvidson, the researchers will test and analyze soil samples using an array of sophisticated instruments. They also will perform trenching operations to dig down to ice and take soil samples over the next few weeks. They will continue analyzing the surface and perform sky and weather station measurements.

"I am now the 'dig guy,' helping organize the science team's desires for digging and sampling with the robotic arm," Arvidson said. "So, I manage the excavations with the backhoe mode of the scoop and the ice arm."

Matthews urges graduates to grab hold of place in history

BY LESLIE GIBSON McCARTY

If a person of your times but also of your country, said Chris Matthews to the Class of 2008 during the 147th Commencement cere-

mony.

"The journalist, political commentator and host of MSNBC's "Hardball" in a measured speech, extolled self-creation and optimism for America, telling the audience of more than 14,500 that the future of the United States lies sketched out in the minds and hearts of the 2,655 graduates sitting before him."

"What you hope to do is that this is the first draft of what America is some day going to look like," he said.

In between, he discussed themes he thought made America the country that is individualism, self-invention, rebirth, looking out for the little guy and an optimistic, pioneering spirit.

"All of these, according to Matthews, 'shaped us from the 'isms' of the 20th century and led us to champion war,' he closed: "The United States, and the United States of America, and them."

In Matthews' commencement speech, he began the current political climate and the upcoming presidential election. "I cannot recall a time when there's been so much excitement, so much passion for an American election," he said, citing the polarities that exist in this country over the candidates.

Matthews said that the candidates for the American election, "so incredible, and my teammates were cheering loud, which helped our team should feel good about the accomplishment."
**Architects win JP Morgan Chase Community Development Competition**

**By Lisa Ottken**

A design proposal by 10 architecture students from the University of South Florida has won the 2008 JP Morgan Chase Community Development Competition. The students will each receive $15,000 to pursue their ideas.

The first-place award of $25,000 will provide seed money for the realization of the competition, which is scheduled to begin later this year. When completed, the project will house street-frontalow- and high-rise offices for small- and medium-sized businesses. It will provide office space for small business associations, including offices and classrooms for the University of South Florida.

The second-place prize of $15,000 was awarded to a design by 10 students from the University of Texas at Austin. The team's concept was to create a mixed-use development that would include commercial and residential spaces. The third-place prize of $10,000 was awarded to a design by 10 students from the University of California at Berkeley. The team's concept was to create a mixed-use development that would include commercial and residential spaces.

**Time to renew Metro U-Pass**

The employer 2008 U-Pass program, which allows WUSTL students to use the St. Louis Metropolitan System for free, will end on June 30. After that date, students will be required to pay for the pass on their own. Students who do not pay for the pass will not be able to use the Metro system.

**Engineering undergraduates study in China this summer**

**By Tony Fitzpatrick**

Rash Chou, Ph.D., research associate in the Department of Energy, Environmental and Chemical Engineering, and Jay R. Turner, Ph.D., associate professor of chemical and biological engineering, are leading an international exchange program for the department this summer to Beijing.

In this inaugural International Experience Class, the purpose is to further enhance the global learning experience of undergraduate engineering students in areas of energy, environment, and transportation. This will provide students with an understanding of the cultural, linguistic, and geographic diversity of China, as well as an understanding of China's role in the world.

After classes at MAGEE partner universities, the program will conclude with a 3-week seminar and student engagement in project execution, including presentations and seminar reports. The MAGEE program is designed to provide a comprehensive understanding of the engineering culture and language of the country.

This program offers an unique opportunity for engineering students to engage with global perspectives and to develop the skills necessary to succeed in a global marketplace. The program will provide students with an understanding of the cultural, linguistic, and geographic diversity of China, as well as an understanding of China's role in the world.

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Disabling enzyme in mice increases fertility 50 percent

By Michael C. Perry

Changing the sugars attached to a hormone produced in the pituitary gland increased fertility in mice by nearly 50 percent, researchers at the School of Medicine have found. School of Medicine research has found that the loss of a glycosylation process after a reproductive thermostatic, one of the main pathways that is essential for the pituitary gland to work properly, has led to significant growth and transformation for this previous experimental work. It was expected that Rick will bring his high energy and passion for his work to the School of Medicine.

"We don't have a lot of prevention strategies for premature menopause and breast cancer," said lead investigator Graham C. Baenziger, M.D. "One could speculate that fertility problems in some humans could be partly related to a defect similar to the one we observed in the female mice."

Scientists believe sugar attaches to reproductive hormones and changes their ability to be recognized by the cells that respond to them. For example, if the correct version of this sugar is not present, the hormone could not properly attach to the cells. Researchers at the School of Medicine have found that when this sugar is not present, the hormone is not able to bind to the cells and thus cannot be recognized by the body.

"One-fourth of all breast cancers are diagnosed in women before menopause," remarked co-investigator Graham C. Baenziger, M.D. "Our findings clearly show that physical activity reduces the risk of postmenopausal breast cancer, but the few studies that have looked at the influence of exercise on breast cancer risk before menopause have produced conflicting results."

For the current analysis, researchers examined data on a cohort of women enrolled in the Nurses' Health Study II, a prospective study of registered nurses ages 24-44. These 64,077 women had filled out detailed annual nutritional questionnaires about their levels of physical activity from age 13 to 24. After six years of follow-up, 550 women had been diagnosed with breast cancer.

The researchers found the age-adjusted incidence rates for invasive cancer dropped from 194 cases per 100,000 persons in the last active youth to 136 cases in the most active. The levels of physical activity reported by the most active women were the equivalent of running 3.25 hours a week or walking 13 hours a week. The benefit of exercise was not linked to a particular sport or intensity but related to total activity.

"You don't have to be a marathon runner to get the risk-reducing benefits of exercise," Colditz added.

One leading theory to explain the lower risk of breast cancer among active women is that exercise reduces their exposure to estrogen. Numerous studies have shown that the more estrogen a woman exposed to, the greater her risk for breast cancer. Exercise, particularly running or enter more estrogen early have a negative influence on breast cancer. And young women who are physically active are more likely to start their periods later and less likely to have regular cycles when they begin their periods.

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Girls, women can cut risk of breast cancer through exercise

By Caroline Arias

Girls and young women who exercise regularly between the ages of 12-15 lower their eventually risk of breast cancer compared with less active peers, research shows.

In the largest and most detailed analysis to date of the effects of exercise on premenopausal breast cancer risk, researchers at the School of Medicine found that of nearly 65,000 women that those who were the most active at age 14 had a 50 percent lower risk of breast cancer before menopause compared with the least active girls.

The study, by researchers at the School of Medicine and Harvard University, is available online in the Journal of the National Cancer Institute.

"We don't have a lot of prevention strategies for premature menopause and breast cancer," said lead investigator Graham C. Baenziger, M.D. "One could speculate that fertility problems in some humans could be partly related to a defect similar to the one we observed in the female mice."

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The Gateway Festival Orchestra begins its 45th season of five Sunday-evening performances July 6 with a program of American music designed to celebrate the Independence Day weekend. Subsequent concerts, which are free and open to the public, will be held July 13, 20 and 27. All begin at 7:30 p.m., and all, with the reception of the July 27 performance, take place in Brookings Quadrangle. The public is encouraged to bring lawn seating and bring those concerts.

The July 6 opening features works by Samuel Barber, Leonard Bernstein, Henry Mancini, John Williams and John Philip Sousa. James Richards, Ph.D., chair of the Department of Music at the University of Missouri-St. Louis, conducts the orchestra. Jessica Platt, who teaches at Webster University's Community Music School, appears as soloist in Barber's Violin Concerto.

The season continues July 13 and 20. On July 13, the orchestra highlights dance music — from the polka and waltz to the cakewalk — by John Cremet, Johann Strauss Jr., Jacques Offenbach and Alexander Borodin. The July 20 program features works by Austrian-born composers Franz Schubert and Wolfgang Amadeus Mozart. Andrew George, winner of the Saint Louis Youth Orchestra Concerto Competition, appears as soloist for Mozart's Concerto for Clarinet.

The music of Italy dominates the concluding concert, which takes place July 27 in Graham Chapel and features works by Antonio Vivaldi, Giuseppe Verdi and Pietro Mascagni. Kristy Yang, winner of St. Louis' 2008 Italian-American Piano Competition, is the soloist for Edvard Grieg's Piano Concerto, Capriccio Italiano, an homage to Pietro Birich Tchaikovsky, closes the program.

The Gateway Festival Orchestra was established in 1964 by conductor William Schatzkamer, WUSTL professor emeritus in piano in the Department of Music in Arts & Sciences, and other local musicians, as part to provide summer employment to members of the Saint Louis Symphony Orchestra.

Gateway was the first integrated professional orchestra in the St. Louis area and ultimately led to the merger of the Black Musicians' Association with the Musicians' Association of St. Louis (now Local 197 of the American Federation of Musicians). The group originally performed on the downtown riverfront but relocated to the University in 1970.

For more information, contact the Gateway Festival Orchestra at 741-9484 or gatewayfestivalorchestra.org.
treatment and lead to the develop-
ment of new types of drugs that target the underlying cause of inflammatory lung disease.

"With our results, we can now work
developing more rational
designs to manage and treat
tuberculosis, asthma, COPD, and other pulmonary diseases," Holtzman said. 

"It is a clear demonstration that blocking the immune response to the virus could be a potential therapy for tuberculosis, asthma, and COPD.

"This work is a significant step towards developing new treatments for these diseases, which are leading causes of death due to a lack of effective
treatment options.

"The findings will help to design new therapeutic strategies for these conditions, leading to better outcomes for patients.

"This research highlights the importance of understanding the interactions between the immune system and the pathogen, which is crucial for developing effective treatments.

"I am excited about the potential of this work and look forward to further investigations to fully understand the mechanisms underlying these diseases and how to target them more effectively.

"This study is a significant milestone in our understanding of the immune response and the development of new therapies for tuberculosis, asthma, and COPD. It opens up new avenues for research and development in this field, leading to improved outcomes for those affected by these conditions."
Americans love rebbe who began selling ties from left-
Washington University in St. Louis

June 12, 2008

Notables

Bear Cub Fund grants given to five WUSTL professors

BY CAROLINE ARBANAS

Washington University has awarded four Bear Cub Fund grants totaling $150,000 to support innovative research projects that could be attractive for licensing by commercial entities or serve as the foundation for startup companies.

The grants were awarded to William A. Fraizer, Ph.D., professor of chemistry and biochemistry; Gerald Linette, M.D., Ph.D., associate professor of medicine; Daniel W. Moran, Ph.D., assistant professor of biomedical engineering; and John M. Doris, Ph.D., associate professor of philosophy, and Kenneth Polonsky, M.D., assistant professor of medicine. The awards are among 12 area health-care-focused organizations the University School of Medicine.

John M. Doris, Ph.D., associate professor of philosophy at Washington University, received the honor at the society's annual meeting in Vienna, Austria, in March. The society has more than 30,000 members, representing a wide range of disciplines, at more than 30,000 members, representing a wide range of disciplines, at institutions around the world.

Betty Anne Moran has a background in cardiovascular surgery and has been involved in research on the body's response to insulin by administering the hormone Xenin-1. Researchers have developed a potential treatment for type 2 diabetes. This form typically develops later in life but is becoming more common among overweight children and teens. The researchers have had success in developing a mouse model of type 2 diabetes and found that they can restore the blood sugar response to insulin by administering the hormone Xenin-1.

Gordon's talk on "The Human Microbiome" was presented with ACPA and the profession's practice on the state and national levels. "It's always an honor as well as a challenging experience to be nominated and recognized by the American College of Physicians," said Carnaghi, who has received much more professional and personally from work with ACPA than he has ever contributed, though he has received more recognition for his work on the American Foundation for Medical Research, Inc. "We are honored to have you with us today as our keynote presenter at the Society of Biomedical Sciences, as one of the American College of Physicians' annual meetings in April 6-10. Gordon's talk was titled "The Human Microbiome: Exploring the Microbial Side of Ourselves."

Jeffrey L. Gordon, M.D., the Robert J. Glazer Distinguished University Professor and director of the Center for Genome Sciences, was a keynote presenter at the Society of Biomedical Sciences 14th Annual Conference in St. Louis April 6-10. Gordon's talk was titled "The Human Microbiome Project: Exploring the Microbial Side of Ourselves."

Obituaries

Berg, 69

Edward Frank Berg, M.D., assistant professor of ophthalmology and head of the Division of Emergency Medicine at Washington University School of Medicine, died suddenly Thursday, May 15, 2008.

Jermyn, 57

John William "Bill" Jermyn III, 57, died suddenly Thursday, May 15, 2008. He was 69.

Keathley, 78

Stansun Keathley, secretary III at the Mallinckrodt Institute of Radiology who retired in 1993, died suddenly Thursday, May 15, 2008, of complications from Alzheimer's disease at her home in St. Louis. She was 78.

For the Record

Speaking of...
Rich Luenemann goes over strategy with his players during last season's national championship game against the University of Wisconsin-Whitewater, which resulted in a victory for the Bears and WUSTL's ninth Division III title in volleyball. "He brings energy, passion and organization to each and every practice and competition," Athletic Director Teri Schaal says.

Accidental volleyball coach

Luenemann, who grew up in Litchfield, Ill., was a 24-year-old college graduate in 1974 looking for work. That is when he got a job teaching mental health at a middle school near Chicago.

"That was a tough time to be looking for a job as a teacher," Luenemann says. "Mental health! I wasn't feeling real good 1974. To then have an opening come up in the district for a head volleyball coach, and the superintendent asked me if I wanted the job, I said yes."

"I had no desire to be a volleyball coach," Luenemann says. "I had been teaching basketball at a high school and played football in high school, but volleyball?"

Luenemann says he reluctantly agreed, but only if the superintendent would call him coach, not teacher. "Next thing I know, he's telling me I'm coach Luenemann," Luenemann says. "I said to him, 'You really didn't look for anyone else, did you?' He said no. I didn't know I was a head volleyball coach. That first year, we were OK. The second year, we came in third in the district.

A few years later, Luenemann saw an ad for a junior varsity volleyball coach at the College of St. Francis (now University of St. Francis) in Joliet, Ill., a National Association of Intercollegiate Athletics (NAIA) school where Chicago coaching legend Gordie Gillespie coached baseball and later football.

"His name was on the ad as athletic director," Luenemann says. "I applied for the job simply because I wanted to meet Gordie!"

Luenemann accepted the offer mainly to work under Gillespie, the winningest baseball coach in college history at any level and the designated NAIA Coach of the Year who still coaches baseball at St. Francis at age 82. "I got to watch Gordie in action," he says. "I'd watch his demeanor, his interaction with the players, his game management — he was the best I ever saw!"

By 1981, Luenemann was head coach at St. Francis, where he amassed a 399-262 record (492 in 18 seasons — including seven trips to the NAIA tournament. He was inducted into the NAIA Hall of Fame in 1996.

A perfect fit

Luenemann wasn't exactly unknown when he got word Washington University was looking to replace a legendary coach named Jeri. "It was a no-brainer," Luenemann says. "I pursued it with all the zest I could, including offering to wash John Schaal's car," he says.

Schaal, WUSTL's athletic director since 1978, says Luenemann was a perfect fit.

"His reputation for integrity, character and knowledge of the game when coupled with his experience, enthusiasm and fit within the WUSTL-community made our choice an easy one," Schaal says.

Luenemann began working at WUSTL March 1, 1996, sleeping in historic Francis Gymnasium five nights a week for months until he found a house for his family in Edwardsville, Ill.

From the beginning, Luenemann immersed himself in recruiting students first, athletes second. "I want the kids in class," he says. "The academic community really values that, but not the primary focus here. I want recruits who come on campus to talk to professors as part of their visit. I want the University to sell itself first, then we'll talk volleyball.

Luenemann talks about his players' academic prowess like a proud father. "My favorite times with my team are on the bus when we're coming home from a road game, and I'm just sitting back listening to the conversations of the players," he says. "It's an interesting audience — they're talking about medical procedures — and I want to jump in and say 'Hey, didn't you study the Cardinals?'"

But even with the players, he has a 314-41 record and surpassed 900 career wins last season for a career total of 904-303 (.749). He reached the NCAA regional tournament his first season and the NCAA tournament in each season since, reaching the title game five times and winning it twice.

"He brings energy, passion and organization to each and every practice and competition," Schaal says. "Always prepared, Rich has high expectations for himself and the student-athletes representing Washington University volleyball. He treats each player with dignity and respect regardless of the competitive situation."

"Luckiest guy in the world"

Yet Luenemann is not one to be complacent — or allow his players to be either. Back at spring practice, with the team sufficiently warmed up, Luenemann walks in the gym and tapes a newspaper clipping to the bleachers. It's a column by St. Louis Post-Dispatch sportswriter Bernie Mallek about the grip job of St. Louis Cardinals player Albert Pujols.

The team huddles around reading passages highlighted by Luenemann that compare Pujols to the 1934 Cardinals — the Gas House Gang — who were known for their gritty, hard-nosed play. Another passage contained a quote but doesn't exactly capture baseball legend Leo Durocher: "Give me some bitches and let's get going — the only players who come to kill you!"

"It's an approach Luenemann has and one his players adopt on the court. When asked if his team can win the national championship, Luenemann doesn't say "We can," or "This team can win," just "Our players can." "Some coaches will say winning is the most important thing," he says. "Winning is not the most important thing, but the will to win is. We begin a season and say, 'Let's win the national championship.' It's not a constant conversation, but it's stated and it's something we have in the back of our minds. Then we'll work hard to reach that goal."

There's that work ethic, again, willing his teams to the top.

"Without a doubt, our chemistry is the key to our success," he says. "A common thread in our program is that our players are successful to begin with or they play for a very successful to begin with or they have the support of the director council president and academic council and they bring that same work ethic to the court."

But it wasn't forever. Luenemann already has made it known he will coach for four more years and then "I'll pass it along," he says. "He's doing it for his family. "We as coaches are somewhat selfish in that we all revolve around us," he says. "I've really enjoyed coaching — in many ways it is the greatest enjoyment I've ever had — but in four years, it will be time for my wife, Joan, to dictate our lives."

" joan is my coach," he says. "She is the couch of the bank accounts and the bill-paying and the kids and all the other things that makes a family — and they bring that same work ethic to the court."

"I am the luckiest guy in the world," he says. "Am I the luckiest guy in the world? I spend six days a week in the fitness House. The Ritter Plass, the rhythmic sound of volleyball hitting a hardwood floor resonates. The last spring prac- tice for the volleyball team — the national championship volleyball team — is about to begin."

Not a coach in sight as the players continue their drills, serve after serve, volley after volley. This is not a team that rests on its laurels; the young women know it is in moments of repetition like these where champions are made.

"We always come early to warm up," rising senior Audra Janak says. "We don't want to waste his time."

"His" refers to affable, unassuming coach Rich Luenemann, a man with 904 career victories, two national titles and enough coaching honors — including National Coach of the Year in 2003 and 2007 — to fill a wall.

And yet, Luenemann would be the first to tell you he's the most undeserving coach out there and owes it all to the players he has had the privilege to coach in 27 college seasons. That and the two men who led him into volleyball.

"I pursued it with all the zest I could, including offering to wash John Schaal's car," he says.