Students gain real-world business experience through StEP program

By Neil Schonbrunn

Historically, the number of new, entrepreneurial ventures rises during periods of recession. If jobs aren’t available in the traditional market, the argument goes, why not start your own company?

Thanks to a program on campus, WUSTL students are doing just that, creating, purchasing and selling on-campus businesses as undergraduate students. It’s called the Student Entrepreneurial Program (StEP) and it helps uniquely position students to get hands-on experience as entrepreneurs while they still are in school.

The experience of running an actual business gives students a huge advantage when they graduate — years ahead of fledgling entrepreneurs taking their first steps.

"The students see this as an experience that will carry them forward, whether or not they are working in business after graduation," said Mary Zabrienske, coordinator for special projects in Campus Life and chair of the StEP advisory board.

While there are more than 700 entrepreneurship programs in the United States, only a handful of universities offer students the ability to operate businesses with allocated, subsidized storefront locations. Students not only learn valuable business and entrepreneurial skills in the classroom, but they also learn and gain valuable experience managing their own businesses.

StEP was formed in 1999 to promote and support the entrepreneurial interests of all undergraduate students, not just those enrolled in Olin Business School.

To open a new business, students must present a business plan. Students interested in purchasing an existing StEP business are required to attend a "Buying a Business" workshop, taught by Clifford Hokensdorp, senior lecturer in entrepreneurship and a member of the StEP advisory board. A workshop on selling a business will start this year.

Business owners must be full-time undergraduate students. They must sell their businesses to new owners before they graduate.

Currently, nine student-run businesses operate on campus through the Student Entrepreneurial Program, including the Central Fiscal Unit, a nonprofit that provides discounted dormitory sleeping bags. Hors, SWAP, University Trucking/Res Fridge, Greek goods and custom apparel, water cooler rental and eight others.

Excellence effort has been underscored through the Plan for Programmatic initiatives developed through the Plan for Excellence.

BY TIM DREYER

New findings from School of Medicine nutrition research suggest that it’s not whether body fat is stored in the belly that affects metabolic risk factors for diabetes, high blood triglycerides and cardiovascular disease, but whether it collects in the liver.

Having too much liver fat is known as nonalcoholic fatty liver disease. The researchers reported online in the Journal of the Pan American Society of Medicine. They also have seen increases in production of fat particles in the liver that are secreted into the bloodstream and increase the level of triglycerides.

In experiments, scientists have noted that whereas individuals carried body fat according to their metabolic and cardiovascular risk. Increased risk inside the belly, known as visceral fat, is associated with an increased risk of diabetes and heart disease.

"Data from a large number of studies shows that visceral fat is associated with metabolic risk, which has led to the belief that it might even cause metabolic dysfunction," said senior investigator Samuel Klein, M.D., the Danforth Professor of Medicine and Nutritional Science.

"However, visceral fat tracks closely with liver fat. We have found that excess fat in the liver, not visceral fat, is a key marker of metabolic health," said Klein. "Visceral fat might simply be an innocent bystander that is associated with liver fat."

Klein directs the Division of Gastroenterology, Nutrition and Liver Disease, the Center for Applied Research Studies, and the Center for Human Nutrition. He said most of our body fat is located under our skin, but about 10 percent of fat is inside the belly, which can have a much increased risk on organs such as the liver and muscle.

"Visceral fat could be a cause for great concern in people with elevated and normal amounts of liver fat. Through careful evaluations, obese people with different amounts of visceral fat or liver fat, Klein’s team determined that excess fat inside the liver is particularly dangerous."

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Liver

from Page 1

Liver identifies those individuals who may be at risk for metabolic problems.

"We don't know exactly why some patients develop fatty livers, but we believe that fatty livers do accumulate in people who are obese and in people who are not," said first author Ola Fabry, M.D., Ph.D., associate professor of medicine. "But our data suggest that a protein called CD36, which controls the transport of fatty acids from the bloodstream into different tissues, is involved."

The researchers found that CD36 is more strongly expressed in tissue and higher in muscle tissue among people with liver fat. Changes in CD36 activity could be responsible for diverting free fatty acids into the liver and muscle tissue, where they are converted to triglyceride, researchers said.

Increased uptake of fatty acids could be responsible for reducing liver fat and improving liver insulin sensitivity," Klein said those who are obese but do not have high levels of fat in the liver. Reducing liver fat, however, is especially important because lowering liver fat might help prevent disease and diabetes. He said they need to be treated aggressively because liver fat reduces insulin sensitivity because dropping pounds can make a big difference.

"One thing that is completely reversible," Klein said. "If you lose weight and reduce your waistline, you can markedly reduce the fat content in your liver. In fact, even as low as 10 percent caloric restriction can cause a large reduction in liver fat and improvement in liver insulin sensitivity."

Finances

WUSTL has "underlying financial strength" - from Page 1

well, too, bringing additional financial resources to the School of Medicine according to the partnership agreement we have with them. But the "suites" is only a two-year program. Further, competitive high unemployment and the associated loss of health insurance benefits likely would end recruiting and hiring of administrative and academic staff, as well as[indiscernible]

Despite our financial chal-

lenges, we remain committed to supporting our core mission. We have set a priority to meeting the financial aid needs of continuing students as they complete their degree programs at WUSTL.

In the past few years, we have added 20 percent to our financial aid budget for undergraduates. Further, we responded to new financial aid requests from stu-

dents returning this fall with an additional $2.3 million for the financial aid budget.

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Among the latest equipment acquisitions is NanoMan, an advanced tool that allows precise enough to manipulate individual atoms, and offers training sessions on its instru-

tments and is available to both academic and corporate scientists. AsNanoMan is an exciting platform for academic, corporate and industrial use, we will be working closely with David Blasingame, executive vice chairman, for more information, visit nano.wustl.edu/symposium.aspx or call 935-8892.

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Dementia induced and blocked in Parkinson's fruit fly model

Parkinson's disease is well known for impairing movement and causing tremors, but many patients also develop other serious problems, including sleep disturbances and dementia. For the first time, School of Medicine researchers have modeled Parkinson's-associated dementia. They have shown that a single night of sleep loss in genetically altered fruit flies caused long-lasting disruptions in the flies' cognitive abilities comparable to aspects of Parkinson's-associated dementia. Then they blocked this effect by feeding the flies large doses of the spice curcumin, a derivative of the spice turmeric.

Author James Galvin, M.D., associate professor of neurology, of psychiatry and of neuroscience, and senior author Paul Shaw, Ph.D., assistant professor of neurobiology, published their results in a recent issue of the Journal of Sleep.

Galvin is an expert in cognitive impairments in human Parkinson's disease, and Shaw studies sleep and the brain in fruit flies. The researchers collaborated based partly on evidence showing that increased sleep loss in Parkinson's patients can precede or coincide with increased severity in other Parkinsonian symptoms.

More than 74 percent of Parkinson's patients have trouble sleeping, and up to 80 percent of patients over 65 who have Parkinson's disease for seven years will develop dementia, Galvin said.

Shaw's lab has linked sleep loss to changes in the dopaminergic system of the brain, which produces the neurotransmitter dopamine and is at the center of the damage Parkinson's causes. "In healthy flies, sleep deprivation decreases dopamine receptor expression and causes partial learning impairments that are fully restored after a two-hour nap," Shaw said.

Shaw and Galvin studied fruit flies genetically modified to make a human protein called alpha-synuclein in their brains. Scientists have shown that it aggregates in the brains of Parkinson's disease patients and says the process that causes the aggregates are harming dopamine-producing cells.

Tests showed that flies with alpha-synuclein in their brains could still learn when they were middle aged.

But when deprived of sleep for 12 hours, their ability to remember was more severely impaired than young, healthy, sleep-deprived flies.

Galvin had earlier found that curcumin blocks alpha-synuclein aggregation in cell models of Parkinson's disease. Based on this, researchers fed curcumin to a new batch of flies, repeated the test and found middle-aged flies with alpha-synuclein retained their ability to learn as well as normal young flies.

"Thanks to this model our labs have created, Dr. Galvin and I can not only quickly test potential new treatments for these symptoms of Parkinson's, we can also move up our treatments in terms of the timeline along which the disorder develops," Shaw said.

"That may give us a real chance to change the course of the disease," he said.

Seasonal flu shots begin Sept. 29 for School of Medicine employees

The School of Medicine will offer free seasonal flu shots to its faculty, staff and students around its campuses this fall. Seasonal flu shots will begin Tuesday, Sept. 29, and continue through Oct. 28. The University will provide additional details about H1N1 vaccination schedules for the center's patient and community in the coming weeks.

The center says, flu vaccines protect against the three main flu strains that researchers indicate will cause the most illness during the flu season — it is not expected to protect against the H1N1 flu.

Anyone who wants to reduce the chances of getting the seasonal flu can get vaccinated. The center for Disease Control and Prevention (CDC) has recommended since 1984 that health-care workers be vaccinated annually.

James F. Crane, M.D., associate vice chancellor for clinical affairs and chief executive officer of the Faculty Practice Plan, said vaccination is sound medical policy.

"It protects the health of our employees and their families and also protects our patients for acquiring severely ill," Crane said. "This is particularly important when caring for older adults who are at higher risk for dying from seasonal influenza. Seniors account for 30 percent to 40 percent of the patients we treat, and we are best protected when those working in a health-care setting are immunized, thus creating a defensive shield around them."

Karen Winters, M.D., assistant professor of medicine and director of the Student and Employee Health Service at the medical school, said that supplies of seasonal flu vaccine should be adequate.

"We strongly encourage everyone to get vaccinated for their protection and others," she said.

Washington University in St. Louis (WUSTL) announced in first case of H1N1 influenza on the Danforth Campus Sept. 8, with several additional cases reported in the following days.

The H1N1 flu vaccine has been approved and should be ready for release in October. H1N1 vaccine production will not meet the demand for the general population immediately, so H1N1 vaccinations will be given on a priority basis to people identified to be at highest risk. Distribution of the H1N1 vaccine will be implemented through departments of health at the direction of the U.S. government.

School of Medicine infectious disease experts are working with local health departments to understand and develop a plan for H1N1 vaccination that will be given on a priority basis to people identified to be at highest risk. Distribution of the vaccine is expected to be made available initially to high-priority groups including:

• children ages 6 months to 4 years;
• children and adolescents ages 5-18 who have medical conditions that put them at higher risk for influenza-related complications, such as asthma, diabetes or suppressed immune systems.

In addition to vaccination, other ways to prevent the flu are getting proper rest, nutrition and exercise; regularly washing hands with soap and water, especially after coughing or sneezing, or using alcohol-based hand sanitizers; covering the mouth or nose with a tissue when coughing or sneezing into the elbow or upper arm, and avoid moving to crowded areas.

It is important for all people who are sick with the like symptoms to stay home and recover — this will help to reduce the spread of infection.

Those with suspected or confirmed flu should not return to work or school for at least 24 hours without the aid of fever-reducing medications. Symptoms usually last about seven days.

For more information, visit wustl.edu/flu.

Michalski named vice chair of radiation oncology, director of clinical programs

J FM. Michalski, M.D., professor of radiation oncology, has been named vice chair and director of the Department of Radiation Oncology.

Dr. Richard F. Hallahan, professor and head of the Department of Radiation Oncology and a member of the Mallinckrodt Institute of Radiology, announced Michalski's appointment.

The department also is affiliated with the Brain Therapy Center, the Proteus Medical Group and the Breast-cancer and off-campus programs.

"This is an excellent opportunity for Dr. Michalski," Hallahan said. "Dr. Michalski has been a champion for our faculty and staff. He's the kind of leader that I enjoy and in which I have significant experience and skill. In particular, I look forward to working with our physicians, medical physicists and administration to grow our clinical activities while maintaining the highest quality of care. I also look forward to growing our interdisciplinary research portfolio with our colleagues in the Mallinckrodt Institute of Radiology."

The Department of Radiation Oncology is a component of the Mallinckrodt Institute of Radiology. Michalski joined the Department of Radiation Oncology in 1991 and was named professor of radiation oncology in 2006.
Dorfman influenced study abroad dance program founder

By LAIM OTTEN

in 1994, dancer Liz Claire, Ph.D., then a junior in the Performing Arts Department (PAD) in Arts & Sciences, won the Bette and Russel Travel Scholarship. The award allowed her to travel to Paris as an intern with David Dorfman Dance, an internationally acclaimed company founded and directed by dancer and choreographer alumnus David Dorfman. "It was a dream come true," Claire said. "I was transformed by those performances." After graduating in 1995, Claire moved to New York City and continued studying and performing with Dorfman. She also began performing with PearsonWildig Dance/Theater and earned both a master's degree and doctorate in performance studies from New York University.

Today, both Claire and Dorfman use their careers to make their mark on Washing-
ton University in St. Louis (WUSTL) and the larger community.

This weekend, David Dorfman Dance will present "underground," a multimedia piece loosely inspired by Black Lives Matter. "I was stimulated by the notion of dramaturgical research," Claire said, which in turn helps strengthen critical and analytic skills.

"We also want students to ask questions about their lives: about travel and living in a foreign country; about cultural and artistic exchange; about critiquing the notion of dramaturgical research for students to deepen their own practice in choreography, design, and performance," she said. Following its Paris stay, the company returned to the rural town of Moissy in the Burgundy region of France in July to present "underground" and master classes exploring how choreography and visual design form a "total theatrical experience," Claire said. An avid dancer, Dorfman said both dance professors and designers, including Dorfman and Kruger (who will attend every weekend), are enhancing the PAD's study abroad program. "It is important for dance stu-
dents to have training in the visual arts because dance is not a kind of art," Claire said, adding that in France, cooperation between visual artists and choreographers dates to the 19th century.

"Questions about shape, line, color, texture, contrast, depth, height, time, and even the building blocks of visual art — these are questions for the choreographer," she said. "Students too rarely have the time to explore these questions in both the static and the live dimensions. In our program, the collaboration between designers and dancers aims for such depth of research."

Ultimately, the performing arts are collaborative. "When I was in Paris, inspired by the French dance community and the energy of the visual and movement arts, I imagined the PAD learning process," Claire said.

How to submit "University Events"

Submit "University Events" to the Hall of the Record staff via:

e-mail — registrar@wustl.edu


5 p.m. Freedom From Smoking Class. "Stop Smoking and Feel Better. How to quit and how to stay smoke-free". Michael J. Pearlman, prof, of neurology. Missouri AIDS Research Center, Bldg. 36, Rm. 206. 362-4152.

5:30 p.m. Immunology Research Seminar Series. "An endogenous peptide ligand of the TLR4 receptor regulates the innate immune response to bacterial infection". Ahmed E. El-Hage, assoc. prof, of immunology. Division of Infectious Diseases, Washington University School of Medicine, Cori Aud., 4565 McKinley Ave. 362-3777.

6:30 p.m. Neuroscience Seminar Series. "A new approach to understanding the role of the central nervous system in sleep and wakefulness". Michael J. Pearlman, prof, of neurology. Missouri AIDS Research Center, Bldg. 36, Rm. 206. 362-4152.

6:30 p.m. Neuroscience Seminar Series. "A novel mechanism in the hippocampus regulates synaptic plasticity and learning". Douglas A. Steinmetz, prof, of neuroscience. Division of Infectious Diseases, Washington University School of Medicine, Cori Aud., 4565 McKinley Ave. 362-3777.

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**Work, Family and Public Policy series continues Oct. 5**

**By Jessica Martin**

E nrollment and graduate students from St. Louis-area universities with family responsibilities, salon-hold health, care, and support networks are invited to take part in the Work, Family and Public Policy series. Bergman lounge seminars are held to be conducted online or in-person Nov. 30.

In the fifth year, the Work, Family and Public Policy series offers one-hour presentations on recent research efforts of faculty from local and national universities. Each presentation promotes interdisciplinary research.

Unless otherwise noted, presentations will be from noon to 1 p.m. in the Hunt West 102/103.

The series begins Sept. 21 with a lecture by Anna Reynolds, a retired Castor Professor of Economics at the University of Washington, on "The Trouble with Encryption." The remaining presentations:

**Oct. 5.** Lauren Kettloff, Ph.D., professor of economics Boston University, will discuss "Should Economists Start Practicing Economics?"

**Oct. 19.** David Neumark, Ph.D., professor of economics at the University of California, Irvine, will speak about "Neighborhoods and Co-Workers: The Role of Local Labor Market Policies." 

**Nov. 2.** Robert A. Pollak, Ph.D., the Hornstein Distinguished Professor of Economics in Arts & Sciences and at Olin Business School, will discuss "The Problem of Child Care and the Parent's Description, Consideration, and Some Theory." 

**Nov. 16.** James Heckman, Ph.D., the Distinguished Professor of Economics and of Social Policy at the University at Chicago, will discuss "Understanding the Sources of and Solutions to Human Inequality." This talk will be held from noon-1 p.m. in the Bryn Mawr Classroom at Olin Business School.

**Nov. 30.** Jarkunion Hansen, Ph.D., the Robert Brookings Smith Distinguished Professor of Entrepreneurship at Olin Business School, will present on "AIDS and the Economics of Risky Behavior.

Pollak has been the lead organizer of the California for the past 13 years. Co-organizer is Michael W. Sherraden, Ph.D., the Benjamin E. Mays Professor of Social Development and director of the Center for Social Development in the George Washington School of Social Work. The series is sponsored by Olin Business School and the George Warren Brown School of Social Work. It is open to the public.

For more information, contactHumanValues.wustl.edu.

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**Businesses**

Program gives students education through job market — from Page 1

 readability. It aims to provide affordable services to students. It offers programs in family law, immigration law, and family law to allow couples to register their relationships.

Adult Children of Alcoholics "This Is My Father"

It is a practical guide on how to pass nondiscrimination and domestic partnership laws.

"This is my father," said Rudd to her students about the business. "This is the AE Co-op. If you click on the "Academic Seminar's" drop-down menu.

7 p.m. Women's Center vs. Southeast Missouri State U. Comics. 935-4170.

**Saturday, Oct. 3**

1 p.m. Field Hockey, Notre Dame College, Francis X. 935-4170.

1 p.m. Swimmers and Divers vs. Saint Louis U. Atlantic Conference. 835-4170.

**On Stage**

Friday, Sept. 25

7 p.m. A.E. Hotchner Puppeteers Series. "Sleeping Beauty," presented by the School of the Arts Department (PAD) and as a member of the board of the Minneapolisbased National New Play Network.

The performance will be the literary director of the McCarver Theatre and as assistant literary manager at Actors Theatre of Louisville. She also has worked on the productions in these plays at the Playwrights' Center in Minneapolis.

Bay Area Playwrights Festival. New York Theatre Workshop, the O'Neill Playwrights Conference, Denver Center, Florida Stage and South Coast Rep. All readings are free and open to the public and take place in the A.E. Hotchner Studio Theatre. For more information, call 935-3817 or visit arts.carts.wustl.edu.

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In all, the Class of 2013 has nearly all the freshmen graduated from more than 23,000 applicants, and approximately half are from outside the Greater St. Louis area. Nearly all the freshmen graduated in the top 10 percent of their high school class and more than 60 percent traveled at least 500 miles from their hometowns to WUSTL.

"It's great to welcome these incredibly talented students to campus after working with them through the admissions process," said Julie Shimabukuro, director of admissions.

"Many of our admissions officers attended convention, and we were impressed by the energy and enthusiasm these freshmen have for the University," Shimabukuro added. "It will make us great college students in our community."
Kunal Agrawal, Ph.D., joined the School of Engineering & Applied Science as assistant professor of computer science and systems engineering. Agrawal earned a doctorate from the Massachusetts Institute of Technology, where he worked with Charles Liu, Ph.D., in the Smart Structures and Materials Laboratory. He is considered an expert in the field of electrical and systems engineering. Agrawal received his doctorate in physics in 2003 from the Massachusetts Institute of Technology, where he worked on theoretical and computational simulations on electron hole-plasmas, laser generated matter in nanoseconds. Since 2003, Shen has worked at Stanford University and is currently an associate professor at the Stanford Laboratory, focusing on photoelectric properties in nano photonics, metamaterials, plasmonics, and thermal and electrical properties in nanostructures. His primary research involves developing new devices and potential new materials for high power efficiencies and the capability of manipulating light at subwavelength scales.

Introducing new faculty members

The following are among the new faculty members at the university. Others will be introduced periodically in this space.

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Rosanne S. Naunheim, M.D., listens to the heart of Tammiika Morgan, a patient in the Barnes-Jewish Hospital Emergency Department. "You should see Rosanne Naunheim, M.D., on Friday evenings in the trauma/critical care area," says Timothy Buchman, M.D., Ph.D., director of the new Emory Center for Critical Care at Emory University in Atlanta. "She's conducting an orchestra of caregivers, making sure that some very sick St. Louisans get to see the next sunrise."

A Conductor of caregivers

Naunheim's dedication ensures excellent care in the emergency room

By DIANE DUKE WILLIAMS

Rosanne S. Naunheim, M.D., has practiced emergency medicine for 16 years and continues with lessons.

Naunheim's daughter Kate started at the University of Missouri School of Medicine this fall.

Harvard Medical School; and her daughter Molly started at the University of Chicago Pritzker School of Medicine this fall.

A rewarding field

Since she started practicing emergency medicine, Naunheim says the field has changed dramatically. In the late 1970s, emergency medicine physicians followed patients into the intensive Care Unit (ICU) and continued to care for them. Today, physicians transfer the care of their emergency room patients to an ICU team.

But patients have always been grateful for whatever you do," she says. "It's a very rewarding field."

Naunheim says she can't be deterred by even the largest obstacle.

"She also is a great cook," says her husband, Keith Naunheim, M.D., professor of surgery at Saint Louis University School of Medicine. "Grilled chicken and vegetable stir-fry is her signature. She also makes a great chocolate cake."