Centennial Fellow No. 21

D. Jason Owens

Jason is a chemical engineering and mathematics major from the University of South Carolina, where he had the opportunity to tutor students, individually, teach in front of a class, and perform research in three different laboratories. This dual interest remains strong as he begins pursuing a Ph.D. in chemical engineering at the University of Minnesota-Twin Cities as an NSF fellow. His research interests are in biomedical engineering, although his particular area of concentration is unknown. His first semester will be devoted to routine coursework and becoming familiar with the various research groups and areas within the department. He will also request a teaching position in his first semester. Thereafter, he will explore his dual interests of teaching and research until he completes his Ph.D. program and then will pursue a faculty position at a major research institution. A ΤΒΠ Nagel Scholar, Jason was President of the South Carolina Beta Chapter and vice president of the AIChE and Pi Mu Epsilon. He was inducted into Omega Chi Epsilon and Phi Beta Kappa honor societies.

Fife Fellow No. 81

Cressel D. Anderson

A Tau Beta Pi Scholar, Cressel completed his electrical engineering degree at the University of North Carolina at Charlotte in the top of his engineering class. He participated in robotic competitions and worked to develop an autonomous "turtle." He intends to pursue a Ph.D. in electrical engineering at Georgia Institute of Technology, with a concentration on robotics. His motivation is derived from new NASA initiatives, which are likely to increase the demand for highly adaptable robots. Nature itself provides Cressel with diverse insights for developing new mechanisms—insights he plans to apply when creating autonomous, biologically inspired robots. His previous experience with robotic competitions and faculty support have readied him for graduate school. His goal as a graduate student is to publish his research findings before beginning his professional engineering career. His work as co-chair of IEEE contributed directly to an increase in local activity in that group. Cressel has been active in Tau Beta Pi, Eta Kappa Nu, and Phi Kappa Phi.

Fife Fellow No. 82

Blake M. Andrews

Blake earned his civil engineering degree at Ohio University, where he graduated first in his engineering class. He developed an interest in teaching while mentoring and helping other students with their studies. As he begins graduate school at the University of Illinois at Urbana-Champaign, his early studies will include finite-element analysis, computer-aided structural design, and dynamic structural analysis. He will then turn to research involving positioning remote sensors in members and structures for use in real-time monitoring of structural behavior. If this research proves to be productive, it will likely become the subject of his thesis work. Graduate school should provide three distinct career paths. If teaching holds his interest, he will pursue a doctorate immediately. Second, if research work produces a viable business opportunity, he would seriously consider pursuing that. Third, he may work on a team involved in structural and geotechnical engineering, with the eventual goal of obtaining his P.E. license. He was active in Tau Beta Pi, Alpha Lambda Delta, and Chi Epsilon honor societies.

Fife Fellow No. 83

Justin T. Brown

Justin earned a computer science degree from Washington University in St. Louis, where he graduated first in his engineering class. His goal is to earn a Ph.D. at his *alma mater* in the field of computer science, specializing in computer vision. He plans to devote considerable amounts of time to research. As an undergraduate, he used a dimensionality technique on sets of images to determine the degrees of freedom in the scene. He also studied techniques to track objects moving through a scene. The process of developing and testing untried solutions intrigues Justin, and the lack of clear-cut answers appeals to him. He has taught symbolic logic and matrix laboratory classes and delights in watching students suddenly grasp difficult new concepts. While he hopes to become a professor, his first priority is to pursue a career in industry. He may join a company that creates technology that would have applications in surveillance and defense. He is a member of Tau Kappa Epsilon fraternity and Tau Beta Pi and Mortar Board honor societies.

Fife Fellow No. 84

Jeremy B. Dreiling

Jeremy graduated from the architectural engineering program at Kansas State University. He now begins an architectural engineering dual-degree program at his *alma mater*. His initial coursework will include advanced studies in mechanical, electrical, and plumbing systems design for buildings, with particular attention to healthcare-related design. In addition, he plans to become accredited in the leadership in energy and environmental design (L.E.E.D.) course before he graduates. His graduate research will include optimization of indoor air quality through efficient design and integration. During a recent intern experience, Jeremy helped analyze the feasibility of L.E.E.D. accreditation for a $98.5 million healthcare project. He then understood the powerful effect that engineers have on the lives of individuals in healthcare facilities. During college, he was active in a wide variety of intramural sports and volunteered for multiple public-service organizations. He served as an officer in ASHRAE and A.E.I. He is a member of Tau Beta Pi, Phi Alpha Epsilon, and Mortar Board.

Fife Fellow No. 85

Kyle A. Frazier

Kyle graduated from Mississippi State University, where he studied civil engineering. In graduate school at MIT, he plans to increase his understanding of structural mechanics and technology and policy while continuing to develop the skills necessary to assume leadership in professional or academic communities. Another priority is to explore ways to apply his mechanics, computing, and policy interest to less traditional fields of civil engineering, like sustainable infrastructure or interdisciplinary fields like biomechanics. Kyle worked as a research assistant at the center for advanced vehicular systems and, in that time, developed an interest in applying high-performance computing to complex structural problems. Interested in the effects of public policy on engineering, he will use his master's program as a gateway into Ph.D. study after gaining some practical, post-master's professional experience. A ΤΒΠ Nagel Scholar and a congressional intern, he was Vice-President of Tau Beta Pi and active in Chi Epsilon, Mortar Board, and Phi Kappa Phi.

Fife Fellow No. 86

Christopher A. Guidry

Christopher completed the biomedical engineering degree program at Louisiana Tech University, working as a research assistant creating artificial red blood cells. The project involved the encapsulation of hemoglobin within polypeptide shells, but he experienced an epiphany after observing the work of an orthopedic surgeon. The difficult and precise effort required to perform that type of surgery seemed to entail as much engineering as medicine. The benefits that patients enjoyed as the result of successful surgery impressed Chris. On the strength of this insight, he is moving into a medical-degree track at the University of Texas Health Center at San Antonio. He will undergo a two-year immersion in biochemistry, anatomy, histology, and pathology before spending the second half of his graduate education in clinical rotations in specialties. His ultimate goal is to become an orthopedic surgeon. He is a member of Alpha Eta Mu Beta and the Biomedical Engineering Society and served as President of the Louisiana Gamma Chapter of Tau Beta Pi.

Fife Fellow No. 87

Joseph A. Harper

Tony is a computer engineering graduate of the University of Louisville's Speed School of Engineering. A former co-op student, he plans to study computer science and computer engineering in the graduate program at U.L. His particular areas of interest include internet applications and internet frameworks because technology and market forces appear to be heading in those directions. During graduate school, he plans to explore hypertext and multimedia, internet application design and development, data mining, and advanced databases/data warehousing. He hopes to combine this coursework with a project that would benefit the community. For example, he might help local transit customers navigate among the roughly 100 bus lines throughout Louisville. Information about each individual bus route is freely available; however, Tony envisions web-based software that would help riders transfer between routes. Tony's professors praised his dedication to rigorous academic work and his good-natured rapport with others. He is a member of ACM.

Fife Fellow No. 88

Matthew L. Kocoloski

A Tau Beta Pi Scholar, Matt graduated from the University of Dayton with bachelor degrees in both mechanical engineering and mathematics. He plans to spend the next few years at Carnegie Mellon University analytically investigating the large-scale implementation of some renewable energy technologies, with the final goal of obtaining a Ph.D. He plans to examine these technologies from engineering, environmental, and economic perspectives, based on both the current state of the art for these technologies and the foreseeable future performance of these types of systems. He might examine whether recent advances in solar photovoltaic technology will allow solar power to meet even more of our future electricity demands. Or he may study whether the efficiency of thermoelectric devices could allow them to play a significant role in remote power generation. As he works through his graduate program, he intends to make significant contributions to the engineering community. Matt is a member of Tau Beta Pi, Pi Tau Sigma, and Pi Mu Epsilon.

Fife Fellow No. 89

Francis D. Lagor Jr.

Frank graduated from Villanova University with a degree in mechanical engineering. Teaching and research dominate his plans as he begins graduate studies at the University of Pennsylvania. While serving as an undergraduate tutor, he experienced the steep challenges and breakthroughs involved in teaching others. This inspired him to work toward joining the faculty at a top engineering school. To prepare, he recognizes the need to perform extensive research and coursework. As a lab assistant, he studied fluid mechanics as applied to the movement of insulation debris in the emergency core cooling system of a pressurized water reactor. He learned to combine heat transfer and fluid mechanics during independent research. To develop his teaching and research skills fully, he expects to pursue a Ph.D. in mechanical engineering. A member of Tau Beta Pi, Pi Tau Sigma, and Phi Kappa Phi honor societies, Frank tutored extensively, played intramural basketball and baseball, and founded an all-male *a cappella* group.

Fife Fellow No. 90

Siu-Ting D. Mak

Dickson is a civil and environmental engineering graduate of the University of California, Berkeley. A professor's presentation ignited his interest in bridge structures and inspired him to begin an independent undergraduate research project on self-anchored suspension bridges. He plans to obtain a one-year master's degree and will evaluate his options as the work progresses. He hopes to become a leading engineer in the area of innovative bridge structural design. His ambition is to build bridges that connect Hong Kong, his home city, with the neighboring Zhujiang River delta in China. The bridges he envisions would architecturally fit into the natural scenery and be environmentally friendly during construction. Dickson's undergraduate work as a physics student and tutor helped to reinforce his interest in teaching. He is a member of the American Society of Civil Engineers and has been an active chamber musician on campus. He is the historian for the on-campus society of Hong Kong and Chinese affairs.

Fife Fellow No. 91

Evan R. Neal

Evan earned his B.S.E.E. from the University of Utah, graduating first in his engineering class. He plans to obtain both a master's degree and a Ph.D. in electrical engineering at Stanford University, followed by a research professorship in academia. He has direct experience with those who suffer disorders such as schizophrenia, bipolar disorder, heart disease, deafness, and blindness. His intimate knowledge of these illnesses triggered his interest in finding ways that electronic instruments might mediate anomalies in various human systems. A principle challenge is developing efficient instruments for measuring and interpreting the brain's signals, because current instruments are inefficient, large, and consume considerable power. Evan hopes to work on the development of a small, low-power chip that can operate on the same level as the instruments currently being used. He has volunteered in a retirement center and homeless clothing drive. A ΤΒΠ Scholar, he was Vice President of the Utah Alpha Chapter and is a member of Phi Kappa Phi.

Fife Fellow No. 92

Michael D. Sadowitz

Mike is a graduate of the electrical engineering program at the University of Nevada, Las Vegas, where he plans to pursue his graduate studies with an emphasis on solid-state materials and devices. His thesis topic involves the modeling, simulation, and fabrication of sub-100 nm solid-state devices. He hopes to augment his research with non-engineering coursework, including an introductory Chinese language course. With an NSF summer research grant at UNLV, he not only worked in the nanotechnology laboratory, but also helped to construct it. He was involved in the installation and maintenance of a field-emission scanning electron microscope, nanocluster deposition machine, and a laboratory electromagnet. He conducted experiments and published a paper at the 2005 American Nuclear Society conference. He helped start a high-school outreach program and volunteered with Habitat for Humanity and Meals on Wheels. A ΤΒΠ Scholar and President of the Nevada Beta Chapter, Mike is a member of the IEEE and Phi Kappa Phi.

King Fellow No. 45

Rachel S. Marullo

Rachel is a graduate of Northeastern University's chemical engineering program. She will begin her master's program at the University of California, Santa Barbara. After exploring and then eliminating manufacturing as an interest, Rachel settled on performing research and contributing to new findings. This interest grew as she attended four conferences of the American Institute of Chemical Engineers and reviewed the research presentations. A subsequent job dealing with industrial fabrics and coatings with Albany International Research Company sparked her interest in polymer science. Her interest eventually turned to applications in biological engineering. She coupled that with her fondness of fluid dynamics and mass transfer and began reviewing current articles about drug delivery. She is a member of Tau Beta Pi and was the president of her American Institute of Chemical Engineers chapter; her group won back-to-back outstanding chapter awards, and she was heavily involved in planning and executing its regional conference.

Stark Fellow No. 29

Michael S. McDonald

Mike graduated from the University of Michigan with a dual degree in aerospace engineering and engineering physics. He will enter an aerospace engineering doctoral program at his *alma mater*, where he will specialize in propulsion systems like the Hall thruster and plasma physics. He was intrigued to learn that an advanced electric-propulsion system weighing as much as a loaf of bread could carry the same payload to Jupiter as a chemical rocket weighing the same as a 747 jumbo jet. He signed up for non-required courses in gas kinetic theory and the physics of electric propulsion to prepare himself for his thesis research on Hall thrusters. These connect several thrusters in parallel to increase drive force without increasing power input per thruster. Mike gained experience working on sensitive fluid-flow devices while working as an intern. He was an active tutor in college and volunteered in science-related programs working with elementary-school students. He plays soccer, hockey, and intramural broomball.

Spencer Fellow No. 51

Jason J. Hallman

Jason is a mechanical engineering graduate of Valparaiso University. His research interests center around the biomechanics of human motion as well as quantitative analysis of human injury. Eventually, he would like to become a researcher in automotive safety and accident reconstruction. Obtaining professional engineering licensure and earning a Ph.D. are important elements of his plans. He is beginning his master's work at Marquette University, one of the few injury-biomechanics facilities in the nation. He first became interested in biomechanics through co-op work at Biomet Orthopedics, a sponsor he sought to ensure that his engineering work would directly benefit the lives of others. There, he gained experience in experimental engineering as applied to the kinetics of human articulations. As an undergraduate, he served on the honors council and enjoyed a variety of music-related pursuits. A ΤΒΠ Scholar, Jason is a member of the Society of Automotive Engineers and the ASME and served as the President of Tau Beta Pi's Indiana Delta Chapter.

Sigma Tau Fellow No. 33

Jennifer A. Pazour

Jen graduated with an industrial engineering degree from the South Dakota School of Mines and Technology. She will attend graduate school at the University of Arkansas, Fayetteville, and, work toward a Ph.D. in industrial engineering. She will pursue internships at larger companies to gain familiarity with their logistics systems. Of particular interest to her is the area of operations research, which allows her to apply mathematic and engineering concepts to solve complex, real-world problems. Jen plans on studying linear programming, production planning, and optimization theory. Then, she hopes to combine academic research with industry trends to create mathematical models that would apply in one or more specific industries. Eventually, she intends to teach at the college level. She was an officer in the Institute of Industrial Engineers, Student Association, and the Student Alumni Connection, as well as senior class president and homecoming queen. A ΤΒΠ Scholar, she is a member of Phi Eta Sigma, Alpha Pi Mu, and SWE.

Williams Fellow No. 27

Marissa A. Miracolo

Marissa graduated from the Cooper Union School of Engineering. Having completed her mechanical engineering degree there, she will enter the graduate program at Carnegie Mellon University. She anticipates that the world will transition to sustainable energy sources such as solar-energy generation, and she aims to develop coursework and lead research toward this goal. Her senior-thesis project focused on combining photovoltaic energy generation and solar thermal water heating. After obtaining her doctoral degree, she plans to conduct research and teach at the university level. She wants to help reduce pollution and utilize waste energy in order to minimize the environmental impact of engineering systems. As president of the New York Iota Chapter of Tau Beta Pi, she co-founded a volunteer peer-to-peer tutoring service on campus. Encouraging women to enter a career in engineering is an ongoing interest for her. Marissa is a member of Pi Tau Sigma, ASME, and SWE and served as vice president of a Habitat for Humanity club.

Deuchler Fellow No. 27

Jasmine R. Galjour

Jasmine has received a civil engineering degree from the University of Louisiana at Lafayette. Her immediate plans include beginning graduate work at the University of Texas at Austin with a concentration in environmental engineering. Her specific interest is in the treatment of contaminated soil, air, groundwater, or hazardous waste. She plans to deepen her knowledge through research and coursework before becoming involved in a more intensive, ground-breaking research project. Her goal is to earn a Ph.D. in environmental engineering and become a professional civil engineer, either at a university or a private company. Tau Beta Pi Record Scholar No. 91, Jasmine was President of Tau Beta Pi's Louisiana Delta Chapter, the Society of Women Engineers, and the Louisiana Engineering Society. She held offices in Chi Epsilon and the ASCE. She organized and directed volunteer efforts to paint, clean, and landscape the engineering building and actively supported a safer campus for all.

Nagel Fellow No. 9

David C. Gomez

Tau Beta Pi Nagel Scholar No. 18, David is a graduate of the petroleum engineering program at the University of Louisiana at Lafayette. His graduate work at his *alma mater* will focus on drilling engineering. His research and development will be on the topic of using heavy foam as a drilling fluid in deep-water drilling. As petroleum drilling moves to waters exceeding 1,000 feet in depth, there is increasing demand for technologies that are well-suited for high-temperature, low-formation fracture gradients, and especially high pressure. David's research/development goal is to formulate a deep-water drilling fluid in the form of heavy foam. An internship at Stone Energy solidified his decision to become an operations / well-planning drilling engineer. He is a member of Tau Beta Pi, Pi Epsilon Tau, Louisiana Engineering Society, Student Society of Petroleum Engineers, Latin America Student Association, and the American Society of Petroleum Engineers.

Anderson Fellow No. 2

Michelle L. Bash

Michelle received her B.S.E.E. from Ohio Northern University. Her co-op work at American Electric Power became one of her most formative and challenging college experiences—troubleshooting equipment or schemes that were not working. These real-world experiences tested both her engineering skills and her critical-thinking abilities. During her schoolwork she discovered another application for her analytical skills; computer programming, which she adopted as a minor. She plans to attend Purdue University and pursue an M.S.E.E., with a concentration in power electronics, and doctoral studies. To prepare herself, she participated in a NASA-sponsored senior-design project that involves an electronic system to power and control a display. President of the Ohio Iota Chapter of Tau Beta Pi, Michelle received the ECCS Kingenberger scholarship two times. She was involved with Habitat for Humanity during five successive years.

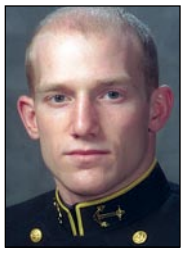
Matthews Fellow No. 9

Lisa J. Lindquist

Lisa graduated from the civil engineering program at Ohio Northern University. She will pursue an M.S.C.E. in the structural engineering and mechanics discipline at the Georgia Institute of Technology with expectation of extending into a Ph.D. program. Her aim is to aid design of a reliable infrastructure system using available resources effectively in developing countries. She tailored her undergraduate education to complete a Spanish major, including study abroad in Gunajuato, Mexico. Through organizations such as Engineers Without Borders, she hopes to gain practical international experience. As a senior, she helped the Ohio Department of Transportation in designing a bridge to replace one that was functionally obsolete. Her experiences solidified her interest in structural engineering. Her volunteer activities included ONU Circle K Club, relay for life, and Habitat for Humanity. A member of Tau Beta Pi, Mortar Board, Phi Kappa Phi, and the ASCE, Lisa was on the varsity track and field team throughout college.

Astronaut Fellow No. 6

Justin L.R. Langlois



Justin studied aerospace engineering at the United States Naval Academy, graduating at the top of his class. During his senior year, he did research involving a dynamic computer model of a space power system consisting of a nuclear reactor and Stirling power converters. The reactor portion involved working with naval reactors in department of energy converters, and the Stirling power converters involved NASA. He is convinced that nuclear energy is the next step required to increase the capability of space exploration and provide greater returns on space investments. In graduate school at the University of Michigan, he would like to continue research in the dynamic modeling of space power or space-propulsion systems for the purpose of deep-space exploration. He hopes to become a Navy SEAL, where his technical background and leadership experiences can be put to good use. A member of Tau Beta Pi and Phi Kappa Phi, Justin served as a regimental commander in charge of approximately 2,000 midshipmen.

Tau Beta Pi Fellow No. 734

Tondra De

Tondra earned bachelor's degrees in electrical engineering and in mathematics at the University of Nevada, Las Vegas. Her greatest interest lies in making the teaching and learning of science, technology, engineering, and math more effective and inclusive. As an undergraduate, she undertook numerous extracurricular research activities, including NSF-funded summer work. She taught an honors freshman class as well as ethnographic studies. She completed a two-year summer internship performing statistical analysis and survey research at Bechtel-SAIC. In her doctoral program at the University of California, Los Angeles, Tondra will study the design of learning technologies that aid learning among underrepresented groups in engineering. Advanced coursework will prepare her for a dissertation in web-based learning. She is a member of Tau Beta Pi, Phi Kappa Phi, Phi Eta Sigma, the Society of Women Engineers, and the Institute of Electrical and Electronics Engineers. She received an NSF fellowship.

Tau Beta Pi Fellow No. 735

Amit Y. Desai

Amit is a materials science and engineering graduate of North Carolina State University, where he graduated first in his entire class. He views a master's degree in materials science as a necessary step toward reaching a position of meaningful leadership within his field and will attend Cambridge University this fall. In college, he participated in two summer research experiences. At Northwestern, he gained experience with cutting-edge analytical instrumentations and witnessed the ingenuity required to modify that equipment to suit special situations. He was one of 15 undergraduates selected by the NSF to participate in ongoing research at MIT. There, he investigated the potential use of titanium nitride as an adhesion layer and diffusion barrier in thin film ceramics. Amit is a volleyball player and performed in the Raleigh Civic Symphony as a violinist. A member of Tau Beta Pi and Phi Kappa Phi, he also won a congressionally funded Barry M. Goldwater scholarship.

Tau Beta Pi Fellow No. 736

Ryan G. Dobie

Ryan graduated from the U.S. Naval Academy with a degree in mechanical engineering and a Spanish minor. He will pursue a graduate degree at the University of Pennsylvania. His goal is to become an intelligence officer in the U.S. Navy, a position not available directly from the academy. The ability to enter this field is based upon experience. The field requires applying analytical skills to intelligence information in situations where "learning by experience" often means risking lives. Faced with this responsibility, Ryan will study how to analyze situations, minimize risks, maximize success, and ensure that he upholds the trust that is placed in him. Through studies in operations research, he intends to acquire the skills necessary to make real-time decisions without hesitation and to gain the confidence of those with whom he serves. He commanded 600 midshipmen and was given the responsibility of investigating honor violations in his senior year. An academic all-American member of the club-sport hockey team, he was a member of Phi Sigma Iota and Vice President of Tau Beta Pi's Maryland Gamma Chapter.

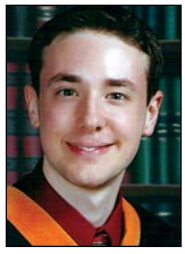
Tau Beta Pi Fellow No. 737

Hoda M. Eydgahi

Hoda graduated from Virginia Commonwealth University with a bachelor's degree in biomedical engineering. She plans to pursue an M.S.E.E. at MIT and to obtain her Ph.D. soon thereafter. Through this plan, she will fulfill her goal of entering academia as a university professor and conduct research in the field of engineering with applications in medicine. She views professorship as an opportunity to both teach and learn from her future students. In school, she developed an interest in medicine, signal processing, instrumentation, and robotics. Hoda would like to work on interdisciplinary projects such as smart instruments to be used in surgery or devices used to benefit the deaf. She has conducted research concerning the knockdown of the Werner Syndrome protein using a lentiviral system and presented the results at six symposiums. Active in Tau Beta Pi, Phi Kappa Phi, and the Biomedical Engineering Society, she has volunteered for a variety of tasks at Peninsula Regional Medical Center.

Tau Beta Pi Fellow No. 738

David L. Henann



David graduated from State University of New York at Binghamton with a degree in mechanical engineering. He will attend graduate school at MIT where he will concentrate on nanotechnology related to mechanical engineering. His ultimate goal is to do doctoral and post-doctoral work before joining an engineering faculty. His current interests are in nanotechnology, mechanical behavior of materials, and computational mechanics. He gained a background in these subjects after undergraduate work in areas such as solid mechanics, continuum mechanics, computational methods, and finite-element analysis. His research interest lies in nanomechanics and nanomechanical testing which he experienced while at the National Institute of Standards and Technology. He plans to develop and design a novel mechanical testing method for nano-scale materials and structures, because these pose special problems compared with conventional materials testing. David was a member of the university wind ensemble, orchestra, and brass quintet. He is a member of Tau Beta Pi, Phi Eta Sigma, and Pi Tau Sigma honor societies.

Tau Beta Pi Fellow No. 739

Rachel L. Husfeld

Rachel completed her B.S.C.E. at Valparaiso University. As a graduate student at Texas A&M University, she will pursue an M.S.C.E. with a specialization in structural engineering. She will investigate methods for minimizing displacements and accelerations that act upon concrete and brick low-income housing units during earthquakes in Chile. She hopes to counteract lower intensity structural motions that can cause nausea among building occupants. She will perform numerical simulations and plans to test laboratory models on a shake table at the University of Chile. She hopes to obtain funding from the Chilean Ministry of Housing for the construction of full-size experimental buildings. She was president of her Engineers Without Borders chapter and helped lead a three-year clean-water initiative in Nakor, Kenya. Named to the *USA Today* 2005 college academic all-star first team and a member of the ASCE and SWE, Rachel was inducted into Tau Beta Pi and Alpha Lambda Delta.

Tau Beta Pi Fellow No. 740

Krenar Komoni

Krenar graduated from Norwich University with bachelor's degrees in computer engineering and mathematics. At age six, he wanted to know all about the smallest circuit components inside a computer, and, today, that fascination has not changed. That lifelong curiosity about computer engineering, mathematics, and computer science has prepared him for graduate-level studies at Tufts University. He hopes someday to design energy efficient and adaptive radio-frequency integrated circuits for various wireless applications, develop higher-performance processors, or improve simulation and modeling techniques for integrated circuits. His ultimate goal is to succeed as an entrepreneur and still contribute to academia in some way. During college, he worked on a project funded by the National Security Agency and later worked as a systems engineer for BitWave Semiconductor, Inc. Krenar was President of the Vermont Beta Chapter of Tau Beta Pi and is a member of IEEE and Eta Kappa Nu. He developed and updated a website for Direct Aid International, a nonprofit group that builds schools, wells, and libraries in Afghanistan.

Tau Beta Pi Fellow No. 741

Matthew R.Y. Loh

Matthew holds a bachelor's degree in electrical engineering from Lafayette College. His goal is to perform cutting-edge research in the areas of high-frequency radio-frequency and optical-interconnect design, and he plans to pursue a Ph.D. at Columbia University. After foundational coursework, he will become involved in research work. During his undergraduate work, he discovered a passion for analog integrated-circuit design. He designed a Gilbert-cell analog multiplier using a low-cost BiCMOS process, which was later presented at the National Conference for Undergraduate Research. During his senior year, Matthew designed a successive-approximation, bipolar 8-bit A/D converter based on a hybrid charge-scaling/resistor-string D/A technique. He served as a research assistant for a project in circulatory system modeling, which led to an undergraduate thesis and presentation at several national conferences. He is a member of IEEE, the Biomedical Engineering Society, Tau Beta Pi, and Pi Mu Epsilon.

Tau Beta Pi Fellow No. 742

Jessy J. Moinnes

Jessy received a bachelor's degree in bioengineering from the University of Illinois at Chicago and plans to attend graduate school at Northwestern University. Her goal is to complete a Ph.D., become a highly qualified research engineer, and develop new magnetic resonance imaging (MRI) scanners for a large company such as Siemens or General Electric. As an undergraduate, she performed research into stimulating the growth of tissue-engineered bone with ultrasound and monitoring the process using MRI. She gained experience using the high-field (11.75 T) Bruker magnet to image small biological samples and determine different parameters characterizing biological tissues. She co-authored a paper on research into the mapping of magnetic resonance parameters for different stages of diseased articular cartilage. Jessy spent two semesters designing, fabricating, testing, and implementing an artifact-suppression electronic circuit to be part of an electrophysiology station. She is a member of the International Society for Pharmaceutical Engineering, the Society of Women Engineers, and the International Society for Magnetic Resonance in Medicine.

Tau Beta Pi Fellow No. 743

S. Farshid Moussavia-Harami

Farshid graduated from the University of Iowa with a bachelor's degree in biomedical engineering. He has been accepted into the M.S. fast-track program in the department of biomedical engineering at his school. The goal of his master's project is the development of imaging tools for the automation of Mankin analysis, which is a semi-quantitative method used to analyze osteoarthritis severity in cartilage histological sections. Upon completion of his master's studies, he hopes to continue his graduate work in the field of biomedical imaging and cell biology. For three years, he has been conducting research in the department of orthopaedic surgery and rehabilitation cell biology laboratory. Results of his research were published in the *Iowa Orthopaedic Journal* and presented at the annual Orthopaedic Research Society meeting. Farshid was the Treasurer of Tau Beta Pi's Iowa Beta Chapter and president of the Persian Student Organization. He was a Tau Beta Pi Record Scholar in 2005.

Tau Beta Pi Fellow No. 744

Geoffrey M. Oxberry

Geoffrey is a chemical engineering graduate of the University of Delaware. He plans to attend graduate school at MIT, specializing in systems biology. Having established a strong chemistry foundation at college, he is interested in quantifying the behavior of the human body for the purpose of finding effective treatments for chronic illnesses. By modeling the underlying biochemistry of an illness, he hopes to develop a microfluidic device that can personalize the treatment of the illness. His coursework will include quantitative subjects such as molecular biology, genetics, and advanced biochemistry. He will also take such courses as computational systems biology, bioinformatics, and computational genomics. Ideally, all of the coursework would culminate in a doctoral dissertation on the modeling and effective management of chronic disease. Beyond that, his broad goal is to develop a device that will maximize therapeutic treatment and minimize harmful side effects. Geoff is a member of Tau Beta Pi and Phi Kappa Phi honor societies, enjoys extracurricular activities, and has received numerous academic awards and honors.

Tau Beta Pi Fellow No. 745

Himani Suhag

Himani obtained her electrical, computer, and systems engineering degree at Rensselaer Polytechnic Institute, finishing first in her class. She was involved in the CenSSIS scholars program, the honor-seminar program, and the undergraduate research program, held at the Pennsylvania State University. She plans to earn her master's and Ph.D. degrees in nanoelectronics at the University of Albany. In preparation, she interned with IBM's microelectronics division, where she was introduced to numerous industry-based tools and explored the stages of product development. Her interest in microelectronics and nanoelectronics were deepened, as a result. She perceives growing opportunities in nanotechnology, particularly in the area of nanoelectronics. Himani has been recognized for her work in the Society of Women Engineers and worked extensively in the campus mentor program for women. A member of Tau Beta Pi and Eta Kappa Nu, she donated 40 inches of her hair to Locks of Love.

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