

Tau Beta Pi Fellows for 2010-11

THE FELLOWSHIP BOARD SELECTED 28 Tau Beta Pi Fellows for 2010-11, 17 of whom will receive \$10,000 cash stipends for one year of graduate study and 11 who have other extensive financial aid for their year of advanced work. Implemented by President A.D. Moore in 1929, the Fellowship Program has provided a total exceeding \$5,140,000 to 928 stipend recipients.

Now in its 77th year, the Fellowship Program remains a principal philanthropic activity of the Association and continues to receive strong support from alumni. The program was initiated with funds from the operating budget of the Society, including the eventual transfer of money from BENT life-subscription fees. It was first enlarged in 1938 by a gift from the Southern California Alumnus Chapter, and in 1948 the first Alumnus Fellowship was awarded. Since that time, gifts from alumni, industry, and friends and the earnings of the invested Fellowship Fund have all contributed to these awards.

Matching gifts to the Association from 219 companies on behalf of their Tau Beta Pi employees are allocated to fellowships and scholarships, and the Society is most appreciative of this generous support.

In addition to its own awards, Tau Beta Pi selects recipients for named fellowships, which are administered just as other Society fellowships.

The Tau Beta Pi-Stark Fellowship is named for Donald A. Stark, who contributed much to progress in the fluid-power industry. This award, given for the 33rd time, is presented to a fellow who plans graduate study in engineering with emphasis in the field of fluid power or fluid mechanics. Stipends are provided by the earnings from a \$150,000 gift to Tau Beta Pi in 1986 from the Donald A. and Jane C. Stark Charitable Trust.

Fifteen fellowships are named for members. The TBPI-Williams Fellowship, established in 1980 to honor the Association's Founder, Dr. Edward H. Williams Jr., is awarded to a candidate who plans to work toward a doctoral degree and enter the engineering teaching profession.

Two fellowships honor former Tau Beta Pi Presidents. The one named for Charles H. Spencer, President during 1936-47, is awarded for the 55th time. It is presented to the winner who has made significant contributions to his or her collegiate chapter. The Harold M. King Fellowship honors the 1954-58 President, whose special interest was in the student branches of the national technical societies.

Given for the 49th time, the King Fellowship is awarded for outstanding participation in volunteer technical-society work.

Eight named awards are sponsored this year by the late William Fife, CA A '21, who bequeathed the earnings of an irrevocable trust for TBPI fellowships. They are named in honor of his father, James Fife.

The Matthews Fellowship is awarded for the 13th time and honors Secretary-Treasurer Emeritus R.C. "Red" Matthews, IL A '02, who served as Secretary during 1905-12 and as Secretary-Treasurer in 1912-47. Red died in 1978 at the age of 99. The 13th Nagel Fellowship is awarded in honor of Secretary-Treasurer Emeritus Robert H. Nagel, P.E., NY A '39, who served as Secretary-Treasurer in 1947-82 and Editor of THE BENT during 1942-82. Bob died in 1997.

The sixth Hanley Fellowship is named for Mary A. and Edward P. Hanley, IL B '42, who left a bequest in 2007. The third Arm Fellowship is named for Rena M. and David L. Arm, PA E '30, who left a bequest in 2007.

The Centennial Fellowship, given to that fellow who the board determines is most outstanding, commemorates the 100th anniversary of the Association.

The Tau Beta Pi-Sigma Tau award commemorates Clarel B. Mapes, Sigma Tau's former national president and secretary-treasurer, and perpetuates the memory of Sigma Tau, former national engineering honor society founded at the University of Nebraska in 1904. When it merged with Tau Beta Pi in 1974, the assets of its foundation were transferred to the Fellowship Fund.

The Tau Beta Pi-Best Fellowship commemorates Ina C. and Raymond A. Best, NY I '33, and is to be used by a member for the purpose of acquiring an M.B.A. at Rensselaer Polytechnic Institute. There was no applicant.

Tau Beta Pi received 258 fellowship applications. Board members Susan L.R. Holl, Lawrence J. Hollander, Jammie L.H. Jamieson, and Director of Fellowships D. Stephen Pierre Jr. made the selections on March 27. Fellows are introduced on the following pages.

Zachary S. Lamb



Zach graduated first in his class in mechanical and materials engineering, with a 4.0 G.P.A., at Auburn University. He served as 2009-10 TBI Chapter President. He has also been active in IEEE and ASME. Gradu-

ate school plans at Carnegie Mellon University will focus on robotics. His current research interests include field and mobile robotics, where he intends to work on path planning and navigation techniques. These allow robots to make intelligent decisions by identifying obstacles and landmarks and to choose the best plan of action. Zach believes robotic systems are the key to making life easier, especially in areas like reducing labor costs, saving lives with smarter vehicles, or improving prosthetics to restore human functions to amputees. Tributes from his professors include praise for carrying a perfect G.P.A. in arguably the most difficult curriculum there, with his double major. He also honed his leadership skills while serving as a head referee for both Alabama and the South in the BEST high-school robotics competition.

William P. Cleveland



William is a computer and aerospace engineering graduate of Mississippi State University, where he was TBI Chapter President. Internships included a study-abroad fellowship at the von Karman Institute

for Fluid Dynamics in Belgium, where he researched local warming surrounding a power plant. Summer projects also included researching at NASA Langley, working on an unmanned aerial systems refueling testbed, and at the Air Force Institute of Technology. Graduate study plans include work in cognitive engineering at Georgia Tech and continuing to earn a Ph.D. He believes autonomous systems will impact the future, making decisions based on large amounts of data magnitudes faster than a human. This has many applications that interest William, ranging from unmanned aerial vehicles to intelligent road transportation. The challenges to make these systems work are great, but the benefits to society are even greater. He is fascinated by the role humans play in relating to these autonomous systems.

Mihai Duduta



Mishu has graduated from MIT, where he served as Massachusetts Beta President, with a B.S. in materials science and engineering. Postgraduate studies at the University of California, Berkeley, are aimed

at a Ph.D. so he can follow his passion: research for sustainability. He has been working on high-energy-density redox cells. These have become a research topic because of potential for grid and electrical vehicle applications. He sees making a fully electric car as one of the greatest engineering challenges. Mishu has also developed a passive solar desalinator, inspired by the Namib desert beetle that uses a patterned surface on its back to harvest water from airborne vapor. He believes this can also be used to purify water from biological or chemical contaminants. Previous honors included the Romanian presidential insignia for excellence and a silver medal at the International Chemistry Olympiad in Kiel, Germany. An MIT teacher described him as the "very best" undergraduate he had encountered there.

Renee S. Hale



Renee is a chemical engineering graduate of Oklahoma State University, where she ranked second in her college with a 4.0 G.P.A. and received a Barry M. Goldwater scholarship. She's off to England to attend

the University of Cambridge advanced chemical engineering master's program and the university's center for sustainable development. Her main interest lies in recycling waste streams into useable energy sources as part of global sustainability. Renee started with wastewater treatment during a summer as an environmental engineer at IBM, then turned to biomass waste after seeing sustainable technology dramatically reduce costs and add non-financial benefits to the process. She believes the most promising innovations will soon need to be installed on a large scale. Many chemical engineers are trained to deal with traditional petrochemical fluids and do not fully understand biomass and other biomaterials. She wants to design processes to generate renewable energy from them as soon as possible.

Farshad Madhi



Farshad has received a dual B.S. in mechanical engineering and physics from Clarkson University. Next on his agenda is graduate study at the University of California, Berkeley, to begin work toward a

Ph.D. in mechanical engineering. Undergraduate studies included work on more efficient designs for ocean-wave energy extraction with the lowest environmental impact. Farshad wants to stay with this for his Ph.D., developing analytical and computational tools to guide optimal design for wave energy. Design would include gauging environmental impact of the moving devices on oceanic wildlife and the maintenance of mechanical devices in the sea, as well as the practicality of design. Farshad is a Baha'i from Iran, where he says he was denied access to advanced education. He had to risk imprisonment and death to emigrate to the U.S. Now he wants to open more closed doors by demonstrating that when individuals can reach their full potential, all humankind is benefited.

Salman H. Naqvi



Salman graduated first in his class with a 4.0 G.P.A. gaining a B.S. in electrical engineering from New Jersey Institute of Technology. He was TBI Chapter Vice President, a TBI Record Scholar, and a Barry

M. Goldwater scholar. An electrical engineering M.S. at Stanford University is his next step toward a Ph.D. His passion is fusing environmental research and electrical engineering, and he has been working on using ground remote sensing to study the impacts of urban areas on global atmospheric circulation. He spent three years working on a system observing the New York-Newark urban hub. Salman is looking to focus on signal processing and electromagnetic research after undergraduate experience at NJIT, NOAA, and Lockheed Martin, which has allowed him to see connections between disciplines. His ultimate goal is to serve renowned space weather institutes like NASA and NOAA to help to fill the nation's need for better environmental understanding and safeguards.

Katherine E. Niehaus

Kate has completed her bachelor's in biomechanical engineering at Stanford University, where she had a 4.0 G.P.A. She's staying at her *alma mater*, where she has been accepted for the bioengineering mas-

ter's program. She was an Academic All-American athlete in 2008 and 2009 for her cross-country and track prowess and was elected captain for the past season. She also received an NCAA Elite 88 award for the student athlete with the highest G.P.A. in the nation in his or her sport. Kate's intended major was in human biology. She soon realized she wanted to help make the body work better and changed her field. She interned at a medical-device start-up and worked on migraine-focused technology. A migraine-sufferer friend's reaction to this showed her the importance of having a tangible impact on people's lives. She is also looking forward to learning about areas like bioinformatics and neuroengineering. Research into prosthetic design and control is another possibility.

Jacklyn M. Wilkinson

Jackie has graduated with a B.S. in ceramic and materials engineering at Clemson University, where she was first in her class with a 4.0 G.P.A. She served as TBPI Treasurer, Vice President, and finally

President, as well as her SWE chapter industry chair. She is starting graduate studies at her *alma mater*, and will spend her second year at France's University of Bordeaux, to earn two master's degrees, in chemistry and in materials science and engineering. Jackie will be focusing next fall on multi-component glass systems for novel infra-red fibers, working toward their use in Raman Gain applications. Because these glasses are transparent in the mid-infrared region, they can be used in systems to protect aircraft from heat-seeking missiles. She plans to get a head start on this research by interning at her graduate school laboratory. Other campus activities have included intramural flag football and taking part in a program to tutor student athletes in math and chemistry.

Hao Zou

Hao is a second year Ph.D./M.B.A. dual-degree candidate at Stanford University's electrical engineering department and graduate business school. He has been chapter President and also been ac-

tive in IEEE. Soon after graduating, he plans to start a company to commercialize his research on next-generation communication systems and grow it into a multinational enterprise. Hao's interest in the field began when DSL technology in his home country China arrived as he was starting high school. He saw high-speed internet as a means to fight censorship, poverty, and corruption. His research on next-generation systems earned him worldwide recognition with a Marconi young scholar award from the Marconi Society. He has been working with senior executives from leading companies to standardize communications technologies for the North American, European, and Asian markets. He would like to return to China and use his experience to improve the lives of people across the world.

Sleiman S. Sleiman

Sleiman received his B.S. in chemical engineering from the University of Toledo, where he was TBPI President, and treasurer of the Arab Student Union. From Lebanon, he will study toward a graduate

degree in C.E. at American University of Beirut to be involved in the process of preparing engineers in a part of the world where chemical and petroleum industries are the backbones of national economies. Sleiman learned the value of co-op programs, and work in the Middle East and America will provide excellent experience. However, he is convinced he belongs in the academic world and wants to serve as a professor. Teaching engineering principles has always brought him pleasure. He believes that the chance to make a difference in a learner's understanding of a topic is more valuable to him than any product design or process optimization he has done. The result is far more tangible, and the impact definitely longer lasting. Thus, he will pursue a graduate degree and the satisfaction of conducting research.

Keane L. Steele, E.I.

Keane graduated with a B.S. in civil and environmental engineering from the Citadel, where he was TBPI Chapter President. He will continue his studies this fall by starting on a structural engineering master's

at Virginia Tech. While interning at a nuclear-power station, he found himself researching the design basics of a structure's resistance to tornadoic missiles. After many classes, internships, and discussions with professors, he decided to continue his education in structural engineering. For both structure and sustainability, one area Keane would like to address is the retrofitting and upgrading of bridges. Ultimately, he would seek employment with a large international firm. His goal is to work on landmark projects all over the world, and he hopes eventually to own a structural engineering and consulting firm. He has passed his fundamentals of engineering exam and looks forward to attaining professional licensure. He has also been active in ASCE and commanded a company of the Citadel's corps of cadets.

Nathan D. Nicholes

Nathan has received his bachelor's degree in chemical engineering from the University of Oklahoma, where he served as TBPI Secretary and later as President. First in his class with a 4.0 G.P.A., he has

an educational ambition to obtain a Ph.D. in biochemical engineering and pursue a career in bioprocess design, with the possibility of serving as a university professor in the future. The research that intrigued him the most has been pharmaceutical development. Nathan will begin graduate work at the Johns Hopkins University and will examine pharmaceutical protein production. He expects to pursue industrial internships to help him better understand how to apply the theories he studies to current processes. Upon completion of his doctorate, he plans to work for 10-15 years in the biochemical engineering industry. After gaining sufficient experience there, he hopes to be able to use his combined academic and industrial knowledge to train the next generation of bioengineers.

Matthew A. Hitt



Matthew is a mechanical engineering graduate of the University of Alabama in Huntsville, where he had a 4.0 G.P.A. He is continuing there for a master's and will be a graduate research assistant

at the propulsion research center there. His research project will be to design and build a liquid-oxygen system to evaluate turbomachinery, providing practical experience in thermodynamics and heat transfer. At the same time, he will take the F.E. exam to become prepared for different career contingencies. On completing his master's, Matthew plans to pursue a doctorate at another university to provide academic diversity and learn about different engineering methods. He is preparing for a career in research and teaching, either as a professor or as a contractor teaching part-time. The experience of educating various people in different aspects of engineering has given him a desire to teach at a state school or at a Christian college that is building an engineering program.

Aditya M. Kunjapur



Aditya has received his B.S. in chemical engineering from the University of Texas at Austin, where he ranked first in his class with a 4.0 G.P.A. He was the first undergraduate in his department to become

a teaching assistant. Bound for MIT, he hopes graduate studies will lead one day to a professorship. His passion is finding a sustainable solution to energy needs, and studies will focus on second-generation microbial feedstock. With his existing knowledge of oil-and-gas production, Aditya hopes to have a unique advantage in developing a competitive alternative to petroleum. He also aspires to be involved in the emerging advanced biofuel industry as a consultant. Four summers working in the petroleum industry have shown him the problems to be overcome by any transformative fuel, ranging from the environment to national security. Teachers pay credit to his academic credentials and extracurricular interests, in both on-campus activities and student-chapter professional societies .

Lauren B. Priddy



Lauren received a master's in biomedical engineering and was first in her engineering class with a 4.0 G.P.A. at Mississippi State University. She will be starting on a bioengineering Ph.D. at the Wallace H. Coul-

ter department of biomedical engineering at Georgia Tech and at Emory University. Her goal is to become a professor, teaching and researching biomedical engineering. Lauren has already been involved in synthetic biology laboratory work and has studied soft-tissue biomechanics. Another research focus has been traumatic tissue injury. Her specific objective involves combining advanced imaging techniques and computer modeling of cardiovascular tissue to simulate damage progression from injury or disease. This would advance cardiovascular tissue repair and regeneration. Active in the Society of Women Engineers and the Institute of Biological Engineering, she was co-captain of the MSU cheerleading squad and was on the national competition squad.

Julian J.T. Reyes, E.I.



Julian has received his B.S. in civil engineering from Washington State University. He plans to remain in Pullman to obtain a master's in environmental engineering and then work for an international firm on water

projects in areas where that resource is scarce. He has developed a keen interest in environmental fluid mechanics and water resources. He seeks to investigate changes in rivers, involving increased deposits and higher flow rates. These help to determine what will happen downstream at the coast, where major industrial, commercial, and residential activities usually congregate. Julian believes that these factors should be considered, along with the environment, economic factors, and social equity for sustainable development of water resources. He has interned with Ph.D. students at German universities and worked on radio-frequency-identification technology in recycling systems, as well as his German language skills. He believes that understanding a foreign language and culture is an asset in a global economy.

Alexandra B. Chakeres



Alexandra has gained a B.S. in chemical engineering from Washington University in St. Louis, where she was first in her engineering class with a 4.0 G.P.A. She will attend the University of Colorado at

Boulder for graduate studies in mechanical engineering. She wants to research renewable-energy technology and focus on biomass gasification, which appeals to her as a promising field. Research skills were honed during a summer at the National Renewable Energy Laboratory (NREL). Alexandra wants to do more work there on partial oxidation of gasification tars. These are produced during biomass gasification and present a problem in downstream processes like liquid-fuel synthesis and turbine use. Partial oxidation cracks the tars into components that systems can handle. At NREL, she distinguished herself by showing confidence in her experimental abilities, generating plans, diving into experiments, and producing quality data.

Courtney E. Shell



Courtney has graduated with a B.S. in biomedical engineering at Texas A&M University, where she was first in her department with a 4.0 G.P.A. Her postgraduate studies at the University of Texas

at Austin will focus on a doctorate in mechanical engineering, with a speciality in neuroengineering, prosthetics, medical robotics, and/or biomechanics. She spent two semesters as a co-op student with an orthopedic-device manufacturer. Courtney plans to return to industry to work in product development at a prosthetic-device firm or transition to academia as an entrepreneurial professor, developing devices for technology transfer via start-up companies or licensure. She is especially interested in designing a prosthetic limb directly controlled by the patient's brain or peripheral nervous system. Other interests included a study-abroad program in Germany, leading an honors invitational program, volunteering with Habitat for Humanity, intramural soccer, and a church choir and orchestra.

Tau Beta Pi Fellow No. 772

Sharice Q. Handa



Sharice has graduated with a B.S. in mechanical engineering from the University of California, Santa Barbara, where she was TBI Secretary, then President. Remaining at her *alma mater*, she will pursue her graduate

studies in mechanical engineering. She is interested in gecko-inspired adhesives and spent part of a summer studying them at Germany's University of Saarland. Sharice sees applications like surgical stitches or wall-climbing gloves and would like to continue working in a closely related field in nanotechnology or materials. She has a passion for learning and teaching, spending summers as a teaching assistant for a middle-school-level CSI class. Working with children to solve a "crime" with chemistry and forensics, she was inspiring the next generation of engineers and scientists. She sees her future in industry or academia—working independently or collaborating and enjoying being at the cutting edge of technology—while at the same time teaching at a university, sharing knowledge, and inspiring others.

Tau Beta Pi Fellow No. 773

Abhishek Jaiswal



Abhishek has graduated from Idaho State University, with a dual B.S. in mechanical and nuclear engineering. He was TBI Recording Secretary at ISU, ASME chair, and vice president of the Nepalese student association. Undergraduate projects included work on a robotic design for a prosthetic hand and research at the center for space nuclear research of the Idaho National Laboratory. There he worked on power-cycle concepts for space applications. He has also undertaken a project on using a light water reactor in an underground setting. This has intensified his interest in the thermal sciences and demonstrated to him that this field has a lot of research potential. Graduate study plans at the University of Illinois at Urbana-Champaign include research into heat transfer, thermodynamics, and energy systems in the field of nuclear plasma and radiological engineering. Abhishek would like to gain practical industrial experience and then join an academic institution as an educator and a researcher.

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Tau Beta Pi Fellow No. 774

Marsela Jakub-Wood



Marsela graduated with a B.S. in electrical engineering at the University of Louisiana at Lafayette, where she ranked first in her class with a 4.0 G.P.A. Graduate school plans are aimed at a higher

degree in electrical engineering, focusing on power systems and renewable energy. She joined the BeauSoleil solar home project last year and was assigned to the electrical engineering senior-design team. This involved designing the photovoltaics, wiring the electrical system, and calculating the load to ensure the house produces more than it consumes. Marsela realized a major shortcoming with the PV system with the speed at which the panels began to degrade, as well as problems with the instability of the solar power grid. She plans to address these issues in her graduate studies at Washington State University and conduct a deeper study of advanced power systems. Her goal is to find a more efficient method of using and promoting solar energy. She plans to continue her studies to earn a doctorate.

Tau Beta Pi Fellow No. 775

Toby A. Klein, E.I.



Toby is a mechanical engineering graduate of the Cooper Union, where she ranked first in her class with a 4.0 G.P.A. In graduate work at MIT, she plans to focus on efficient, economical ways to produce and

store energy. She is enthusiastic about addressing the challenges of moving from fossil fuels to alternatives based on bio-fuels and hydrogen and is interested in cost-effective and environmentally sound energy-generation processes. She started work in this field at SUNY at Stony Brook, where she researched hydrogen storage. Toby aspires to an industrial position with a company that emphasizes innovation, collaboration, and lifetime learning. She plans to maintain contact with her professors and fellow students throughout her career to remain at the cutting edge of alternative energy research. On campus and in internships, she delved into projects in implementation of high-speed train systems and control of a prosthetic hand using muscle signals. She served as IITΣ recording secretary.

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Jaclyn R. Kondratko



Jackie has graduated from Valparaiso University, where she was TBPI Vice President, with a B.S. in mechanical engineering. Her next step is a master's in biomedical engineering at the University of Wisconsin–Madison on her way to a career in industry developing devices to help people with physical handicaps. She values her own active lifestyle and her soccer career as a member of her school's NCAA Division 1 team and 2009 captain. Jackie would like to focus graduate research on an area of biomechanics developing orthopedics or devices for sports injury victims. She has known many fellow players to suffer knee ligament injuries and sees this as an area for research. She has also studied the use of point-vibration therapeutic devices to help reduce self-stimulating behavior in autistic children. This can also help them integrate into classroom settings. Last summer, she worked in Switzerland on an NSF-funded project to electrolyze zinc and oxygen from zinc oxide, using solar energy and a small amount of electricity.

investigate if the performance of thermoelectric materials—converting heat into electricity—can be significantly improved by using nanostructured topological insulators, which are a new state of quantum matter. This research could lead to more direct solar-power generation, as well as recovering energy from automobile engine exhaust to curb greenhouse gas emissions. Karthish hopes to work as a teaching assistant, as he prepares to become a professor, and create a TBPI program such as AlumNet in which graduate students will mentor undergraduate engineering majors who need advice about classes, research opportunities, or internships. A Stanford teacher described him as his “most amazing” undergraduate “in terms of past track record, intellectual depth, leadership, and great personality.”

Karthish Manthiram



Karthish has received his B.S. in chemical engineering from Stanford University, where he had a 4.1 G.P.A. Graduate studies at the University of California, Berkeley, are his next move. He wants to

ing chair and active in AIChE. His next objective is a Ph.D. in chemical engineering at MIT. His career goal is to serve on a university faculty, doing research in areas like biomedical applications and pharmaceutical production. Li's master's thesis is about synthesizing electrodes on proton-exchange-membrane fuel cells from nanoparticles. He will also analyze the performance of the fuel cells based on spectroscopy and give suggestions for improving performance. This formal thesis research is preparation for his future graduate-study. A second-year research co-op job at Pfizer taught him about the formal research process. Another project, doing literature research then developing and analyzing the pharmaceutical process, culminated in a peer-reviewed journal article and a conference poster.

Li Tan



Li is completing a combined B.S./M.S. in chemical engineering at the University of Cincinnati, where he ranked first in his class with a 4.0 G.P.A. He has been TBPI Chapter Vice President and tutor-

ing chair and active in AIChE. His next objective is a Ph.D. in chemical engineering at MIT. His career goal is to serve on a university faculty, doing research in areas like biomedical applications and pharmaceutical production. Li's master's thesis is about synthesizing electrodes on proton-exchange-membrane fuel cells from nanoparticles. He will also analyze the performance of the fuel cells based on spectroscopy and give suggestions for improving performance. This formal thesis research is preparation for his future graduate-study. A second-year research co-op job at Pfizer taught him about the formal research process. Another project, doing literature research then developing and analyzing the pharmaceutical process, culminated in a peer-reviewed journal article and a conference poster.

Diana K. Ladkany



Diana majored in biomedical engineering at the University of Rochester, also her new medical school, and was TBPI President in 2009-10. Graduating first in her class, she has been part of the Rochester early

medical scholars program and plans to become a doctor. However, she loves her engineering background and is determined to use it. Diana has worked with laboratory equipment from the mechanical engineering standpoint, before progressing to applying ultrasound to tissue engineering. She wants to continue with ultrasound and other non-invasive therapeutic methods of healing. Such fields intrigue her because they will allow her to continue with projects that may bridge the engineering and medical fields. She has been active in the medical emergency response team and spends time in an emergency room that keeps her involvement fresh with the medical field and its personnel. A member of SWE, Diana served as president of the Student Association for the Development of Arab Cultural Awareness.

Jonathan L. McKinney



Jonathan majored in environmental engineering at Missouri University of Science and Technology, where he is remaining to begin graduate school. Academic and career goals include obtaining a Ph.D.

and helping society move towards sustainability through research and education in environmental engineering. Jonathan believes the health challenges facing society are due to poor environmental quality, caused by society itself. This is beginning to improve, however, and will continue to do so for generations, as people start to consider sustainability in everyday life. He is planning to study for a master of science in chemical engineering, as he sees mass and heat transport, thermodynamics, and reactor design as the fundamentals behind most engineered solutions to environmental problems. Chemical engineering principles will help him contribute quality work to society. It will also make him more effective in teaching the fundamentals of environmental engineering to the next generation.

Brian J. Thomas



Brian graduated at the top of his class with a B.S. in computer engineering and a 4.0 G.P.A. from Purdue University. He was TBPI Corresponding Secretary and then President of Indiana Alpha. He wants to

continue studying artificial intelligence at Brown University, particularly computer vision. He has been working on a project to create a robot that can learn and play arbitrary board games. Brian is fascinated by human ease in performing complex sensory tasks and wishes to develop algorithms that mimic our natural abilities. He has also been studying signals and systems, probability, while completing a mathematics minor. His desire to teach and help others to overcome intellectual roadblocks further convinced him to pursue graduate studies. Brian plans to go on for a doctorate and become a professor. He co-taught a weekly hour-long course introducing freshman engineers to college-relevant subjects like time management. Brian has been praised for initiative, leadership skills, and resolve as a Tau Bate.