Re-Engineering Education: Focused on the Future

INSIDE:
K-12 Outreach
Freshman Camp
Going Global
Entrepreneurial Program

Ira A. Fulton
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Arizona State University
fulton.asu.edu
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FSC

Mixed Sources

50 Years of Engineering
Arizona State University

Vision
Leading engineering discovery and innovative education for global impact on quality of life.

Mission
Provide an environment rich in transdisciplinary research, education, entrepreneurship and leadership resulting in successful engineers and technologies that benefit society.

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Dean’s Perspective

“"The preparation of future engineers is a fundamental component of our mission.”"

Where do you see yourself in five years?

The significance of a “five-year plan” is not only the details of where you are going, but also how you plan to get there.

The Ira A. Fulton School of Engineering is undergoing a transformation mirroring that of Arizona State University, which continues to receive national recognition for its creation of a New American University defined by “Excellence,” “Access,” and “Impact.” This fall ASU was ranked fourth among the 70 “Schools to Watch” by U.S. News & World Report.

In the 50 years since its inception, the school of engineering has grown and evolved significantly. Today the school is ranked in the top 10 percent of all accredited engineering programs and boasts strong, integrated educational and research agendas. We graduated nearly 1,200 students in the last year, while also generating more than $53 million in research expenditures. More than one million square feet of new engineering facilities have been constructed or acquired in the last five years.

As we plan for the future, the school has developed an ambitious five-year strategic plan highlighted by unprecedented growth and investment. We will enhance and expand academic and other student programs to ensure our graduates are prepared for careers in an increasingly complex and interconnected world. These future engineers will be prepared to develop solutions and make new discoveries that drive sustainable progress.

Over the next five years, we will hire 100 new engineering faculty who support our vision. We will grow our undergraduate student enrollment by approximately 25 percent, to a total of 5,000. The world’s challenges require engineering solutions, and we are committed to producing engineers who will rise to the challenge.

I encourage you to learn more about our plans for the future, and to join us in pursuit of excellence in education and discovery. The time is right for engineering!

Keep in Touch!
Help us to stay in touch with you.

Update your contact information online at fulton.asu.edu/alumni to ensure you receive important dates and information in a timely manner.

If you are interested in being part of your Engineering Alumni Chapter, please contact Kendra Quandt at 480.727.7600 or Kendra.Quandt@asu.edu today!

Message from the Alumni President

Dear Engineering Alumni,

We are proud of our alumni and want you to remain actively engaged with the school of engineering. The past year has been incredible, and we look forward to providing even more opportunities for alumni to get involved as we move forward.

Along with our Sun Devil men’s and women’s athletic programs being ranked nationally in nearly all major sports, the school of engineering is also receiving the national recognition it deserves. Ranked among the 50 best engineering schools in the country, Engineering at ASU is leading the charge in areas such as biological and human systems, sustainability, energy, security and defense, education and more. We all know that the world needs engineers, and I am proud of these efforts to improve the quality of life for people around the globe.

The Ira A. Fulton School of Engineering Alumni Chapter aims to keep you engaged, informed and connected with your alma mater. We’d like to invite you to stop by one of our many events this year and say hi. Event details are available online at http://fulton.asu.edu/alumni. And as always, you are welcome to join us at our quarterly board of directors meetings, or join one of our activity committees (info online).

Most importantly, let’s all have fun! That’s the best part about hanging around with engineers. We really do have a good time!

But also let us know how we’re doing. If there’s something about the alumni chapter that you really like, let us know. But more importantly, let us know what’s missing! What can we do for you to help achieve your (and your) goals? Drop me a line at cmchesney@cox.net, and let me know how we can improve the Engineering Alumni Chapter. If there is something you have a real passion for and would like to see done by the alumni association, let’s talk.

One last thing. I’d like to take a minute to thank our current board of directors (listed left) for all the hard work they’ve contributed this past year and will contribute moving forward. And also the folks at ASU Alumni Association and the Ira A. Fulton School of Engineering who support us. Thank you all.

Go Devils!
Cassius McChesney
BSEE ’81
MBA ’86
Sustainability and Technology Initiatives, APS

Alumni Chapter President Cassius McChesney
enjoys one of his favorite pastimes.

Appendix: 2008-09 Board of Directors

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Nothing encourages introspection quite like a milestone anniversary.

After becoming one of the largest engineering schools in the country, and achieving rankings among the top 10 percent of accredited U.S. engineering schools, the Ira A. Fulton School of Engineering at its 50th anniversary found itself pondering: what next?

Looking to the future, the school has crafted a blueprint for building a truly unique engineering school — one that serves as the model for engineering schools in the future. Over the next five years, the school will focus on innovation and discovery, creating solutions to grand challenge problems facing society.

The National Academy of Engineering states that “…the century ahead poses challenges as formidable as any from millennia past. As the population grows and its needs and desires expand, the problem of sustaining civilization’s continuing advancement, while still improving the quality of life, looms more immediate.”

The school of engineering is committed to addressing society’s challenges in the areas of biological and human systems, sustainability, energy, security and defense, education, information and...
The new curriculum will incorporate the National Academy of Engineering’s “Engineer 2020” attributes, including: strong analytical skills; practical ingenuity; creativity; good communication; business and management skills; leadership skills; high ethical standards; professionalism; dynamism, agility, resilience and flexibility; global awareness; and life-long learners.

physical infrastructure, and exploration. The creative activities of both faculty and students will be focused on solving these challenges, and the primary measure of the school’s success will be the societal impact of these efforts.

To pursue these goals, the school will attract new faculty and students who share this vision. Academic programs will emphasize recruitment and retention of a diverse student population, and the school will hire 100 new faculty members over the next five years.

The school’s nationally ranked undergraduate program is undergoing a rapid transformation to better match with the skills, interests and preferred learning styles of incoming students. The more than 1,000 graduates the school produces each year will help to address the projected shortage of engineers in the U.S.

A new engineering curriculum will be designed and implemented, ensuring that students graduate prepared for impactful careers. They will be innovative, aware of the societal impact of their actions, and capable of competing and collaborating in a global environment. Students will be prepared for success as the challenging curriculum is further enhanced by a wide range of practical experience options.

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Included in the curriculum will be opportunities for global, entrepreneurial, research, and professional work experiences for all students. Courses will include problem-based learning and integrative experiences that span the entire undergraduate years. Integrative elements will include disciplines such as systems engineering, economics, ethics, business, sustainability and informatics.

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To achieve its overall goals, the school will continue to partner with investors who wish to provide support for its vision, generating the resources needed to fuel this transformation. With the support of individuals and others who are excited by this plan, the school is poised to make this vision a reality.

Ultimately, these efforts will result in a doubling of the school’s research enterprise, increased external support for student programs, and increased recognition of the school’s quality and uniqueness. The model engineering school of tomorrow is being built here now, and the future looks bright.
Engineering outreach
Pre-college students learn about engineering concepts, opportunities through summer programs

Robots, rockets, computer video games, Lego building blocks and water-balloon launchers are among the tools used to open windows to the world of engineering for young students who participate in Ira A. Fulton School of Engineering summer education and orientation programs.

This past summer, dozens of junior high and high school students gained hands-on experience in basic engineering concepts, while new and expanded programs gave incoming engineering freshmen a lively introduction to university life, college-level studies and career opportunities.

Nurturing future engineers
The school’s efforts in support of the National Science Foundation’s goal of sparking youngsters’ interest in science, technology, engineering and mathematics were highlighted by a robotics programming camp and a computer game camp for high schoolers.

The Robotics Camp gave students a chance to experience hands-on robot construction and programming, providing them instruction in modern engineering design concepts and computing technologies. In its third year, the Robotics Camp drew 51 students, up from 32 in 2007 and 16 in 2006.

“The numbers tell the success story. The feedback is very positive,” said Robotics Camp coordinator Yinong Chen, a lecturer in the School of Computing and Informatics. "I have already received parents' queries for the 2009 program, and there is also a request to admit younger students from grades 6, 7 and 8.”

Due to the camp’s growing popularity, Chen plans to organize two robotics camps for summer 2009. In addition to the program on the Tempe campus, a second will be offered at the ASU Downtown Phoenix campus to accommodate students in that area.

“I think the program gave me a unique insight into how one can apply programming to the real world, and it kind of sparked my interest in what I could do with that knowledge,” said Alex Slaughter, a camp participant and a junior at Tempe’s Corona Del Sol High School.

Fifteen high school students joined CampGame, a six-week experience in computer video game development, aided by the latest development tools and an industry-experienced faculty.

“The camp exposes students to technology in a way they have never before visualized,” said program coordinator Arvish Amresh, a lecturer in the Department of Computer Science and Engineering.

CampGame students learned skills in programming, design and digital art, while also learning to work in teams and meet the challenges of production deadlines.

“Acclimating incoming students
The Success in Engineering Education Summer Bridge Program focused on acclimating 34 incoming engineering freshmen to university life, providing experience with college-level courses and various on-campus resources.

The five-week residential program consisted of a three-credit English course, as well as week-long review courses in math, physics and chemistry. Participants also completed a variety of hands-on laboratory activities.

Students received practical lessons in designing, building and launching rockets, designing and building motorized toy cars, and participated in a competition using Lego Mindstorms building-block sets combining programmable bricks with electric motors, sensors, Lego bricks, and Lego Technic pieces, such as gears, axles and bearings.

Summer programs included a two-week residential program for 40 high school students, with an emphasis on young men and women from groups historically underrepresented in the engineering field. In addition, a one-week commuter program drew 80 junior high students.

“The goal of our middle school and high school programs is to introduce students to engineering and encourage them to take an interest in their math and science courses,” explained program coordinator Katrina Vance.

“It’s essential to get these young students in the pipeline at an early age so they are better prepared for the engineering curriculum when they arrive at college,” she said.

Acclimating incoming students
The Success in Engineering Education Summer Bridge Program focused on acclimating 34 incoming engineering freshmen to university life, providing experience with college-level courses and various on-campus resources.

The five-week residential program consisted of a three-credit English course, as well as week-long review courses in math, physics and chemistry. Participants also completed a variety of hands-on projects and got a chance to interact with the faculty members, university staff and student organizations.

“The Summer Bridge Program was a success for me, and the best decision I made all year because I made lots of friends and learned a lot from it,” said Jere Jim, whose home is the Native American Indian community of Shiprock, New Mexico.

“The Bridge Program helped me a lot my first week with finding classes easily and already having a good base of friends,” said Ronald Hardin, a civil engineering major from Gilbert, Arizona.

The Fulton Undergraduate Research Initiative (FURI) Honors Summer Institute made its debut in summer 2008. The FURI summer program provided 17 incoming freshman honors students the opportunity to participate in a two-week commuter program to acclimate them to both the Ira A. Fulton School of Engineering and Barrett, The Honors College.

Students attended The Human Event, an introductory honors class (in the humanities and critical thinking). They also met with leaders of the academic departments in which they will study, worked on a robotics project, interacted with current engineering honors students, participated in workshops on presentation skills, research methods and intellectual property, and learned about campus resources and the culture of Arizona State University.

Students in the FURI Honors Summer Institute will participate in the FURI Research Symposium during the fall 2008 semester. They will join groups of their peers to present robotics projects that employ research methods they learned in the summer program.
An innovative new orientation program for incoming freshmen was launched this summer, promising significant benefits for both the students and the school of engineering.

E² (Engineering Experience) Camp gave more than 700 engineering freshmen a chance to network with school leaders – and with each other – during a three-day/two-night orientation in a scenic, wooded camp in Prescott, Ariz. Faculty, staff and current engineering students were on hand to mentor the new university students.

Camp activities included team projects in which students were challenged to design water-balloon launchers using limited resources. They competed against each other for the design of their launchers, as well as the distance and accuracy with which the devices could propel water balloons. There also were physical challenges – competitions on high- and low-rope obstacle courses – as well as traditional campfires and s’mores.

Students participated in workshops on communication skills and group dynamics, and heard about the vision and global mission of the Ira A. Fulton School of Engineering. As they were introduced to classmates, student mentors provided firsthand knowledge and insights about the school of engineering and ASU.

“E² camp really helped in fostering a bonding atmosphere for me and my cabin mates,” said camp participant Joy Wang, a freshman in electrical engineering.

Dean Deirdre Meldrum and Executive Dean Paul Johnson personally greeted students at each of six camp sessions, held in late August and early September. The excitement among students was evident throughout each of the camps.

“I thought the camp was amazing,” said student mentor Ryan Wheelock, a senior studying computer science. “It made me realize how much I love helping and leading people. I definitely can’t wait to volunteer next year.”

“Students arrived at the camp as strangers,” said Dean Deirdre Meldrum, “and left energized and engaged.”
Global Outreach is responsible for developing an integrated and comprehensive portfolio of programs and strategic partnerships that provide students the opportunities and resources needed to become globally competitive leaders in engineering.

To be effective in their careers, engineering students must understand the dynamics that balance - or sometimes disrupt - the economic, social and environmental interactions on local, regional and global levels. In order to better prepare engineering students for work in an increasingly globalized environment, schools must promote global competencies and awareness. The Ira A. Fulton School of Engineering is committed to meeting this challenge by innovating and integrating global learning as a critical element of its core educational experience.

Global Outreach is focused on providing opportunities for engineering students that range from engineering course offerings with globalized content, to international exchange programs and internship opportunities. The office works to develop high-level tactical relationships and partnerships with international engineering schools and academic institutions, governments and corporations.

Global Coursework
During the fall 2008 semester, the school launched Global Engineering (FSE 294), a new course for sophomore and junior students that will count toward students’ general studies requirements. The course will teach students about the global practice of engineering, as well as international trade and business trends. Students will also gain experience in communication, teaming and cultural awareness.

This new course will help students develop a better understanding of the global aspects of all engineering disciplines. Students will gain experience in communication, teaming, and cultural awareness. International trade and business trends, and their impact on the practice of engineering, will be explored. Students will gain a better understanding of global career paths, and learn about opportunities to study, work and volunteer abroad.

Senior engineering students are required to culminate their studies with a capstone design course, to put into practice the skills acquired throughout their studies. The school has placed a high priority on programs that integrate a global approach in the curriculum. With this challenge in mind, the school’s Mechanical and Aerospace Engineering department launched a Global Aerospace Capstone Design Course in spring 2008 offered jointly to ASU aerospace engineering students and mechanical engineering students from Tecnologico de Monterrey in Monterrey, Mexico.

The semester-long course was delivered via live video broadcasts to 15 students from Tecnologico de Monterrey simultaneously with 25 on-site ASU students. Through the formation of bi-national teams, students experienced first-hand the challenges and benefits of designing a complex system as part of a geographically dispersed, culturally diverse and virtual workgroup. The program expanded to include a third participating university during the fall 2008 semester. Sixteen aerospace engineering students from Nanyang Technological University (NTU), which houses the only aerospace engineering program in Singapore, have also joined the Global Aerospace Capstone Design Course.

In August, Intel Products Vietnam and the Ira A. Fulton School of Engineering administered a four-day microelectronics packaging curriculum workshop in Ho Chi Minh City, Vietnam. The objective of the workshop was to introduce semiconductor package technology to Vietnamese engineering faculty and researchers. Engineering Professor Amaneh Tasooji led the workshop.

Courses and programs expand engineering students’ world view
In order to offer enhanced global experiences for students while also growing its distance education program, the school of engineering established the Office of Global Outreach and Extended Education (GOEE).
Fall 2008

visit fulton.asu.edu/global.

For more information about global engineering programs, including ASU alumni, and Brazilian students will start coming to ASU in the spring 2009 semester, followed by ASU students going to Brazil in fall 2009.

The award will fund a new exchange program between the Consortium for Continuing Education in Microelectronics (CÚMEs) and its Brazilian counterpart, Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES).

The Department of Electrical Engineering recently launched the “FIPSE-CAPES Consortium For Continued Education in Microelectronics.” This partnership involves three other U.S. institutions – University of Buffalo (SUNY), Iowa State University and Texas A&M University - along with three Brazilian state universities. The consortium is the result of an award granted by the U.S. Fund for the Improvement of Post-Secondary Education (FIPSE) and its Brazilian counterpart, Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES).

The award will fund a new exchange program between the consortium universities for the next four years. Students will spend a full semester in one of the Brazilian universities, and will receive scholarship funding to cover a portion of their travel and living expenses while abroad. All of the credits earned as an exchange student will be transferred back to their corresponding ASU programs.

Study Abroad

The school of engineering offers undergraduate and graduate students the opportunity to study abroad: exchange, faculty-directed and partnership programs. There are currently 16 programs in countries around the world, housed in universities with strong engineering schools. The school works closely with ASU’s Study Abroad Office to facilitate the selection, advising and registration process for these programs. Study abroad programs are available during the summer, fall/spring semesters, or full academic year. Participating engineering students earn ASU resident credit for their studies abroad, so they are not extending their normal degree progress. There are three primary types of study abroad: exchange, faculty-directed and partnership programs.

The Department of Electrical Engineering recently launched the “FIPSE-CAPES Consortium For Continued Education in Microelectronics.” This partnership involves three other U.S. institutions – University of Buffalo (SUNY), Iowa State University and Texas A&M University - along with three Brazilian state universities. The consortium is the result of an award granted by the U.S. Fund for the Improvement of Post-Secondary Education (FIPSE) and its Brazilian counterpart, Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES).

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For more information about global engineering programs, visit fulton.asu.edu/global.

Degree programs, courses and certificates for engineering professionals

The Office of Global Outreach and Extended Education develops tactical partnerships with global engineering organizations and professionals, including many ASU alumni, to provide ongoing professional development opportunities. Through a portfolio of innovative programs and distance education technologies, individuals access high-impact programs to advance their engineering careers.

ONLINE GRADUATE DEGREE PROGRAMS

Master of Science in Engineering (MSE) Dual-Degrees
- MSE in Electrical Engineering/MBA*
- MSE in Industrial Engineering/MBA*


*In partnership with ASU’s W. P. Carey School of Business

Master of Engineering (ME)
Areas of Study: Computing Systems, Quality and Reliability Engineering, Systems Engineering

Master of Science (MS)
Concentration in Construction

SHORT COURSES AND CERTIFICATES

More than a dozen options, including online.

Programs range from Six Sigma certification and Technology Entrepreneurship to discipline-specific topics such as Signal Processing, Wireless Communications, Semiconductor Processing and Computer Security/Cryptography.

Learn more at asuengineeringonline.com.

Entrepreneurial Programs
Training engineering students, facilitating technology enterprise

The Entrepreneurial Programs Office (EPO) in the school of engineering was launched in September 2004. The office is led by Dr. Tom Duening, formerly assistant dean of the C.T. Bauer College of Business at the University of Houston, where he helped develop the now #1 ranked Center for Entrepreneurship & Innovation.

Built on Duening’s broad experience, EPO delivers undergraduate and graduate courses in technology entrepreneurship and enterprise innovation. These opportunities expose engineering students to business and economic concepts that prepare them for the global marketplace. Duening says that his overriding goal in his teaching is to help technologists develop economic self-reliance.

“Entrepreneurship is a valuable part of the curriculum for engineering students, because it teaches them how to create value, and to retain some ownership of that value.”

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“Entrepreneurship is a valuable part of the curriculum for engineering students, because it teaches them how to create value, and to retain some ownership of that value,” says Duening. “The average age of a first-time technology entrepreneur is about 40 years old. We are not trying to create entrepreneurs, but rather to familiarize our students with their own potential for economic self-reliance at some point in their careers.”

EPO also coordinates the Arizona Technology Investor Forum (ATIF). ATIF is an angel investor community that connects angel investors with promising Arizona-based technology ventures. Duening said the ATIF mission is to “be the most active, engaged technology investor group in the state.” Since May 2007, ATIF has invested more than $2 million in eight ventures.

Many of the technology entrepreneurship students support ATIF and are invited to attend the quarterly meetings. Duening notes that the practical experience the students get from these meetings is invaluable.

“Entrepreneurship in the classroom is like trying to teach someone to ride a bike without using a bicycle,” Duening says. “I can help you understand some principles, but pretty soon you have to just ride the bike. Entrepreneurship education is a little bit like that.”

Extended education program in conjunction with Intel in Ho Chi Minh City.

Tom Duening and students of the Entrepreneurial Program who formed the company Watel Solutions Corp., which focuses on the problem of water scarcity in Africa.
Supporting Our Vision

“By the time American kids get to high school, it’s too late to get them excited about math, science or engineering.”

Gary Tooker

Former Motorola executive, alumnus Gary Tooker invests in K-12 initiatives

Former Motorola CEO Gary Tooker experienced firsthand the worldwide competition American businesses face in science and engineering. Now retired, Tooker and his wife, Diane, want to encourage and inspire youth to discover the unlimited possibilities in science and engineering.

To accomplish this, the couple invested $4 million to advance ASU’s efforts to better educate K-12 students in science, technology, engineering and math (STEM). The gift will endow five faculty positions within the Ira A. Fulton School of Engineering, and these professors will work to strengthen youth’s interest in STEM-related careers.

Low numbers of college students pursuing STEM-related studies is a growing national concern. Several institutions, including NASA and the National Science Foundation, have developed programs to advance education in these core areas.

“By the time American kids get to high school, it’s too late to get them excited about math, science or engineering.”

Gary Tooker says, “Diane and I wanted to do something that combines our interests in education and engineering and might also inspire others to step forward and help support education in grade and middle schools.”

Gary Tooker received his bachelor of electrical engineering degree from ASU in 1962. He joined Motorola that same year, rising to chief operating officer in 1988, president in 1990 and vice chairman and CEO in 1993. He was elected chairman of the board in 1996 and retired from Motorola at the end of 1999, remaining a company director until 2001. He has received a Distinguished Alumnus Award and an honorary Doctor of Humane Letters from ASU, is a trustee of the ASU Foundation, and is on the board of directors of ASU’s Research Park in Tempe.

Diane Tooker has taught in Phoenix and Scottsdale schools, and holds a degree in interior design. She has run her own business, Designovations, since 1982. She is active in several civic organizations, including A Stepping Stone Foundation and the Boys and Girls Clubs of Greater Scottsdale. She helped create and run the university’s Medallion of Merit Scholarship fundraiser and served as an alumni association director. In 1999, she and Gary were joint recipients of ASU’s James W. Creasman Award of Excellence.

Dean’s Club: Supporting the Vision

The Ira A. Fulton School of Engineering Dean’s Club is comprised of alumni and friends who value our strengths, recognize our potential and expand our possibilities in partnership with Dean Deirdre Meldrum.

Dean’s Club members provide financial resources for the school’s leadership to leverage opportunities, launch new programs and academic departments, design and implement new curricula, engage in development of K-12 outreach and education, and focus on conquering grand challenges that face society.

With your help, our students and faculty can access even greater opportunities to think big and pursue significant goals. They can develop bold ideas and address complex problems, collaborate with industry leaders, and participate in real-world projects that will benefit the world we live in.

To learn more about the Dean’s Club, visit fulton.asu.edu/deansclub, or contact Kendra Quandt at 480.727.7680 or kendra.quandt@asu.edu.

Invest in Engineering

Like all educational institutions, the school of engineering depends on support from alumni, friends, institutional partners and other supporters to advance our mission. Our development office manages a variety of fundraising initiatives to support efforts such as K-12 outreach, student engagement and academic programs, among others. The Engineering Development Office works closely with the ASU Foundation, an independent non-profit organization whose mission is to solicit, manage and disburse the proceeds of gifts made to ASU.

If you are interested in supporting our vision through a gift to the school, please contact the development office at 480.965.9646 or development@asu.edu. To give online, visit asufoundation.org/give.

“Looking at what the dean has planned...the next 5 years will exceed the past 50 years in this school because of what’s happening here.”

Ira A. Fulton
New Faculty 08-09

1. Gail-Jean Ahn
   Associate Professor, School of Computing and Informatics
   Research Interests: Technology assessment, quality assurance in education and practice.

2. Lenore Dai
   Assistant Professor, Department of Chemical Engineering
   Research Interests: Biophysical and biophysical fluid dynamics, fluid dynamics, and biomaterials.

3. Christiana Hansborg
   Professor, Department of Electrical Engineering
   Research Interests: Ultra-high efficiency solar cells, semiconductor devices including LEDs and photodetectors and InGaN material system.

4. Hsii-Ping Huang
   Assistant Professor, Mechanical and Aerospace Engineering
   Research Interests: Geophysical and environmental fluid dynamics, climate change assessment and prediction, remote sensing of the environment.

5. Jianming Liang
   Associate Professor, School of Computing and Informatics
   Research Interests: Biomedical imaging and analysis, bioinformatics, computer aided diagnosis and therapy, computer vision and graphics, visualization, pattern recognition and classification, Bayesian networks, probabilistic reasoning, machine learning, artificial life and intelligence.

6. Jason Lueke
   Assistant Professor, Del E. Webb School of Construction
   Research Interests: Infrastructure rehabilitation, sustainable construction and design, trenchless technology.

7. George Maracas
   Professor of Practice, Department of Electrical Engineering
   Research Interests: Nanostructures for solar energy conversion, organized assembly of nanostructures, renewable energy technologies.

8. Diana Petitti
   Professor, School of Computing and Informatics
   Research Interests: Technology assessment, quality assessment and improvement as well as clinical and health services research.

9. Veronica Santos
   Assistant Professor, Department of Mechanical and Aerospace Engineering
   Research Interests: Biomechanics, neural control of movement of the human body, biomechanical modeling for prosthetics and rehabilitation technology, tactile sensors and grip control algorithms for prosthetic hands.

10. Sule Ozev
    Professor, School of Computing and Informatics
    Research Interests: Learning science, cognitive science, artificial intelligence, intelligent tutoring systems, cognitive modeling, embedded assessment.

11. Kurt VanLehn
    Professor, School of Computing and Informatics
    Research Interests: Learning science, cognitive science, artificial intelligence, intelligent tutoring systems, cognitive modeling, embedded assessment.

12. Enrique Vivoni
    Associate Professor, Department of Civil and Environmental Engineering and School of Earth and Space Exploration
    Research Interests: Hydrometeorology, watershed modeling, surface hydrology, environmental informatics, GIS, remote sensing, environmental fluid mechanics, turbulence.

Spotlight On: William Ditto

An accomplished researcher, scholar, administrator and entrepreneur is the new chair of the Harrington Department of Bioengineering in the Ira A. Fulton School of Engineering.

William Ditto comes to ASU from the University of Florida, where he is the founding chair of the J. Crayton Pruitt Family Department of Biomedical Engineering, and holds the position of J. Crayton Pruitt Family Eminent Scholar Endowed Chair.

Ditto worked in research for the U.S. Navy and in prominent science and engineering departments at Georgia Tech and Emory University prior to joining the University of Florida in 2002. He has founded three companies based on technological advances developed through his research. The entrepreneurial spirit that is a focus of ASU’s model for the New American University was a significant factor in his decision to take a new job.

“A cornerstone of ASU’s philosophy is the encouragement of rapid movement from creativity and discovery to invention, to putting new technology out there into the market and the community,” Ditto said. “I want to become a part of that trajectory of aggressive innovation that ASU is leading.”

Engineering Dean Darideh Meldrum said Ditto was selected for his potential to play a key role in plans to expand the school and cement its place among the leading engineering schools in the nation.

“His creativity, experience and tenacity to implement ideas will enable ASU to build stronger partnerships with the medical community in the Valley, to grow our bioengineering research and to train our students to be the biotechnology leaders of the future,” Meldrum said.

Ditto plans to structure the department to maximize opportunities for faculty – and students – to become innovators and entrepreneurs, particularly in helping create a “bio-silicon valley” in the Phoenix area.

Aspects of his work on control of chaotic behavior – an irregular but ubiquitous behavior in physical and biological systems ranging from cardiac arrhythmia to brain seizures – have been featured in magazines and newspapers such as Science News, Time, Discover, Scientific American, Nature, Science, The New York Times and the Washington Post. His work on control of cardiac and neural chaos has gained international attention and led to several patents.

Recently his contributions were recognized when he was named a Fellow of the American Physical Society and the American Institute of Medical and Biological Engineering. Earlier in his career he was named Outstanding Young Professional of the Year by the Naval Surface Warfare Center and later received an Office of Naval Research Young Investigator Award.

Ditto earned a Bachelor of Science in physics from the University of California, Los Angeles, and a Ph.D. in physics from Clemson University.

National Science Foundation honors up-and-coming faculty members

CAREER Awards are the National Science Foundation’s “most prestigious awards in support of the early career development activities of those teacher-scholars who most effectively integrate research and education.” In 2009, five promising engineering faculty members received this exceptional honor.

Research into how the brain combines different forms of sensory information to help plan and modify physical movements will be supported by the award to Christopher Bunce, an assistant professor in the Harrington Department of Bioengineering.

Work which includes computer simulations to test how people share common resources, and craft institutional rules governing those resources, earned an award for Marco Janssen, associate director of ASU’s Center for the Study of Institutional Diversity.

Finding better materials to harvest energy from sunlight by using photovoltaic technology is the goal of research to be funded through the award received by Jian Li, an assistant professor in ASU’s School of Materials.

The award won by Bryan Vogt, an assistant professor in the Department of Chemical Engineering, will support research on controlling the architecture and behavior of nanostructures and nanomaterials.

Innovation in research and education in nanotechnology and fluid dynamics was recognized through the award to Jonathan Posner, an assistant professor in the Department of Mechanical and Aerospace Engineering.

For more school of engineering news, and to subscribe to RSS feeds of news articles and bulletins, please click the “Newsroom” link on our Web site fulton.asu.edu.
Students at a high-ropes obstacle course at this year’s first E² Camp. The camp gave more than 700 engineering freshmen a chance to network with school leaders and with each other.
What’s news with you?
_We want to know – and your fellow alumni do too!
_
E-mail us at full.circle@asu.edu to include news about a new job, new home, new addition to your family or other updates* you would like to have included in a future edition of Full Circle magazine. Be sure to include the year you graduated, as well as your degree and major. We look forward to hearing from you!

(*submissions may be edited for length or content.)

Full Circle is now ONLINE
Beginning with the fall 2008 edition, Full Circle magazine will be primarily distributed as the new Full Circle Online! Be sure to visit fullcircle.asu.edu to enjoy the electronic version of the magazine, and bookmark the site for future visits. If you’d like to be notified when each new edition is available online, e-mail full.circle@asu.edu and provide your name, e-mail and/or physical mailing address.