FROM THE DEAN

In each issue, we highlight alumni who exemplify leadership, achievement and success. I am constantly amazed that the graduates featured in our magazine are not atypical of our engineering student population. In fact, these men and women truly represent in faithful measure the students we guide and educate. The students we attract are very likely to participate in the broadest range of careers. Where are our students today?

Doug Glanville, who received his undergraduate degree in Engineering Systems in 1992, became a Major League Baseball player following graduation. Doug notes that it was his “varied skill set” that set him apart and able to cross over to different disciplines. Currently, Doug is the President of GK Alliance, LLC, a green-friendly real estate development company specializing in residential building in the western suburbs of Chicago, a guest columnist for The New York Times during the 2008 baseball season, and a consultant with Baseball Factory, a development and placement program for high school baseball players.

Penn Engineering graduate Dr. Garrett Reisman, M&T’91, is a NASA astronaut serving as a member of the Expedition-17 crew aboard the International Space Station. Garrett launched with the Space Shuttle crew on March 11, 2008. During the mission, he is scheduled to perform his first space walk and numerous tasks with the Space Station robotic arms and the new robotic manipulator, Dextre. He will return to earth in May 2008.

Entrepreneur David Pakman, a 1991 Computer Science graduate, cultivated his dual passions of music and technology to create eMusic, the world’s largest independent music retailer and the second largest digital music retailer overall behind iTunes.

Penn Engineering alumna Christie Galitsky used her chemical engineering background to design a fuel-efficient cook stove for use in war-ravaged Sudan, thus increasing the safety and quality of life for refugee women in the Darfur camps. This work earned Galitsky the 2006 Humanitarian of the year Award from MIT’s Technology Review. Galitsky noted, “I wanted to do more than develop products. I wanted to pursue the creative aspects of research.” A Penn Engineering education serves our graduates well as they go into their careers, and conversely, we design our curricula with full awareness of the stunning diversity of those careers. It is a wonderfully virtuous circle.

Eduardo D. Glandt / Dean

What Would You Do With a Penn Engineering Education?

Nothing expresses the character of our School more explicitly than the career paths chosen by our graduates. Commencement provides an annual opportunity for my own informal survey. As I stand on stage, shaking 400 hands and smiling for 400 photographs, I take advantage of these brief moments to inquire about the plans of every graduating senior. Given the interesting but wild variety of intentions, it is a miracle that the pictures don’t catch me agape! I have long given up the pointless exercise of looking into the graduates’ eyes, imagining them in ten or twenty years and trying to pick winners. All will be successful, albeit in a surprisingly diverse number of fields. But I do engage in a bit of reverse engineering: what part of their preparation at Penn has led to this explosion of opportunity?

When freshmen arrive on campus in late summer, they immediately experience a broad and flexible curriculum that focuses on core abilities and integrates engineering principles. We teach the application and management of technology. Students participate in extra-curricular service activities and join clubs such as the academically-based Global Technology Services program. For students who wish to pursue advanced degrees, we encourage the investigation and participation in wide ranging interdisciplinary research projects. In the words of Ben Franklin, our students receive “everything that is practical and everything that is ornamental.” We design curricula that are grounded in fundamentals; we strive to inspire creativity, and infuse judgment, ethics, and leadership. We have the daunting responsibility to provide a core curriculum that will not only trigger the imagination but offer the skills for life-long learning. Our students will not be constrained by what an engineer should do, but will dare to look broadly at careers that will transform our world.

Eduardo D. Glandt / Dean

Penn Engineering alumna Christie Galitsky used her chemical engineering background to design a fuel-efficient cook stove for use in war-ravaged Sudan, thus increasing the safety and quality of life for refugee women in the Darfur camps. This work earned Galitsky the 2006 Humanitarian of the year Award from MIT’s Technology Review. Galitsky noted, “I wanted to do more than develop products. I wanted to pursue the creative aspects of research.” A Penn Engineering education serves our graduates well as they go into their careers, and conversely, we design our curricula with full awareness of the stunning diversity of those careers. It is a wonderfully virtuous circle.
A lithe figure walks to the edge of a chasm, leaps across, sits down and takes a breath of relief. Her lifelike movements (on a computer screen) depict Alla Safonova’s innovative algorithms for computer modeling of realistic motion.

Safonova, an assistant professor in the Computer and Information Science (CIS) department, was recruited to the multi-disciplinary CG@Penn (Computer Graphics at Penn) program within CIS in September of 2007, and is already leading productive new realms of research in animation methods.

“To recruit an individual of Alla’s achievement and stature has consequences beyond the classroom because it energizes our entire research program,” says Norman Badler, CIS professor and Director of CG@Penn. Integrating computer science, math and visual communication approaches, CG@Penn is a well-established conduit to jobs in entertainment industry graphics, special effects and animation firms; the program has an undergraduate component (Digital Media Design), a one-year master’s component (Computer Graphics and Game Technology) and a PhD component (the Center for Human Modeling and Simulation).

Over the past 30 years and under Badler’s direction, CG@Penn has brought in $20 million in research funding and produced 70 PhD students. For the past eight years and until Safonova’s recruitment, the program served its approximately 110 students with one full-time faculty member, Badler. “Alla’s recruitment carries us into new and fast-moving directions in research and is helping to educate our students in 21st century methods for animation,” he says. “Her presence puts us into a highly visible and competitive group for attracting excellent graduate students.”

Safonova specialists in efficient techniques for translating and refining vast amounts of data generated by motion capture cameras into lifelike animation. During her graduate school and post-doctoral years at Carnegie Mellon University, Safonova established herself as first author on two papers on these techniques that were published in SIGGRAPH, a highly selective computer graphics academic-industry venue. “Recruiting Alla was a signature event,” says Badler. “We were competing with other universities that recognized her achievements and with industry as well.”

Students in the first seminar Safonova taught at Penn in the fall of 2007 have already produced work that has been submitted to conferences and will be submitted for publication later this year. “This is not esoteric stuff,” says Badler. “This is novel work coming out of a one-semester interaction. Alla has an extraordinary depth of understanding that lets her zero in on new problems and topics that graduate students can grasp and move forward with great rapidity. There was no startup lag in getting her own research agenda moved forward. In the next few years, I expect her techniques for optimization and character animation to become the dominant approach in the field at large.”

Like the CG@Penn program as a whole, the course Safonova teaches, Physically-Based Animation, integrates hard-core computing, mathematical modeling and aesthetic challenges. Graduate students and advanced undergraduates learn how to simulate natural-looking human motion and movement in deformable objects such as cloth, explosions, smoke and fluid for special effects in movies, video games or other applications such as surgical systems.

The vivid images produced by her students are just one indication of the distinctiveness of the CG@Penn program. The undergraduate Digital Media Design (DMD) component bridges technology and art—integrating courses from across the Penn campus in computer science, math, communications, cinema studies and fine art. “DMD is one of the most successful interdisciplinary initiatives at Penn,” says Badler. “It has attracted an exceptional sort of student: not only are they high scoring and high achieving, but they are interesting and creative.”

Graduates of DMD (all of whom finished the program with job offers last May) obtain a Bachelor of Science in Engineering degree, and are actively recruited to positions at such giants in animation, graphics and special effects as Walt Disney Studios, DreamWorks Animation, Pixar Animation Studios, Industrial Light & Magic and Electronic Arts.

Graduates of CG@Penn’s Center for Human Modeling and Simulation have an interesting career path. One third of its PhDs work in academia, and the remaining nearly one-half to hedge funds and financial firms which value a strategic and entrepreneurial mindset. One such firm, Susquehanna International...

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REAL OR VIRTUAL?

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Group (SIG), is located just outside of Philadelphia. SIG, like Penn, places great emphasis on its ability to produce creative technological solutions and seeks to collaborate with computing savvy professionals who are able to work on multi-expert teams.

As a result of this shared culture, SIG will partner with Penn Engineering to renovate the Center for Computer Graphics, which is expected to re-open in 2009. The SIG Center will house the 800-square foot motion capture studio and state-of-the-art Vicon Motion Capture system, which together were instrumental in attracting Safonova to Penn. Hadlan Stone, a 1980 graduate of the College with an artistic eye for innovative and inventive projects, also made a significant contribution toward the new CG@Penn environment.

The absence of a traditional academic hierarchy in CG@Penn is very meaningful. Amy Callhoun, Associate Director of the Digital Media Design (DMD) program, says, "The field is new enough that everybody is more or less on a level playing field. The nature of the field is to figure out something that's never been done before using technology that wasn't available five years ago. Twenty years of experience doesn't help you solve problems. What you need more than anything is the ability to brainstorm and to think creatively, using the newest technologies." CG@Penn has a relatively high proportion of women enrolled in its undergraduate and master's and PhD components (typically half, one-fifth and one third are women, respectively, in any given year). Safonova believes that "Women like computer graphics when they understand the context of the application. I like algorithms, math and the fact that when you implement them in computer graphics you get this visual feedback; I wouldn't enjoy one without the other," she says. "Plus, there are the cultural satisfactions of working and collaborating with very smart, well-educated people. It's a great environment."

The culture of computer graphics also differs from other engineering disciplines in the inter-dependency between the private and public sector. The major academic-industry conference, SIGGRAPH, is dominated by private sector entertainment firms that focus primarily on project-specific, deadline-driven graphics challenges. Academic research in computer graphics is often funded by US government science, defense and aerospace agencies. Algorithms developed by academics are often rapidly adopted and used by the entertainment industry.

This university/private sector interdependence might influence perception of the field. "Some people think that computer graphics is just an industry because anyone can buy graphics software and there's nothing more to do. I fundamentally disagree," says Badler. "Computer graphics is a very exciting and viable research area because there are so many problems we don’t know how to solve. There are still literally worlds to explore. Computer graphics is now one of the major underpinnings of scientific inquiry because virtually every realm of science is touched by computer graphics visualization tools."

Badler and Safonova each see the potential for CG@Penn to cultivate new collaborations among faculty and students at Penn, beyond existing collaborations with the major academic-industry conference, SIGGRAPH.

As computers continue to shrink and become more powerful, Safonova’s expertise in optimization is urgently needed, says Badler. "In the past, optimization methods were slow but now these can be brought into the realm of real time. In environments such as Second Life or a financial trading firm, time-critical techniques are extremely useful. Allai’s techniques will dramatically change our research and education direction and will become increasingly important to our students as they graduate and move out into the world."
was developed by Moore School faculty members John Mauchly and J. Presper Eckert under a 1943 contract with the U.S. Army. The Army urgently needed to speed ballistics calculations. It was built under total secrecy and completed (despite continual skepticism concerning its need or viability) only after the war’s end. Its public unveiling came in an article in _The New York Times_ on February 14, 1946—a rare scientific valentine.

ENIAC holds a significant place in history as the “first large-scale electronic general-purpose digital computer.” A 1986 booklet, authored by Dilys Winegrad for a 40th anniversary celebration, notes that it had carried out more numerical operations in its 10 years of use than had been achieved in all previous history. Initially, it could perform 5,000 additions—or 360 multiplications of two ten-digit decimal numbers—per second.

It’s interesting to note that ENIAC operated on decimal, not binary numbers, and that it had no internal memory. “Programming” required shifting patch cords and switches and took days to accomplish. External memory was introduced through punch cards: A card sorter could handle only 400-600 cards per minute on each run and required multiple runs for a complete sort.

ENIAC’s successor, would employ a magnetic tape reader-recorder and a mercury-tank acoustic-memory device in the country’s first use of internal memory.

Mauchly and Eckert left the University in late 1946 to form the Electronic Control Company, which produced EDVAC—the Electronic Discrete Variable Automatic Computer—and a mercury-tank acoustic-memory device in the country’s first use of internal memory.
The phenomenon of friction and wear has been investigated by scientists and engineers for over 500 years, starting with Leonardo Da Vinci. But in our attempts to make machines do more and on a smaller scale, the study of friction on the atomic level becomes ultimately important. Thus the race is underway to explore science’s newest frontier—nanotribology—and Penn Engineering is emphasizing translating research into real-world application.

In order to deliver real-world commercial applications, the fundamentals that underpin tribology (the science and engineering of interacting surfaces in relative motion, and the resulting phenomena of friction, adhesion, wear and lubrication) have to be explored on the nano level.

"If you look at the responsibility that society gives to universities, it is to create knowledge, integrate it and transfer it through its graduates and scholarly papers. All three of these things were done with this computer, in an educational research setting, and it was shared openly and broadly with the community," says Carpick.

Now, with the gift of Orin Gard’s notes to the university, the day-to-day, human dimension of the course can be relived.

Reflections from Granddaughter Julie Gard

My grandfather would be pleased and honored to know that his notes are of use to Penn. I know that he wanted these notes and records to serve some purpose… and so it’s wonderful to know that his meticulous, preservation-oriented tendencies have allowed him to contribute to the understanding of an important historical moment.

My grandfather treasured these occasions when his life intersected with history—waving good morning to the Wright brothers as he walked to work through Ohio cornfields; sitting next to Einstein at a scientific conference. He was an avid reader (Including Pictorial magazine and National Geographic) and frequently took notes on his reading. I have many memories of him sitting in his green leather chair in the corner, head bowed under the lamp and reading.

How is it possible that the notes are still in existence? My grandmother is the practical minimalist, and my grandfather wanted to save everything that could potentially be of use in the future. I treasure some files of his old papers that I have, including notes on sermons he heard in the 50s and 60s.

I would describe my grandfather as a spiritual and scientific dreamer. He wasn’t always completely in touch with reality, but that is part of the Gard legacy that I treasure—the ability to see beyond (while occasionally stumbling over one’s own feet).
As the Penn Director of the Nanotechnology Institute, Robert W. Carpick, associate professor in the department of Mechanical Engineering and Applied Mechanics, applies his knowledge of tribology on an unscientific level: he collaborates to drive out the friction that often exists between science and business.

“We work as a partnership with academia and industry to support the commercialization of nanotechnology in greater Philadelphia,” he says. “To do that, it’s important for scientists and business owners to collaborate in order to take a new discovery and apply it to a commercial product or service.”

The Nanotechnology Institute is a regional academic research and technology commercialization collaboration made possible by support from the Commonwealth of Pennsylvania. It was founded in 2000 by Penn, Drexel University and The Ben Franklin Technology Partners of Southeastern Pennsylvania.

“We provide the funding and support necessary for researchers and businesses to work together, with the ultimate goal of applying the science to commercial interest,” Carpick says.

The institute is the original and largest center of its kind created to support commercialization of nanotechnology. “We’re in the business of translational research,” Carpick explains. “We’re funding and supporting the application of research to commercial use.”

The levels of confidentiality surrounding commercialization projects at the institute are high, but Carpick provides tantalizing evidence about the potential already realized. “There is already one spin-off company, and several patents licensed that are results of the work supported by the Nanotechnology Institute,” he says. “Due to confidentiality, I can’t tell you more about them right now, but we believe that NTI-supported technologies have a lot of promise for making an impact in medical applications.”

“Rob Carpick is defining the boundaries of the oldest, broadest and most mature engineering discipline by characterizing the nano-scale mechanics between contacting surfaces to understand friction and to synthesize novel materials with unique frictional properties,” says Vijay Kumar, chairman of the department of Mechanical Engineering and Applied Mechanics. “He has established our department and school as a leader in nano mechanics.”

For Carpick and the students he works with, nanotribology is the ultimate puzzle. “We consider two materials that can’t be seen, that meet and start sliding. We have to create new ways to figure out what is going on in that invisible universe,” Carpick says. “Once we learn how to observe what is going on in that environment, we have to be prepared to understand that the fundamentals in the macroscopic world do not always apply to the nanoscale world. That’s the challenge and that’s the excitement.”

“Challenge” is the operative word in the research Carpick does. How do you research something you can’t see? And once research is underway, how do you probe, isolate or experiment with particles that are smaller than atoms? Patience and collaboration are key, Carpick explains. “To study nanotribology, you have to preserve and you have to be willing to collaborate,” he says. Those traits are clearly illustrated in the lab facilities Carpick has set up. His students and colleagues use to understand this microscopic world. At any given time, multiple experiments are being conducted in spaces that range from table-top to football-field scale in shared facilities at Penn and other universities in the nation.

“That spirit of collaboration is one of the reasons I moved to Penn,” says Carpick, who joined Penn in January 2007 from the University of Wisconsin-Madison. “There is no shortage of opportunity for interaction at Penn, and it’s a pleasure to work with colleagues that recognize more can be accomplished by working together.”

Carpick defines his and his students’ work in nanotribology as a pursuit of the basics, on an atomic level. “We want to poke around and push some limits to solve a problem or better understand the underlying science,” he says. “We can look at an opportunity in nanotribology in two ways: finding a solution, or understanding a fundamental.”

Recently, several years of work by two of Carpick’s graduate students resulted in a published paper detailing findings that friction can be reduced on a surface if the final surface layer of atoms is heavier. “That’s a fundamental, but now we need to work to learn how that arises,” he says. In a recent solutions-oriented project, Carpick and his students learned that diamond, if combined with water, can lower friction and wear on the atomic level. “Now we need to learn how that interaction works.”

The process of learning is how Carpick succinctly defines his job. “My job is to continue to learn, share what I learn, and be the catalyst for my students to learn,” he says. That’s a sentiment corroborated by Graham Walszewski, a Penn graduate student working with Carpick.

“He never talks down to students or dismisses a question as stupid. And believe me, I have asked some stupid questions!” says Walszewski, who has worked with Carpick for three years in undergraduate and graduate studies. “Rob will always grace a question with a formal and well-developed answer no matter the level of inquiry. He’ll often include current issues or real-world components into his class material and this brings the core material to life.”

His typical day is anything but. Research, fundamental to any scientist’s work, requires that Carpick carefully balance his time between writing proposals for funding and participating in the actual laboratory research. “Writing proposals is very important, and it’s a highly competitive arena. We typically have to work very hard to get selected for funding, and that funding pool gets more competitive every year,” he says. “When I get lab time, it’s far more exciting to be able to concentrate and focus on the science and the students.”

Along with research, Carpick participates in departmental planning and academic leadership, and he is also the Penn Director of the Nanotechnology Institute. The institute unites corporations, universities and hospital partners with entrepreneurs, private industry, government and non-profit economic agencies to rapidly develop and move new materials, electronics and medical devices to the marketplace. But it’s his work in the classroom and in the lab that really gives him joy. “My students really inspire me,” he says. “Their energy, ideas, and excitement at discovering new things really motivate me. And they often are far more creative in their approach than I am, which is really stimulating.”

Consider the benefits of being able to modify the surfaces of orthopedic implants so that wear becomes a non-issue and implant patients no longer outlive the usefulness of their artificial joints. “Across the board, nanotribology can have a real-world impact,” says Carpick.
In our Information Age, students face tough questions: Is it ok to download and copy part of a code? Can students use homework solutions available on the Internet? Is file-sharing permitted? Today, sharing data for any purpose is easier than ever. New technologies, from the Web to Blackberries to iPods, raise previously unimagined questions about intellectual property and its use in academic life. And the nature of an engineering education—highly collaborative and technology-based—can push at the boundaries of honesty and integrity. To address these important issues, Penn Engineering is taking part in a new University-wide effort to inform and clarify the parameters so that students remain on the right side of that line.

Known as academic integrity, the concepts of ethical conduct in higher education are part of students' lives before they step on campus. Penn Engineering includes a Student Code of Ethics and addresses the University's Code of Conduct and Code of Academic Integrity in handbooks for undergraduate and graduate students. (To read them, visit www.seas.upenn.edu and type code of ethics in the search bar.)

"Penn Engineering's educational mission includes an emphasis on teaching students to be ethically responsible individuals," says Joseph Sun, G'88, director of Academic Affairs. "Our educational experience is the key to keeping academic integrity. Students are here, they will carry these values with them into the professional arena in engineering and other fields.

Following the School's codes of ethical conduct "is the expectation for all of our students," adds Sonya Gwak, C'97, MSEd'99, Ph.D. '06, associate director for Student Affairs and Advising. "Integrity is part of being an engineer, and it is part of being a student at Penn—it's like attending classes or rooting for the football team."

Since the University is an academic community, its fundamental purpose is the pursuit of knowledge. Essential to the success of this educational mission is a commitment to the principles of academic integrity. Every member of the University community is responsible for upholding the highest standards of honesty at all times. University Code of Academic Integrity

Students Helping Students

It's no secret that Penn is a university that attracts high achievers and that Ivy League schools can be high-stress environments. Even the most noble of intentions can crumble in the face of a major exam, a looming deadline, or a failing grade and lead to cheating; the most common student transgression against academic integrity: "Stress can push students to do things they wouldn't ordinarily do," explains Gwak. "We try to give them pause so when there's a fork in road, hopefully they'll choose the right path."

Enter Brandon Hedvat. The engineering sophomore is co-chair of the University Honor Council, an undergraduate student body convened by Penn Provost Ronald Daniels to advise on issues of academic integrity and to educate students about ethical conduct. Hedvat and other Honor Council members also take part in hearing panels, led by the Office of Student Conduct, for violations of University ethics codes.

"A lot of what the Honor Council faces right now is how we get across what constitutes cheating and plagiarism," says Hedvat. "The issues have taken a new direction. It's so easy with the Internet—this huge body of knowledge where one can look up anything, and can enable dishonorable academic conduct among students."

Brandon's sister, Shannon Hedvat, EAS '07, G'08, chaired the Honor Council in 2005. She says the organization tries to make academic integrity feel highly personal to each student. "Academic integrity has a lot to do with you as a person, feeling confident about yourself and your efforts."

During Integrity Week, hosted each fall by the Honor Council, student ad campaigns and speakers, including CNN newswoman Wolf Blitzer, humanitarian Dr. Patch Adams, and Ethos Water co-founder Jonathan Greenblatt, encourage students to take ownership of their education, to "make your degree yours," says Shannon Hedvat. The Honor Council also promotes the dozens of University advising and academic support resources that can help students who may be struggling academically. (www.upenn.edu/programs/acad_support.php)

In February, the Honor Council co-hosted a forum on academic integrity with the Graduate Student Engineering Group during National Engineers Week. There, panelist Susan Henson, director of Penn's Office of Student Conduct, summed up the importance of the University's efforts this way: "It's a lot of hard work on everyone's part to create a culture of academic integrity."

Students report that the greatest impact on their approach to academic integrity comes from the faculty. Steven Bernstein is a doctoral student in bioengineering and chair of the Graduate Student Engineering Group. "I think integrity is something
“Penn Engineering’s educational mission includes an emphasis on teaching students to be ethically responsible individuals,” says Joseph Sun, G’88, director of Academic Affairs. “Our SEAS Code of Ethics lays out our expectations, the highest standards of academic integrity and ethical conduct, which are the collective responsibility of all members of our academic community. Our hope is that as we foster an environment of honor and trust while students are here, they will carry these values with them into the professional arena in engineering and other fields.”

that students take very seriously,” he says. “Nobody wants to cheat. A lot of it has to do with providing students with an education of what’s acceptable and what’s unacceptable.” Associate Dean Kannan is also sensitive to the special circumstances that international students face, many of whom come to the U.S. for the first time at the master’s level. “Different cultures view academic integrity in different ways, and international students need to be especially conscious of how things work here,” he says. Citing intellectual property and collaborative work all have varying meanings in different countries. As a student from the Indian Institute of Technology, Bombay, Kannan himself learned to navigate the American higher education system when he arrived at Princeton University in 1982.

“Our evaluations in India were based 100 percent on in-class exams,” Kannan explains. “It was really difficult to cheat.” Aside from the exams, he says, “students worked together all the time. All collaboration was good collaboration.”

Kannan continues to lead Penn Engineering’s efforts to re-cast academic integrity for students in the Information Age. One project is a set of case studies for students and faculty that will give examples of dishonorable conduct and the University’s consequences for students who are caught. Another project is a statement of academic integrity for students to sign on all exams and major projects. Studies show that such honor codes generally decrease the number of academic integrity violations.

Brandon Hedvat of the Honor Council recalls a similar policy at his high school. “It’s a reminder before you would even think about cheating; it wipes it from your mind,” he says.

Finally, having pride in one’s own work and accomplishments is perhaps the best-kept secret of academic integrity, and a highly valuable lesson that students can carry through their lives.

Penn is a member of the Center for Academic Integrity (CAI), at South Carolina’s Clemson University. CAI is a consortium of more than 360 institutions intended to promote the values of academic integrity in high schools and colleges and universities. CAI shares research, policies, and educational programming on academic integrity with members. To learn more, visit www.academicintegrity.org

At the time, the nation’s only honor society, Phi Beta Kappa, had developed into an organization celebrating excellence in the pursuit of knowledge in the liberal arts and sciences, with a total of only 27 chapters scattered across the U.S. Edward H. Williams, Jr., an engineering student at the University of Virginia and one of those who saw it. Little could he have imagined how successful his efforts to honor and inspire engineering students would be.

The Bent: A Different Kind of Key

Similar to a Phi Beta Kappa key, Tau Beta Pi’s symbol was initially intended as a device to wind pocket watches. But for today’s Tau Batees, the Bent’s symbolic meaning has eclipsed its initial purpose. According to Tau Beta Pi’s 2007 treasure, Matt Kalmus, a senior studying mechanical engineering, “The Bent itself, which is modeled after a design that has been used in the supporting structure of bridges for centuries, can hold its dual roles as a practical symbol as well as a reminder of past and hopefully future successes.” Penn’s Delta chapter of Tau Beta Pi distributes the keys to initiates, and now, thanks in part to the efforts of Tau Beta Pi members, all who visit campus can view a statue of the
oak tag, rubber bands, straws, and masking tape to build protective containers, teams of Tau Bates dropped eggs from successive floors in an engineering building. According to junior Ashley Stein, 2008 initiation chair who is majoring in bioengineering, “About five teams, including mine, made containers where the egg did not even break from the top floor.” This combination of competition and camaraderie fuels all of Tau Beta Pi’s initiatives.

A Bright Future

Recently held elections for 2008 officers ensure that Tau Beta Pi’s future is in good hands. Katie Wu, a junior who is pursuing a dual degree in chemical and biomolecular engineering at SEAS and finance at Wharton, successfully campaigned for president on a platform including expanding the tutoring program, increasing networking with local chapters, and enhancing the resume book in order to connect Tau Beta Pi members with potential employers. Newly-elected treasurer Kate Chovanetz, a junior studying mechanical engineering at SEAS and finance at Wharton, echoes Katie’s emphasis on Tau Beta Pi’s role in career development. “We’re thinking about additional ways for engineers to get access to internships beyond the Career Fair in the fall,” says Katie. And in his position as 2008 initiation chair, Arjan Shah, an industrious Tau Beta who qualified for membership as a sophomore because pursuit of his dual degree in materials science and engineering at SEAS, and concentration in economics at Wharton, earned him enough credits to be considered a junior, is eager to expand Tau Beta Pi’s tutoring initiatives. Arjan summed up the importance of the society’s education efforts and outreach to undergraduates, stating, “I pretty much owe it to Tau Beta Pi that I got through Physics 150! Those study sessions are really important, and help us get the word out about what Tau Beta Pi can do.”

Arjan and his fellow Tau Bates are living proof of the impact that Dr. Williams had on the study of engineering. 2008 president Katie Wu sums up the Tau Beta Pi experience succinctly: “Membership in Tau Beta Pi is something that I first saw as an honor, and then both an obligation and opportunity. It meant that I was able to join an elite group of my peers, but also form ties with the possible future influential leaders of the profession.”

PENN ENGINEERING

Jonathan Singer, Senior / Tau Beta Pi Initiation Chair (2007)
Hometown: Wallingford, PA
Major: Materials Science and Engineering
Minor: Math and Physics
Life beyond SEAS: “When I was a kid, all I wanted to do was change the world... nothing major. Today, my goals are a little more realistic, but no less grandiose: I want to change the world, in a very public display, while also providing an opportunity to spread our message to future generations of engineers.”

Katie Wu, Junior / Tau Beta Pi Vice President (2007), President (2008)
Hometown: Bryn Mawr, PA
Major: Chemical and Biomolecular Engineering, SEAS; Finance, Wharton
Memorable moment at SEAS: “I believe that when I was a sophomore, I did my first chemistry research project. It was really cool to see the chemistry that I was taught come to life.”

Matt Kalmus, Senior / Tau Beta Pi Treasurer (2007)
Hometown: Bellmore, NY
Major: Mechanical Engineering
What membership in Tau Beta Pi means: “Membership in Tau Beta Pi is important because it provides an opportunity to give back to the community and support other students.”

George Scangas, Senior / Tau Beta Pi President (2007)
Hometown: Providence, RI
Major: Bioengineering
Minor: Chemistry and Biology
Life after SEAS: “I will be attending medical school and I hope to make a profound impact in both the field of oncology and education. I know that my education in SEAS will help me in every aspect of my professional career.”

Ashley Stein, Junior / Tau Beta Pi Initiation Chair (2008)
Hometown: Irvine, CA
Major: Bioengineering
Minor: Chemistry
Why Penn Engineering: “I knew that I wanted to pursue biomaterials because of my joint interests in biology, physics, and math. I chose Penn because it had an amazing and well-established biomaterials program. Also, I knew that at Penn I would receive a well-rounded education.”

Kate Chovanetz, Junior / Tau Beta Pi Treasurer (2008)
Hometown: born in Moscow, Russia, now living in Houston, TX
Major: Mechanical Engineering, SEAS; Finance, Wharton
Tau Beta Pi’s impact: “When I was a freshman, I used to go to Tau Beta Pi’s Physics reviews. Tau Beta Pi held two or three sessions of reviews for Physics and Chemistry this year, but we are trying to bring it back on a bigger scale. The sessions not only help freshmen, but they let them know what Tau Beta Pi is.”
A former First-Team GTE Academic All-American at Penn, Glanville is excited to put his systems background to use in this new phase of his life. “We’re working on methodology to streamline how companies operate, or more specifically, how their systems operate,” Glanville says. “I’m tapping a lot of these concepts, digging up old and new books focusing on systems methodology. … And of course, I wanted to be involved in companies that people are passionate about.”

The 37-year-old Glanville has embarked on a post-playing career that spans a wide spectrum, ranging from business interests—he’s President of GK Alliance, LLC, a Chicago-based consulting company—to creative outlets such as writing a column, “Heading Home: Major League Reflections on Baseball and Life,” for The New York Times. “The knock on being a systems person at Penn,” Glanville says, “was that we were sort of a jack-of-all-trades, master of none. But what has transpired in our culture and our society, with everything being so international and globalized and with so many specialties, it’s becoming much more important in leadership positions to have many skill sets and be able to cross over to different disciplines.”

Crossing over into different disciplines is exactly what Glanville and childhood friend/business partner Assad Koshul are intent on doing. The duo first teamed up in 2004 on an energy-efficient housing development project in the Chicago area called Glanville-Koshul Homes. In 2006, with the real estate market sagging, Glanville and Koshul formed GK Alliance, LLC, a multi-faceted consulting company that provides the “intellectual capital” to help emerging businesses get off the ground and improve.

Despite interest from traditional baseball powerhouses like Miami, North Carolina and Clemson, Glanville chose Penn due to its proximity to home, and its engineering options. He found plenty of success on the diamond. Glanville was all-Ivy League in 1991 and a second team preseason All-American, but tried to dig himself out of a slump in George Steinbrenner’s first season at the helm. And while Steinbrenner’s fast-paced, high-energy style of baseball may have been, was never really appealing to me growing up,” Glanville says. “So I forged my own path and found my spot.”

That spot included a seat in renowned transportation systems professor Vukan Vuchic’s classroom. The UPS Foundation Professor of Transportation Engineering and City and Regional Planning, Vuchic is interested, intelligent, and hereally enjoyed transportation, and wanted the required skills to work as an engineer.”

Doug Glanville
(SE’92) has always appreciated versatility. During his decade-long career in Major League Baseball, Glanville was a well-rounded player known for his speed on the base paths, his crisp line drives, and his silky-smooth defense. Today, the former Philadelphia Phillie is no longer patrolling centerfield at the now-imploded Veterans Stadium like he did from 1998-2002, but the former Systems Engineering major still sees the value of a varied skill set.
After a strong summer in the prestigious Cape Cod Summer League, Glanville was drafted in the first round of the MLB draft by the Chicago Cubs after his junior year at Penn. "Many students would have said, 'Why should I bother to study for these finals and complete these papers and so on? I've made it.'" Vishic points out, "Doug said, 'This is wonderful, but the Cubs have to wait because I want to be an engineer.'"

Glanville did join the Cubs minor league system, but returned to Penn in the fall of 1992 to complete his degree. He then embarked on a grueling five-year tour of the Cubs' farm system. There, he found, his 3.2 Ivy League GPA was worth considerably less than a .320 batting average. "The minors were tough," Glanville says. "I experienced middle management and coaches who were not fans of mine. But I endured, and started playing better the second half of my minor league career and got called up!"

After a productive first full season in the minors with the Cubs, the organization traded him to Philadelphia. Glanville was surprised and a bit hurt by the trade, but eventually took it in stride. "I had met my wife Tiffany," he says, "and I started thinking differently, especially after my father died. Do I really want to be on this road and subject the people close to me to this anymore? I was always gone, everything always revolved around my schedule; it's a very self-absorbed kind of world."

The death of Glanville's father Cecil in 2002 hit him particularly hard. "He was a tremendous renaissance man—a musician and poet," Glanville says of his psychiatrist father, who came to the U.S. from Trinidad when he was 18. "Just an amazing person. And that makes it all the more fun that I'm writing because it's a connection to his legacy."

As a writer, Glanville finds the sports landscape rich in content, especially the steroids scandal currently plaguing Major League Baseball. "As a player, when you retire, you have to lead your whole career clean," Glanville says. "I have a lot to say about the Mitchell Report, but I never felt it was constructive to say, 'Let's name names and put people in the stockade.' I thought it much more productive to talk about what the players are dealing with and why they make these choices."

Glanville looks to integrate a weekly "New York Times" column into an already busy schedule. He and his wife Tiffany, an attorney from Penn Law, have relocated to Chicago and are expecting their first child in June. He remains active with numerous charities, has recently been named to the board of Athletes Against Drugs, and serves as an advisor for Baseball Factory, a placement service for high school and college baseball players. And like any good leadoff man, Glanville is adept at returning home. He maintains a very active role in Penn Engineering as a member of the Board of Overseers. "I have a lot of things on the table," Glanville says with a smile, "but I have a lot of time, and I don't feel overwhelmed. It's really fun."

At age 42, David Meaney may seem young to be a department chair. As a previous winner of the prestigious Y.C. Fung Young Investigator Award, the recently-named chair of Bioengineering is taking this new responsibility very seriously. "It's humbling to have this faith from your colleagues, and honestly a little daunting, because the responsibilities of the chairman are vast: plotting the direction of the department, selecting the types of faculty you'd like to hire, promoting and retaining current faculty, and developing a sense of morale and common good for the direction you're charting."

Meaney, who received his master's in 1988 and PhD in 1991 in bioengineering from Penn, reveals that he was always interested in medical problems and initially considered becoming a doctor. However, during his undergraduate work in biomedical engineering at Rensselaer, he realized that "much of my interest was in understanding how these problems occurred in medicine."

Meaney recognized that he preferred a career in lab work, enjoying the seemingly endless opportunities to investigate the reasons why diseases occur. After gaining his PhD, he stayed on at Penn for postdoctoral work, and joined the faculty in 1993. As a previous winner of the prestigious Y.C. Fung Young Investigator Award, Meaney also places a strong emphasis on adding faculty who can crystallize new efforts in emerging fields within bioengineering that connect to new disciplines across the campus.
With great energy and optimism in a campus-wide celebration last October, the University of Pennsylvania launched Making History: The Campaign for Penn. As a capital campaign, Making History is driven by specific financial goals and a shared timeline across the schools and centers, and University leaders announced on that night that they had ambitiously set the bar for $3.5 billion in five years. And, before the finale of fireworks lit up the autumn sky, there was other news: Impressively, Making History was kicking off with $1.6 billion already raised.

The campaign, long in the planning stages, took shape early in the decade as the Penn community readied itself for a presidential transition. Inspired, in 2004, by Dr. Amy Gutmann’s conviction that the stature of international eminence is within Penn’s reach, and supported by the principles of increased access, integrated knowledge, and local and global engagement in the new Penn Compact, the University put its plans for a campaign in motion. In what has been described by James Riepe, W’65, WG’67, Chair of Penn’s Board of Trustees, as a “very vigorous bottom-up process,” Penn’s deans, directors, and overseers examined their strategic plans and capital needs. Those priorities were next examined in terms of their alignment with the University’s in a “top-down” assessment to reach a unified mission: campus improvements, financial aid, and faculty support.

Then began what is known as the “quiet phase” of the campaign. Engaged alumni, supportive friends and parents around the world were consulted about the University’s overarching goals and the feasibility of raising money on a large scale to reach them. Their response was overwhelmingly positive: 125,000 contributions added up to a powerful vote of confidence, igniting the start of the “public phase” in October.

For Penn Engineering, the timing of the campaign could not have been better. In tandem with the University and confident in the synergy that has consistently served them both well, Penn Engineering initiated Making History Through Innovation, led by J. Peter Skirkanich, W’65, and Andrew S. Rachleff, W’80, and aims to raise, by the end of 2012, $150 million.

Once considered to be at the furthest reaches of campus, Penn Engineering is now aptly positioned at the leading edge of the University’s planned expansion throughout the recently purchased postal lands. In addition to the recently constructed Skirkanich and Levine Halls, plans for a third building, the highly anticipated Singh Center for Nanotechnology, are now in the works, jump-started by an amazing naming gift from Penn Engineering Overseer, Kris Singh, the Center, a project shared with the School of Arts and Sciences, is highly prioritized in the University’s funding agenda.

Set for $50 million, the campaign’s goal for facilities will help build the Singh Center and renovate spaces throughout the Towne Building, Moore School and Hayden Hall. Dean Eduardo Gandt has noted that the effect of the quality of space on “how we teach and how we learn” is profound. “Very few other factors have a stronger influence on the attitudes of our students and our professors—how much they enjoy their work, how they think about themselves today and how ambitious they are for tomorrow.”

With a goal of $40 million for student support, Penn Engineering seeks to increase access for talented and ambitious students from diverse cultural and economic backgrounds and, once enrolled, provide them with programs that give them the opportunity to make a tangible, if not profound, difference in the world. Graduate students also stand to gain: an increase in fellowship aid will ensure that the School will continue to nurture this valuable intellectual resource.

The School’s goal of $50 million for faculty support can be reached with both contributions to endowed professorships and gifts of term monies designated to underwrite faculty research. Named professorships are a sure way to recruit and retain faculty of the highest caliber, and Penn Engineering continues to seek out teachers/researchers whose interests and expertise span the disciplines. As exemplified by the work of the University’s Penn Integrates Knowledge (PIK) Professors, the interconnections across campus know no bounds.

Making History Through Innovation is, of course, all about the future, and the future is where the intellects and capabilities of all Penn Engineers reside. Accordingly, alumni and friends of all ages, experience, and financial ability are being urged to use their unique powers of imagination to envision the School of 2012 and beyond, and to set about making it happen.

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Dr. Daniilidis obtained his PhD in Computer Science from the University of Karlsruhe, Germany, and joined Penn Engineering in 1998 as Assistant Professor in Computer and Information Science. Dr. Daniilidis’s research focuses on the visual perception of space and motion by machines. He is a world expert in the areas of omnidirectional vision, tele-immersion, robot localization, and mapping. Dr. Daniilidis also works with archaeologists on 3-D modeling of cultural heritage.

The GRASP Laboratory, founded in 1979 by Dr. Ruzena Bajcsy, focuses on interdisciplinary aspects of the science of robotic and intelligent machines. Dr. Daniilidis will direct the laboratory’s 13 faculty members who are world leaders in robotics, control, and perception, with over $10 M of externally sponsored research.

NEW CHAIR IN COMPUTER AND INFORMATION SCIENCE

Susan Davidson, George A. Weiss Professor of Computer and Information Science, has been appointed Chair of the Department of Computer and Information Science effective January 1, 2008. “Susan is a world leader in the field of databases and bioinformatics and served as Director of the Penn Center for Bioinformatics.

Dr. Davidson recently stepped down as Penn Engineering’s Deputy Dean, where her strong service was marked by her assiduous efforts to promote engineering research activities across campus and the development of effective management tools for faculty recruitment and mentoring. She continues to be a mainstay of the School in matters pertaining to fostering the presence of women in engineering.

Special Lectures

The Harold Berger Distinguished Award and Lecture

Thomas R. Cech, President of the Howard Hughes Medical Institute and winner of the 1989 Nobel Prize in Chemistry received Penn Engineering’s prestigious Harold Berger Award on January 31, 2008 for his “groundbreaking research on RNA and its transformational impact on biotechnology.” The Berger Award is presented bi-annually by the School of Engineering and Applied Science to a technological innovator who has made a lasting contribution to the quality of life.

As the featured speaker to an overflow crowd in Stikkanich Hall, Cech discussed the pivotal experiments that led to his discovery that RNA molecules can serve as enzyme catalysts within living cells in a talk entitled, “Two tales of multidisciplinary research.” Cech highlighted the importance of collaborative and interdisciplinary efforts in both his own work and science and engineering in general, and addressed ways in which universities could create productive inter-actions between researchers in diverse fields.

The George H. Heilmeier Faculty Award for Excellence in Research

Nader Engheta, the H. Nedwill Ramsey Professor of Electrical and Systems Engineering, was selected as the 2008 recipient of the George H. Heilmeier Faculty Award for Excellence in Research. Named in honor of alumni and Overseer George H. Heilmeier, this prestigious award recognizes his extraordinary research career, his leadership in technical innovation and public service. The distinction associated with the Heilmeier name has set very high standards for this award, and Dr. Engheta’s work on nano-optics and related metamaterial coatings has been cited as “revolutionary and transformational.” Dr. Engheta’s seminar, “Circuits with light at nanoscales,” was presented on March 5, 2008.

Administrative Changes

NEW DEPUTY DEAN APPOINTED AT PENN ENGINEERING

George Pappas, Professor of Electrical and Systems Engineering, has been appointed Deputy Dean of Penn Engineering, effective January 1, 2008, succeeding Professor Susan Davidson. “I am delighted that George has allowed me to recruit him as the next Deputy Dean so that we may continue Penn Engineering’s dynamic trajectory in research, education and academic leadership,” stated Dean Eduardo Glandt.

Dr. Pappas joined the Penn Engineering faculty in 2000 following a postdoctoral position at the University of California, Berkeley. He received his PhD in Electrical Engineering and Computer Sciences from UC Berkeley, and his bachelor’s and master’s in Computer and Systems Engineering from Rensselaer Polytechnic Institute.

Dr. Pappas is a leading scholar in control theory, nonlinear systems and embedded systems. He holds secondary appointments in Computer and Information Science and in Mechanical Engineering and Applied Mechanics, and is the former Director of the GRASP (General Robotics, Automation, Sensing and Perception) Laboratory.

The recipient of numerous honors and awards, Dr. Pappas’s career as scientist and educator achieved national prominence in 2002 when he was awarded the Presidential Early Career Award for Scientists and Engineers (PECASE) designating him as one of the nation’s most promising scientists and engineers.

GRASP LAB APPOINTS NEW DIRECTOR

Kostas Daniilidis, Associate Professor of Computer and Information Science, has been appointed the new Director of the General Robotics, Automation, Sensing and Perception (GRASP) Laboratory, effective January 1, 2008, replacing Dr. Pappas who stepped down to become Deputy Dean of Penn Engineering. “Kostas’s scholarly standards and leadership capabilities will carry GRASP to new research heights,” stated Dean Glandt. “His commitment to GRASP and its interdisciplinary environment is extraordinary.”

NEW CHAIR IN COMPUTER AND INFORMATION SCIENCE

Susan Davidson, George A. Weiss Professor of Computer and Information Science, has been appointed Chair of the Department of Computer and Information Science effective January 1, 2008. “Susan is a passionate educator of undergraduate and graduate students, and brings an unparalleled record of excellence in research and academic leadership to the department,” stated Dean Eduardo Glandt.

Dr. Davidson joined the faculty of Penn Engineering in 1982. She received her bachelor’s degree in Mathematics from Cornell University and her master’s and doctorate degrees in Electrical Engineering and Computer Science from Princeton University in 1980 and 1982, respectively. Dr. Davidson is a nationally recognized expert in databases and bioinformatics and served as Director of the Penn Center for Bioinformatics.

Dr. Davidson recently stepped down as Penn Engineering’s Deputy Dean, where her strong service was marked by her assiduous efforts to promote engineering research activities across campus and the development of effective management tools for faculty recruitment and mentoring. She continues to be a mainstay of the School in matters pertaining to fostering the presence of women in engineering.

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Penn Engineering Awarded $33 Million for Three Groundbreaking Research Initiatives

Awards and Honors

Penn Engineering Awarded $33 Million for Three Groundbreaking Research Initiatives

$22 Million Grant to Lead Robotics Consortium

Kumar and co-investigators in the GRASP Laboratory for robotics will direct the multi-university research initiative tasked with creating cohesive teams of autonomous robots that can function effectively in urban and complex terrain. Participating universities will build new robotic systems, study novel approaches for robotic control and perception, and develop new algorithms for intelligent operation of robots in unstructured environments. The goal is autonomous machines that operate with little or no direct human supervision and can support security or rescue personnel operating in dangerous environments.

$7.5 Million to Develop Cooperation Principles for Robot Teams

George Pappas, Deputy Dean and Professor of Electrical and Systems Engineering, will direct an Office of Naval Research multi-university research project that will study the development of cooperation principles for teams of unmanned robots, including aerial and ground robots. Researchers will look to nature and the principles behind ant colonies, cooperative fishing by dolphins and even men’s formation of political coalitions to provide the cooperative principles for robots to work with each other.

$7.5 Million to Advance Emerging Field of Network Science

Michael Kearns, Professor of Computer and Information Science, has received a $7.5 million, five-year grant to improve basic understanding of network science, an emerging field of research seeking the underlying principles that govern the diverse networks that make up the economic, political and social cores of the 21st century. Funded by the Office of Naval Research, Kearns and co-investigator Ali Jadbabaie will lead a five-school consortium of mathematicians, engineers and computer scientists to develop paradigms for study of the structure, dynamics and behaviors of large-scale physical, social and information networks, and to understand and reliably predict their behavior under stress.

In Memoriam

Ira M. Cohen, Professor Emeritus of Mechanical Engineering and Applied Mechanics, died on December 8, 2007, at the age of 70.

Professor Cohen earned his bachelor’s degree from Polytechnic University in 1958 and his doctoral degree from Princeton in 1963, both in aeronautical engineering. He taught at Brown University for three years prior to joining the University of Pennsylvania faculty as Assistant Professor in 1966. He served as Chair of the Department of Mechanical Engineering and Applied Mechanics from 1992 to 1997.

Professor Cohen was a world-renowned scholar in the areas of continuum plasma, electrostatic probe theories and plasma diagnostics, dynamics and heat transfer of lightly ionized gases, low current arc plasmas, laminar shear layer theory and matched asymptotics in fluid mechanics. His seminal paper, Asymptotic theory of spherical electrostatic probes in a slightly ionized, collision-dominated gas (Phys. Fluids: 1492 -1499, 1963), is cited in the most-referenced paper in the theory of electrostatic probes and plasma diagnostics. Citations to this paper appear in the literature published as recently as in this year, 44 years after the original publication.

In his 41 years of service to Penn, Professor Cohen distinguished himself for his integrity, his fierce defense of high scholarly standards and his passionate commitment to teaching.

Professor Cohen is survived by his wife Linda, his two children, Steven Cohen Bolted and Nancy Cohen Cavanaugh, and three grandchildren, Melissa, Daniel, and Andrew.

Serge Gratch, CHE’43, GR’50, research scientist, professor, and 101st President of the American Society of Mechanical Engineers, died December 4, 2007 in Michigan.

Asymptotic theory of spherical plasmas, electrostatic probe theories and plasma diagnostics, dynamics and heat transfer of lightly ionized gases, low current arc plasmas, laminar shear layer theory and matched asymptotics in fluid mechanics. His seminal paper, Asymptotic theory of spherical electrostatic probes in a slightly ionized, collision-dominated gas (Phys. Fluids: 1492 -1499, 1963), is cited in the most-referenced paper in the theory of electrostatic probes and plasma diagnostics. Citations to this paper appear in the literature published as recently as in this year, 44 years after the original publication.

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Serge Gratch, CHE’43, GR’50, research scientist, professor, and 101st President of the American Society of Mechanical Engineers, died December 4, 2007 in Michigan.

With the Ford Motor Company from 1961 to 1986, he initiated the electric car research program (1966) and later the alternative fuels program. He was appointed director of the chemicals laboratories at Ford in 1972. Prior to his career at Ford, he served as a research scientist for Rohm & Haas Co. and as an associate professor of mechanical engineering at Northwestern University. After retiring from Ford, he was professor of mechanical engineering at GMI Engineering and Management Institute, now Kettering University. Dr. Gratch was a recognized authority on polymer kinetics, viscoelasticity, and thermodynamics.

Professor Gratch is survived by his wife Rosemary Ann, and 10 children.

Help Transform Our Future

Penn Engineering...
As Associate Director for Admissions and Advising in Penn Engineering’s Office of Academic Programs, Ellen Eckert skillfully balances her dual responsibilities of assessment and guidance.

What is your role in the undergraduate admissions process? As the admissions liaison, I work closely with Penn’s central Admissions Office making decisions on the engineering applicants. There are so many amazing, interesting and accomplished students. Unfortunately, we can’t admit them all. The goal is to select students who are a great fit for Penn Engineering—who will contribute to and gain from both the academic as well as the extracurricular atmosphere.

In addition to sitting on the Admissions Committee, I advise prospective students and their parents, organize and participate in all recruitment events, and coordinate the engineering admissions publications. I love the opportunity to get to know many of the students we admit. The initial meetings with families often form the basis of my relationships with these students throughout their time at Penn Engineering.

In what ways do you interact with current students? When I first started at Penn Engineering, my role was solely undergraduate admissions. The advising piece came a bit later. In the beginning, advising was a challenge—learning all the rules and regulations. It has since become the most rewarding part of my job.

In addition to general advising, I also do individual advising with selected students. Some students have difficulty transitioning into the challenging first year engineering curriculum. I have worked with these students and have seen them turn around and become successful in their field. I’m always proud of each student’s personal achievement.

What is most important about working with students and families? My job is very much about building relationships, whether it’s with prospective students and their parents, current students, faculty or colleagues. Each relationship is important. Several years ago I met with a prospective student and her mother. She was admitted, matriculated and became very active in the Penn community. Then I met her sister who also enrolled and became very active in the School. Then her brother became a freshman. At one point, all three were enrolled in Penn Engineering at the same time. Last year the oldest finished her master’s degree while the middle sister finished her undergraduate degree. At Commencement I felt like I was part of the family!

What do you like to do outside of the office? Like many of our undergraduates, when I’m not in the office, you can typically find me working out. I think it’s really important to be balanced. My training consists of running, biking and swimming since I participate/compete in triathlons. I recently completed an Ironman race which had been a long-term goal of mine. I’m now in search of a new goal!

Where is your favorite place on campus? I first stepped foot on Penn’s campus when I ran in the Penn Relays as a high school junior. I love the excitement of the relays and try to go every year. To this day, I still get nervous whenever I’m at Franklin Field!