A New Collaboration Guides Students in Finding Internships

Whiting School education is among the best in the nation. However, there is a growing recognition that students need more than classroom experiences. Education experts now believe that meaningful student internships are a valuable addition to the learning process. As a result, new criteria for evaluating engineering programs include good access to substantive internship opportunities.

In addition to enhancing classroom studies, internships enable students to clarify employment goals, make professional contacts, and learn more about an industry or government agency. Students know that employers look for graduates who have work experience directly related to their major and career interests.

To increase the odds that students will find good summer internship opportunities, the Whiting School is facilitating a collaboration among its Society of Engineering Alumni (SEA), its Office of Industrial Initiatives, and the Johns Hopkins University Career Center.

The new initiative offers two options for assistance:

1. Providing students with the information they can use to find the right opportunity. They can get help writing résumés, identifying specific internships, and developing good interviewing skills.

   Students are also directed to the Whiting School’s Internship Database, developed by the Office of Industrial Initiatives. Growing every week, this web-based database now includes information on more than 350 engineering opportunities in companies, non-profit organizations, and the federal government. Unlike commercial databases, which often have listings that are no longer current, the Whiting School database contains only those internship opportunities verified by personal contact during the current academic year.

2. Operation Engineering Internship. This is a formal program in which students work with a Whiting School alumni mentor who will provide advice and assistance in locating an internship. Students in this program receive a checklist to complete before they become eligible for this assistance from alumni. They must register at the Career Center, have their résumé critiqued by a Career Center counselor, complete a questionnaire designed to help them determine what their internship/career goals are, and attend an interview workshop or the SEA’s Alumni Mock Interview Night. Completing these steps prepares students to receive effective assistance from Whiting School alumni mentors.

Students Hit the Ground Running, Even in Summer

Three internship veterans from the Whiting School reveal how their experiences helped them decide on the next steps to take.

“The connections you make are so important.”
—Sondra L. Hellstrom ’04, Marshall Scholar

Ask Sondra L. Hellstrom ’04 what she valued most about internships, and prepare yourself for a dissertation. “You learn more in 10 to 12 weeks doing hands-on research and practical work than you can learn in a classroom,” says Hellstrom, who just graduated with a double major in Electrical Engineering and Physics and a minor in Mathematics. “Plus, the connections you make are so important. Most of my graduate school recommendations come from internship employers. And, internships help you define the things you want to do.”

Hellstrom should know. After all, she is one experienced intern. “After freshman year, I interned at the Stanford Nanofabrication Facility under the Research Experiences for Undergraduates program sponsored by the National Science Foundation,” she begins. “Then, after sophomore year, I interned at Brookhaven National Laboratory on Long Island, where I...
worked on electronics for a new particle detection experiment they were developing.

For her most recent internship, the Ellicott City, Maryland, native headed to the IBM T.J. Watson Research Center in Yorktown Heights, New York. Being at the headquarters of the world’s largest industrial research organization “was one of the most challenging and rewarding of my scientific endeavors to date,” she sums up. “My research at IBM involved fabrication, purification, and analysis of physical and chemical properties of a class of organic-inorganic hybrid perovskites [a titanate of lime occurring in octahedral or cubic crystals], in order to improve understanding of these classes of materials and to facilitate charge injection in thin film transistors made with them.”

Next year, she’ll be following up on that internship experience as she studies for two years in England, supported by a Marshall Fellowship. Hellstrom was one of 40 students nationally (and one of two from Johns Hopkins) chosen for this prestigious graduate-level scholarship awarded by the British government.

At London’s Imperial College of Science, Medicine and Technology, Hellstrom will pursue a master’s degree in nanomaterials. “Carbon nanotubes, quantum confinement, photonic crystals, and electrical properties of novel materials excite me with their capabilities and mysteries,” she wrote in her Marshall application. For the second year abroad, she is considering a master’s degree in either optics and photonics or technical policy. While in England, she plans to take advantage of the cultural opportunities, since singing is another of her interests. She has performed with the Johns Hopkins Choral Society and the Peabody Chamber Singers, as well as at the Amalfi Coast Music Festival.

Hellstrom’s eventual plan—a PhD in applied physics—is added evidence of the impact, both on her and on those around her, of the importance of her workplace experiences at the Whiting School. Her classes were great, she says, but it was her internship that “confirmed my interest in this topic.”

“I learned about the importance of quality engineering.”

—Henry Mowry Cook III ’04

As a senior with a double major in Engineering Mechanics and Physics, Henry Mowry Cook III ’04 found that his internship at Lutron Electronics “far exceeded my expectations for summer employment,” he says. “In addition to applying knowledge I had gained from my studies, I was also able to really see what aspects of my education could be improved.”

Cook learned about Lutron “through a friend at a job fair,” he says. “I gave them my résumé and they called me back with an offer for the summer.” His research on the company revealed that, while Lutron might not be a big company, it is “a leader in the lighting engineering field,” he notes, with offices around the world and corporate headquarters in Coopersburg, Pennsylvania. At Lutron, Cook worked as a quality engineering intern. “I did data analysis in support of the redesign of existing products to fix problems,” he explains.

The student from Cheyenne, Wyoming, also learned something about himself. “Maybe I don’t want to be a quality engineer,” Cook says. “But I learned about the importance of quality engineering and that it is important to listen to their needs. Ultimately, I found that I really enjoyed the lifestyle and work. The best part about the internship was that it was a regular job,” he recalls. “I found that I could do that. That was a question I always had: Will I enjoy doing what I am doing? This experience helped me learn that I do enjoy it and that I was making the right decisions.”

Cook, who was on Hopkins’ Team StillMix that flew a mission on NASA’s “Vomit Comet” (see the Summer/Fall 2003 Johns Hopkins Engineer), just accepted a job offer from Northrop Grumman Electronic Systems Division in Linthicum, Maryland. He hopes to spend several years working as a design engineer and then earn a graduate degree in either mechanical engineering or business.

“I was given an offer for full-time employment.”

—Genevieve Gallagher ’04

In the summer of 2003, Genevieve Gallagher ’04, who majored in Biomedical Engineering, interned in the neurological division of Medtronic, Inc., in Minneapolis, Minnesota. She learned about the opportunity at the Johns Hopkins University’s Career Center. “I saw a posting and was selected to interview” when Medtronic recruiters were on campus, says Gallagher. Soon after, several managers called her for a phone interview. It wasn’t long before she had an offer for a summer position as a materials quality assurance engineer.

“My primary responsibilities were to write reports providing justification for materials undergoing a supplier or specification change,” Gallagher explains, “and to provide support for materials projects within the department.” She found plenty of opportunities to test her classroom knowledge against real engineering problems. “I also saw first-hand how a material’s structure and properties can affect their performance,” she says.

Gallagher, who is from Pittsburgh, met students from all over the country. “Medtronic subsidized our housing, and we all lived together in a really nice apartment building,” she recalls. During the internship, she began building a network of fellow engineers through social and professional events sponsored by the company.

The best part of her internship was her last day, “when I was given an offer for full-time employment,” Gallagher notes. Following her graduation in May, she moved to Minneapolis to work for Medtronic in the same department where she interned. During her senior year, she says she “keep in touch with a lot of the friends I met last summer. I’ll probably end up working with them.”