Engineering Marvels

The Pride of Pioneering Rowan's Engineering School

By D. A. Barsotti '79

Freelance writer D.A. Barsotti '79 enjoys writing about people and places. She lives with her husband and two sons in Franklinville.

When philanthropist Henry Rowan imagined a world-class engineering school, he essentially issued a dare to top college-bound students: Take a gamble on an untested e-school, and we will do everything possible to help you succeed.

To attract those high-caliber pioneers, the University instituted the PRIDE 2000 program, providing each member of the first class with a full scholarship. PRIDE 2000 partners—the businesses, organizations and individuals who contributed to the program—not only demonstrated their support of the new school but also committed to mentor the young engineers.

And so they came from not only New Jersey but also Maryland, Arizona and overseas: the risk takers, the trailblazers, the students who were excited by the idea of something new. One hundred and two of the best and the brightest enrolled as the first class of Rowan School of Engineering. Four years later, 86 graduated, an astonishing number given the usual dropout rate of two out of three students at other engineerinschools.

This story features a few of those pioneers.

Worth the risk

When the students first came, they arrived with plenty of expectations and a bit of trepidation. The pressure was on. "The success of the program rode on the shoulders of the first class," said Luis Tavarez.

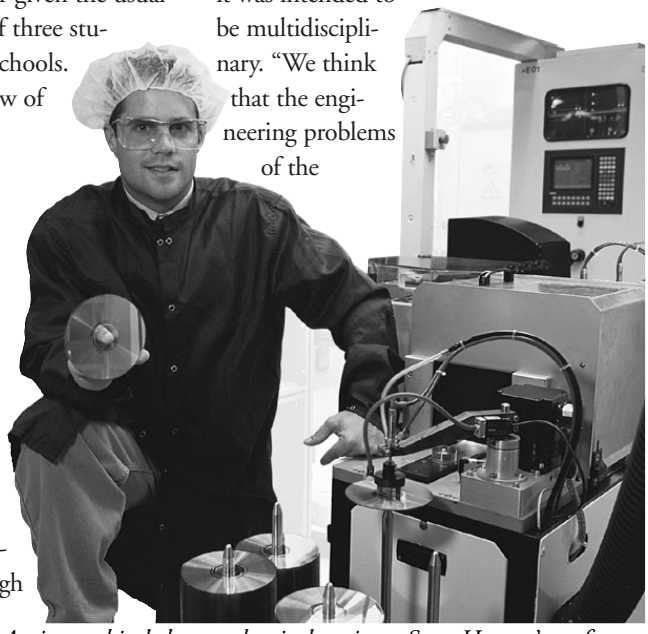
"When we were considering coming here from high school, there was some concern about finding jobs upon graduation," confessed Sheth Jones. "Those fears have proven to be unfounded."

Like Jones, Erin Dennhardt and her peers have had plenty of job interviews. "Rowan has done an excellent job in giving us real world experience," Dennhardt said. "I think we're all pretty confident," she added with a grin.

Confidence is one of the most obvious traits of Rowan's graduating engineers. Maybe too much confidence in the eyes of friends and family, chuckled some of the seniors. "I'm like a draft pick," kidded Jones. "I'm holding out!"

Rowan's ambitious engineering program helped attract employers to campus. "There is a curiosity about Rowan's engineering school," Dennhardt said, adding that the interviewers would invariably say, "Tell us about this program!"

While Rowan's engineering program encompasses the four classic disciplines (electrical, mechanical, civil and chemical), it was intended to be multidisciplinary. "We think that the engineering problems of the



An internship led to mechanical engineer Sean Hanson's professional position at Sony.

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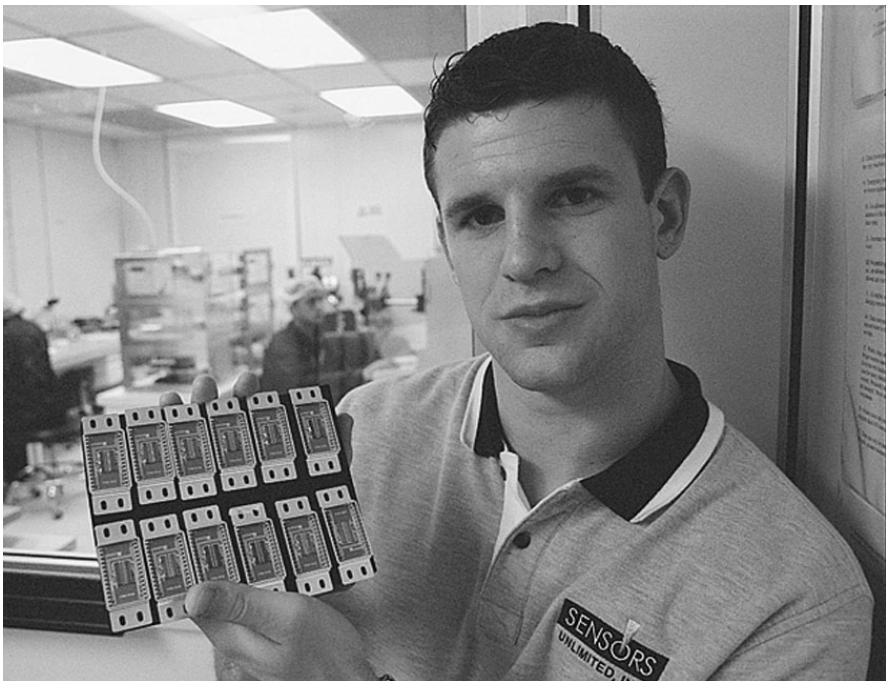
Electrical engineer Bob Jones jioned Sensors Unlimited, a Princeton firm specializing in ner-infrared technology used in the exploding telecommunications industry.



"We've been recognized at conferences like the Uni-Tech Conference. We've been noticed by professional societies like the American Institute of Chemical Engineers. We received the prestigious Zeisberg Award," Slater said. "And this is our very first graduating class!"

future will not fall within any one of those individual disciplines," said James H. Tracey, founding dean of the Rowan School of Engineering. "Challenging and interesting engineering problems will involve teams of people from across all of those disciplines and other professions." From the very first semester, multidisciplinary teamwork gave students opportunities to fine-tune communication skills while they became knowledgeable in their own field.

These skills are the very ones prospective employers look for in engineers. "Interviewers wanted to know how well we can communicate with others, function in a work environment and get things accomplished," Catherine Jeffries said.The students credit Rowan's unique clinic projects with boosting those skills. The clinics focus on technical excellence, outstanding communication skills, business and ethics, and exposure to key technologies in a hands-on, team-oriented environment. The learning experience begins in the first semester and continues through all four years for a total of eight clinic experiences. "We call it a clinic because it is modeled somewhat after the medical profession," explained Tracey. "We have full-time faculty members mentoring students in the laboratory, just as medical doctors would mentor interns in a hospital."

With opportunities to work with real-world problems during their education, Alexandra Maciag believes she and her classmates are well-prepared for the challenges of manufacturing and industry. During the past four years, they have had plenty of experience planning schedules and working as a team, making presentations, reporting and documenting results, meeting deadlines and making a positive impression on interviewers.

Another key component in Rowan's engineering program is internships. Although many of the internships have been in the tri-state area, a few have had international experiences during the summer. Chemical engineer Evan Rothblatt served an internship with Hoffman LaRoche, in Basel, Switzerland. Chris Cassino, a civil engineer, participated in an infra structure assessment study in Bangladesh.

Honors earned

The first class of engineers has not only impressed prospective employers. Many teams and individuals have received recognitions and awards, notes C. Stewart Slater, chair of Chemical Engineering. "We've been recognized at conferences like the Uni-Tech Conference. We've been noticed by professional societies like the American Institute of Chemical Engineers. We received the prestigious Zeisberg Award," Slater said. "And this is our very first graduating class!"

Danielle Gratton, a civil/environmental engineer, is the recipient of honors for her undergraduate work, including the Daniel E. Bigler Award and several citations from the New Jersey Water Environment Association.

Amol Shah, of Ahmedabad, India, has an impressive list of undergrad accomplishments, including the C. Ernest O'Neal Medallion for Excellence in Electrical and Computer Engineering and first place for Automotive Engineers Student Project Presentations 2000. His engineering team was honored for its design paper, "The Guardian Anjel—A New Jersey Automated Emergency Locator," based on the creation of a working prototype of an automated crash notification system.

Chemical engineer Kim Ha attained the highest GPA of her class in both chemical engineering and in her dual major, chemistry. A non-traditional student managing college studies and her family, she was also part of the team that won the 2000 Zeisberg AIChE Award for Outstanding Design Report.

Back to school

For many students, their undergraduate education sparked an interest in pursuing graduate degrees. "I thought about taking a year off just to travel," Rothblatt said, "but while I'm still in my school mode, I'm staying here for my master's degree. I'll be continuing my research on surfactants with Dr. Kauser Jahan."

Jordan Conley, a mechanical engineer, has been accepted into Princeton's Ph.D. program. He was the Rowan team leader for a microgravity experiment that was conducted at NASA's Reduced Gravity Student Flight Opportunity Program.

Theresa Gouker, a chemical engineer, is bound for Virginia Tech. She hasreceived two fellowships for research in biomedical engineering. A recipient of the Chemical Engineering Service Award, she has been actively involved in AIChE, and is ready for the challenges of grad school. "Rowan's program has been a lot of work. We have done more than most of my friends at the other engineering schools," she said.

Cassino will also continue his studies at Virginia Tech. A civil engineer, he plans to study applied fluid mechanics and fluid structure interactions. "I know that I want to teach eventually. I also want to be involved in difficult high-end design problems which generally require a graduate degree and experience," Cassino said. He has already had a taste of the possibilities with internships and industry projects that run the range from computer technician/web developer at Alloy Silverstein to construction inspector/designer with Churchill P.C. and more. "I do not think that I would have had as many opportunities in school anywhere else," Cassino said.

Nick Jankowski will begin graduate studies in Electrical Engineering at the University of Virginia, where he has been awarded a full tuition waiver with a graduate research assistantship and a dean's fellowship. "My research will involve developing next generation Infra-Redsensors using Micro–Electro-Mechanical Systems-based technology," he said. His engineering clinics sparked his interest in this area.

Shah, who is an electrical and computer engineer, is heading to Stanford University to pursue a master's degree. "For people looking to get out into industry, I think Rowan's program offers a unique advantage compared to other traditional engineering programs. Rowan students get much more hands-on, project-based experience. But," he added, "I knew that if I started working, it would be impossible to quit and go back to school full time."

With Rowan graduates heading to Stanford, Princeton, Cornell and the universities of Virginia and Michigan, the stature of the engineering school has already been proven. In fact, the students who turned down offers four years ago from established schools are now attending those institutions for graduate degrees.

On the job

The quest for more education has not drawn all of the new e-school alumni. Like many of her classmates, Maciag, who will be a research associate at Campbell's Soup Company, has chosen to use her newfound skills in industry.

"Rowan provided me with excellent skills for today's technical and team-oriented business world," said John Sausman. An internship last summer at the Lockheed Martin Advanced Technology Lab led to a permanent position with the group.

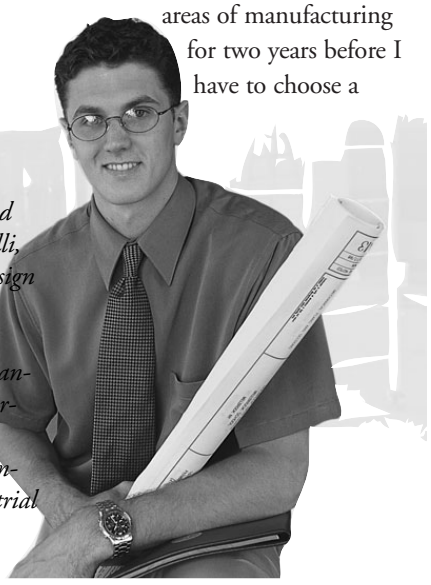
But long before he went on his first interview, Sausman and Bob Jones, both electrical and computer engineers, combined resources and formed a company, Information Technology Outsourcing. Sausman and Jones established their business in the middle of their junior year, writing computer applications and consulting for small businesses in the area.

"Our company will be a part-time endeavor now that we both have jobs," Jones said. He has accepted a position in technical sales with Sensors Unlimited, Inc. in Princeton. After considering three other offers, Jones decided he was a good fit for this smaller company. "In a smaller operation, if you work really hard, you can actually see that you're making a difference," he said.

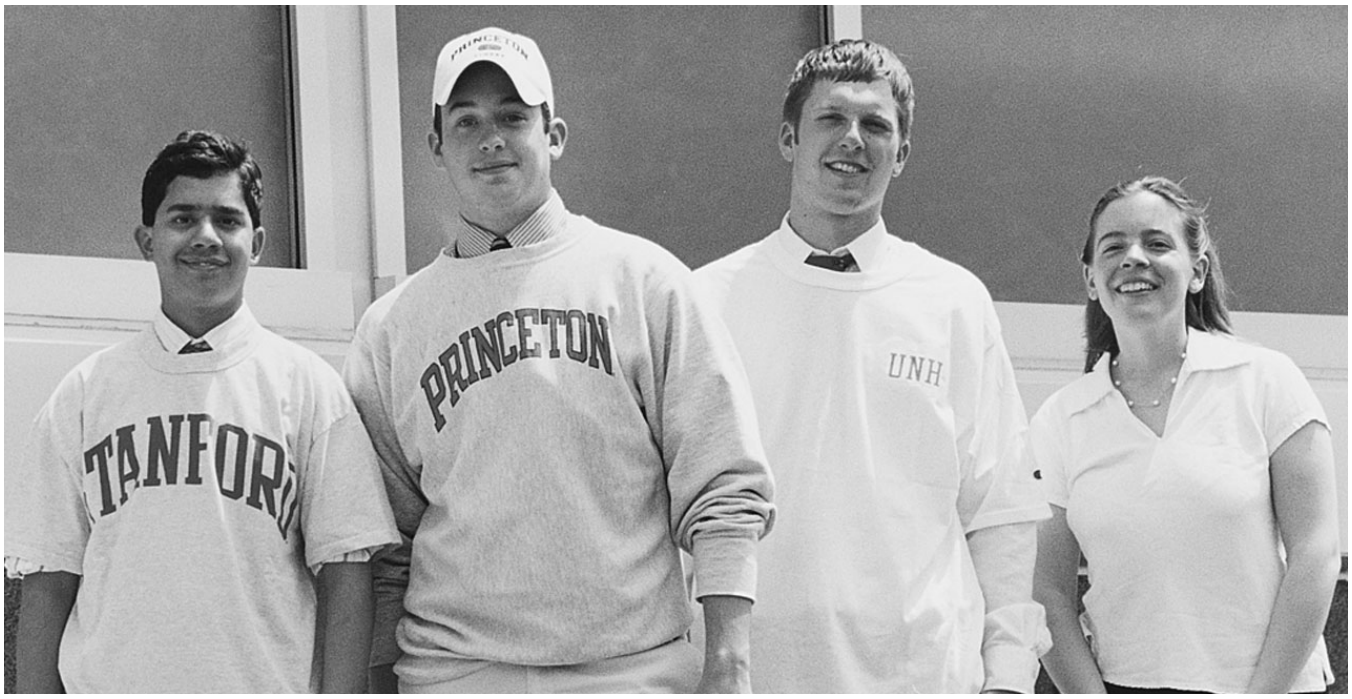
Internships have rounded out many of the students' resumes. During her junior and senior years, Erin Dennhardt was involved in clinics studying airplane crash safety and survivability. She interned at a civil engineering firm for two summers, and spent another summer in a mechanical engineering internship. "Right now the most important thing to me is building my resume and gaining experience," she said. She will work for Sargent & Lundy, a consulting firm in Wilmington, Del., that designs both nuclear and fossil fuel powerplants.

More options

A few graduates have not yet made a choice between employment and academic studies—but they are not worried. They are in the fortunate position of having many possibilities. Catherine Jeffries, who is working for Lockheed Martin's Operation Leadership Development Program, will investigate her options while on the job. "The program will allow me to explore various areas of manufacturing for two years before I have to choose a



Tom Xenakis joined Dimitri J. Ververelli, Inc., an HVAC design consulting firm in Philadelphia. His education in mechanical engineering perpared him to contribute to large commercial and industrial projects.



Just out of their Rowan caps and gowns, Amol Shah, Jordan Conley, Chris Berg and Theresa Gouker will earn graduate degrees from some other challenging schools.

project area," she said. Jeffries is planning to attend grad school part-time to study engineering management.

Sheth Jones, a mechanical engineer, is still holding out. When he admitted turning down his first job offer, friends and family chided him. But Jones has confidence—in himself and in the program. "I've had some promising interviews," he said.

The business end is where chemical engineer Luis Tavarez sees himself. Tavarez spent three summers interning for DuPont Specialty Chemicals and gained diverse experiences. "I learned that my skills are better suited for management," he said, and hopes to pursue an MBA. With the experiences he gained at Rowan, Tavarez intends to help some company move ahead of its competitors.

New pioneers

Thanks to an innovative program, dedicated faculty and an unmatched enthusiasm that pervades Rowan Hall, the e-school Class of 2000 has set the standard for future Rowan engineers. "It's kind of nice, almost a privilege, to know that we will have an impact on the education of future students here at Rowan," said Rothblatt. Tavarez agrees, adding, "I feel like I have accomplished something special because I was part of something new."

For the students, the gamble has paid off. "Rowan has been a positive experience, and it has proven to be well worth the risk of attending a school that wasn't accredited," said Gouker.

Indeed, now that Rowan has met the requirement of graduating its first class, approval from the Accreditation Board for Engineering and Technology is not far behind. The faculty and programs already meet the board's stringent standards, and accreditation for the engineering school is expected in July 2001, which will be retroactive to the first graduating class.

Henry Rowan, the man who made it all possible, proudly surveyed [the students]. . . As he shook the hand of each member of the Engineering Class of 2000, he congratulated them, saying, "From one pioneer to another."

Those graduates, who had their pick of any engineering school four years ago but instead took Rowan's dare, have earned a future for themselves and for the school. "You can't have an outstanding engineering program unless you have outstanding students," said Tracey. "Rowan has both."

Before their final two weeks, the graduating engineers attended a luncheon given in their honor. Henry Rowan, the man who made it all possible, proudly surveyed the room from the head table. "Each of you has talents and capabilities," he said. He gave each student a copy of his book, The Fire Within, his autobiography which chronicles the challenges, defeats and successes that melded a man with his dreams.

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