

Seungbae Park excels in reliability engineering and student mentoring

Seungbae "SB" Park jokes that the only difference between working in industry and working at a university is that the latter comes with no vacations — and very little sleep.

At 2 a.m., Park, an associate professor of mechanical engineering, is still at his computer answering e-mails to his graduate students. When he travels with his family on weekends, he constantly checks e-mail on his iPhone. And during the summers, when most people take vacations, his lab moves into prime-time research mode.

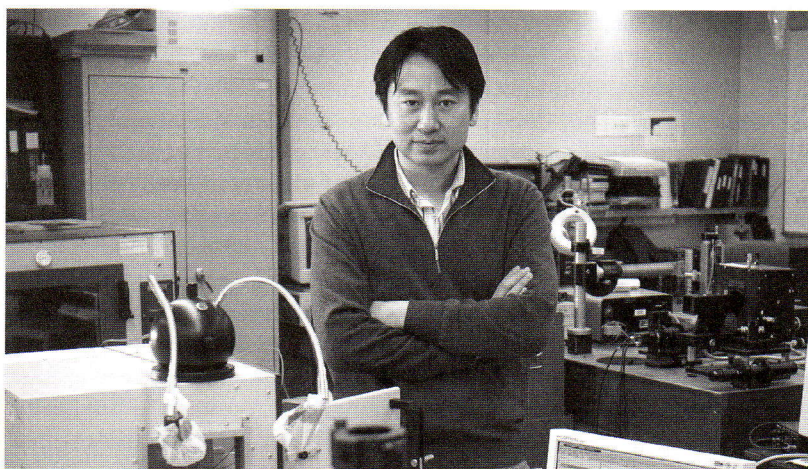
"Theoretically I can take my time off anytime in academia," says Park, who was an engineer with IBM for seven years. "But I really can't. I work 24/7. At midnight, I am on the phone talking to my students. They send e-mails at 2 o'clock in the morning. I respond in two minutes."

That intense dedication has earned Park an international reputation as an expert in the reliability of electronics packaging technology. He has worked with companies throughout the United States, Europe and Asia, attracting \$2.2 million in external research funding since he joined the Watson School faculty in 2002.

One company Park brought to the research fold of the Watson School is Samsung Electronics of South Korea. Now a member of the Integrated Electronics Engineering Center (IEEC), a research center on campus, Samsung contracted with Park to work on the reliability of its cell phone products five years ago.

"Samsung had not been involved with the University prior to SB's effort to get them involved," says James Pittaresi, chair of the mechanical engineering department. "Without SB, Samsung probably would not have joined the IEEC and become a partner with Binghamton University."

In another research project with Boeing and the South Korean Air



Seungbae Park, an internationally known expert in reliability engineering, oversees the research of 11 graduate students working in his lab at the Watson School.

Force, Park is investigating how the service life of the F-16 fighter jet can be extended. Specifically, Park is researching how to quantify scientifically the damage that occurs to the aircraft as it ages.

"When they design the aircraft, they design it, for example, for 20 years of life," Park explains. "Once that life is passed, they have to throw it away. But it is too good to throw away. The prime consideration is: How reliable is it going to be if we extend its service life?"

Growing up in Seoul, South Korea, Park was first attracted to aerospace engineering and majored in that field at Seoul National University. After earning his bachelor's and master's degrees there, he came to the United States to pursue a doctoral degree at Purdue University.

To his surprise, he was recruited by IBM's Microelectronics Division in Endicott, N.Y., after he graduated in 1994, even though he didn't know anything about IBM. "I thought it was a mistake," he recalls. "How could they be interested in an aerospace engineer?"

But it didn't take long for Park to make the transition from aerospace engineering to computer engineering. His doctoral research had focused on structural engineering and solid mechanics.

"Even IBM, in the end, has got to build some tangible product," says Park, who was responsible for the reliability of the company's flip chip technology. "If it is reliability for aerospace engineering, then how safe is that airplane while it is flying? The same logic will apply to a computer. If we use it under normal conditions, how long will that product last?"

Park joined the faculty of the Department of Mechanical Engineering primarily because he wanted to broaden the scope of his research in reliability engineering.

As a teacher, Park is respected by his students for his dedication in overseeing their research and in jump-starting their careers. He holds two formal meetings with his 11 graduate students each week.

"He gave me experiences which were totally hands-on from an industry point of view," says Ganesh Iyer '05, an assembly and interconnect technology engineer at Cisco Systems Inc. in San Jose, Calif.

For Ramji Dhakal '08, who earned a PhD in mechanical engineering, Park is the reason he was hired at Microsoft Corp. Without Dhakal's knowledge, Park had forwarded his student's resume to Microsoft before he graduated.

"I owe my job to him," Dhakal says, "but more than that, he's very thoughtful and caring."