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Prestigious new prof to boost laser research

By TODD R. WALLACK
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A world-renowned researcher recently lured to the McCormick School of Engineering and Applied Science is vowing to make Northwestern a force in her field.

Electrical engineering and computer science Prof. Manijeh Razeghi said NU has lagged behind other research institutions in optoelectronics or "magic eyes," the use of laser beams to exchange information at high speeds.

"Our challenge is to make this a center of gravity for geniuses in optoelectronics as soon as possible," Razeghi said. "Even one day is a lot of time."

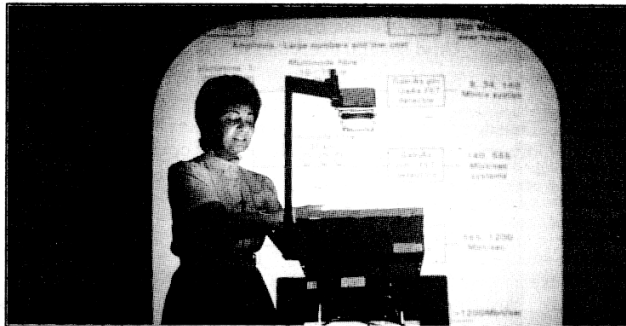
Razeghi worked in French industry for 10 years before coming to NU last month. While working for Thomas CSF in Orsay, France, in 1987, she won one of the

world's most prestigious physics awards, the IBM Europe Science and Technology Prize.

"She brings a lot of expertise to Northwestern," said David Cohen, NU vice president for research and Graduate School dean. "The significant thing is, it's always difficult to recruit senior people."

NU officials had been courting Razeghi for the past year and a half to fill a hole in the electrical engineering and computer science department, said Prof. Abraham Haddad, department chairman.

Specifically, Razeghi said NU has failed to explore an advanced technique of developing new materials called Metallorganic Chemical Vapor Deposition, or MOCVD. This delicate process involves growing microscopic crystals by sandwiching layers of elements from different



By Yael D. ROUTTENBERG/Special to The Daily Northwestern already has committed about \$6 million to the research of Prof. Manijeh Razeghi, who wants to explore new dimensions in the use of lasers.

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families.

New materials produced in the process often have properties "that go against nature," Razeghi said. Using the materials, Razeghi has invented components now widely used in long-distance telephone systems around the world.

"One of the reasons I came to Northwestern is that despite its good name, in this area it was empty space," said Razeghi, who holds more than 30 patents and has authored and co-authored about 350 papers.

Competing for Razeghi with Stanford



and other prestigious universities, McCormick Dean Jerome Cohen visited her laboratory in France and promised her substantial financial backing if she joined NU, Haddad said.

NU has already committed \$6 million to Razeghi's research. This includes furnishing her with an up-to-date laboratory in the new Materials and Life Sciences building, and hiring three assistant professors to assist her.

When Cohen first contacted Razeghi, she said she had never heard of NU. But because she was scheduled to attend a conference in the area, she agreed to visit the campus.

"She really liked the lake, even though it was winter," Haddad recalled.

Because her laboratory will not be ready until spring, Razeghi is using equipment left behind by a former professor interested in MOCVD.

For several years, that professor tried unsuccessfully to get his reactor to work, Razeghi said. But she said last week that she would have it operating by Friday, after just three days of work.

"She's very impatient," said Haddad, adding that he is very excited about her joining his department.

Razeghi said she immediately wanted to find novel research projects for her 10 graduate students.

"I'm very demanding," Razeghi said. "The students are excellent, but I have to push them to make them the best."