

# The New York Times

Financial Desk; D

**CAREERS; SCIENCE JOBS FOR WOMEN**

By Elizabeth M. Fowler

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LAURIE ALTMAN is a scientist with

a mission: trying to interest

high school students, especially girls, in majoring in chemistry, biology, engineering and the like.

Her employer, the Minnesota Mining and Manufacturing Company, is worried about a nationwide shortage of women in science.

This year Mrs. Altman heads a group of 160 women employed in scientific specialties at 3M who will give career pep talks at high schools in Minnesota and adjoining states. This undertaking, called the "Visiting Women Engineers and Scientists Program," started six years ago.

"We talk to about 3,000 students, mostly girls, each year," Mrs. Altman said in a recent interview. "I'll be giving three to five talks myself."

Mrs. Altman, 26 years old, has a bachelor's degree in chemical engineering from the University of Michigan and a master's degree in chemical engineering from the University of Notre Dame.

She joined 3M in 1981 as a chemical process development engineer, and her present title is senior chemical engineer in process development. Her husband is a St. Paul lawyer.

Being a chemical engineer does not mean spending every hour of every day in a laboratory or factory. Mrs. Altman estimates that she spends 60 percent of her time in a laboratory and 40 percent in an office. She is studying at night for a Master of Business Administration degree at the University of Minnesota.

In high school, she said, she did well in mathematics and she enjoyed her introduction to chemistry in her junior year.

"High school counselors were a negative influence," she recalled, "at the time I was thinking about a career." School vocational advice can be superficial, perhaps because one person with little guidance training has to advise several hundred students without knowing them well.

"I chose chemical engineering because it combines mathematics and chemistry," Mrs. Altman said, adding that the job outlook was good.

A background in engineering and science offers unusual flexibility, Mrs. Altman said. Chemical engineers, she explained, can stay in research and advance on the technical side of a company or they can enter other areas such as marketing, technical sales and even patent law if a law degree is added. Also, they can aspire to top management jobs.

"Our chief executive officer at 3M, Lewis W. Lehr, is a chemical engineer," she said.

The 3M scientists who will be talking to high school students represent a variety of scientific specialties, including ceramics engineering, audiology, textile chemistry, zoology, patent law, medical genetics, wildlife management, food science, pharmacology, metallurgical engineering, bacteriology and immunology.

The members of Miss Altman's group, in speaking to students, expect to hear such questions as this: "What about starting salaries?" This year, according to Mrs. Altman, the answer is: "In the mid-20's for a chemical engineer and some other scientists and close to \$30,000 for one with a master's degree."

Another typical question: "Did you get A's in school?" Mrs. Altman's answer: "Mostly A's."

Someone might ask, "Have you invented anything?" She would respond, "I haven't invented a product, but I have improved processes."

If Mrs. Altman is asked how she spends her day, she say that when she is assigned to a project, she sets up the equipment, runs an experiment, monitors the results, analyzes samples and writes up the record.

While the 3M scientists are visiting high schools, another group will be off on a similar mission at the college level, urging students, primarily women, to major in chemistry.

A consortium of five colleges has formed a program to stimulate more interest in science among undergraduates, especially those who might go on to pursue doctorates. Few college women major in chemistry, and a shortage of chemists is feared.

The five colleges are Sweet Briar, in Virginia; Mount Holyoke, at South Hadley, Mass.; St. Catherine, at St. Paul; Skidmore, at Saratoga Springs, N.Y., and the New Jersey Institute of Technology, at Newark.

The consortium is headed by Sweet Briar's Julia Jacobsen, director of its government relations and sponsored programs. "Our idea is to get more students involved," she said recently.

Too many students, according to Mrs. Jacobsen, fear that they could spend five years specializing in chemistry and "then end up driving a taxi." As a result, she said, many who might stay in the field have switched to medical or law school.

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