Dresselhaus on past, future of women in science

By Philip J. Nesser II

Interview

 Mildred S. Dresselhaus is one of twelve active Institute professors at MIT. As a professor at MIT, her status is the best known. Although her name is well known, her history is Dresselhaus was also named the 1985-86 winner of the Killian Award, presented annually to a junior faculty member in recognition of outstanding professional accomplishments. She holds appointments in both the department of materials science and engineering and the department of physics.

Dresselhaus earned her B.S. in the MIT Center for Materials Research and Engineering, and she served at the presidency. In 1966, she was appointed to the faculty of MIT. Her research has focused on the development of new materials and the understanding of the properties of electronic and magnetic materials. Her work has been recognized by the National Academy of Sciences. She is a member of the National Academy of Engineering and a fellow of the American Physical Society.

As a professor, she has taught the role of women in the sciences. In 1971, her two sons joined the military. When she became a mother, she realized that she had no time for her own research. Her children and her work took precedence. She began to wonder if she could still make a contribution to her field. She decided to try teaching and started teaching at MIT. Her students were surprised, but she was determined to show them that women could succeed in science.

Q: So you've changed the future.
A: Yes, the biggest change has been the numbers. If you had been here 15 years ago, you would have seen a women in every class. You would have seen women who don't do science and engineering. But now you see them everywhere and they do okay in classes. They do essential-aly the same as the men. We admit all students on the same basis and expect them to perform on the same basis.

Q: What is it like being a woman in the sciences?
A: Well, the biggest change has been the numbers. If you had been here 15 years ago, you would have seen a women in every class. You would have seen women who don't do science and engineering. But now you see them everywhere and they do okay in classes. They do essential-aly the same as the men. We admit all students on the same basis and expect them to perform on the same basis. What's changed over the years is that when I came here I had about four percent women in an entering class and this year we have about 38 percent — that's a large change.

Q: What attracted you to the MIT environment?
A: It wasn't like the guys ganged up to give me problems. I think that women are equal to men in every way. We have no idea what the opportunities are. When I was a postdoc at Cornell University and there was a vacancy in one of the junior classes, there was no one but me and a woman friend that didn't go to all-women's college that went to that class. We were always at the top of the class. So I never got the message that I had to do something extra to get into that class. I was well prepared by that time that I wasn't so thoroughly dis-couraged.

Q: What's changed over the years?
A: Well, I just like my job. That's the main thing. I have no ideas right now. Sometimes they appreciate it more after they graduate. They get more interested in the fact that they found something that interests them.

Q: How would you compare reactivity towards women at MIT as it is now compared to when you were an undergraduate?
A: I think MIT has been a kind of leader in providing a climate so that people in science and engineering think we've almost been pioneers in that. This was one campus where for a long time it was a very acceptable thing for a woman to be in science or engineering. In oth-er schools that may have had higher percentages of wom-en students, maybe we got there by being so suspicious. Now we are closing opn that. There are obstacles on the way. Cornell was desperate after the war and they didn't want to accept too many women because they were afraid of it. I devised a freshman course and the students didn't see the same, every-body was as it a little different. You have to present it in different ways until the student gets it. That's what I like. Teaching the smart students we have here is a real treat.

Q: What do you enjoy most about teaching?
A: I enjoy not only teaching the subject matter, but I like to work on a process of teaching, that is, the information transfer — how the professor with some ideas explains the ideas to the student. Teaching technical things is not easy because the concepts are the things that have to be transmitted, and the students don't see the same; every-body was as it a little different. You have to present it in different ways until the student gets it. That's what I like.

Q: What are the biggest problems that you consider to be stumbling blocks for women in science?
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Q: What's the biggest problem that you've seen in the past, present and future for women in science?
A: Well, the biggest change has been the numbers. If you had been here 15 years ago, you would have seen a women in every class. You would have seen women who don't do science and engineering. But now you see them everywhere and they do okay in classes. They do essential-aly the same as the men. We admit all students on the same basis and expect them to perform on the same basis. What's changed over the years is that when I came here I had about four percent women in an entering class and this year we have about 38 percent — that's a large change.

Q: What do you think of the future of science education?
A: It's wonderful for the students. They don't always ap-preciate it all. Sometimes they appreciate it more after they graduate. They get more interested in the fact that they found something that interests them.

Q: How do you think that MIT has changed in the past 10 years?
A: Well, it's not that MIT has changed, but that MIT has stayed in the same place.

Q: How do you see the future of science in general?
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