

# Reflections of a woman pioneer

In her career as a physicist at the Massachusetts Institute of Technology (MIT) in Cambridge, Mildred “Millie” Dresselhaus, who is now 83, has researched the electronic structure of carbon in its myriad forms. Dresselhaus was in Oslo for the Kavli awards ceremony this year. *Science Careers* caught up with her for a chat. This interview has been edited for brevity and clarity.

**Q: Tell us about your early years at MIT.**

**A:** I earned my Ph.D. from the University of Chicago in 1958 and married a fellow physicist that year. We both joined the research staff of MIT’s Lincoln Laboratory in 1960. In 1967, I became a visiting professor at MIT. Thanks to a fund established by Abby Rockefeller Mauzé, the eldest of the six Rockefeller siblings, I was soon hired full time.

We had very few women professors, particularly in the sciences, and for the most part, they didn’t have children. My daughter was born before I joined the institute. I took a total of 5 days off for the birth of my three sons.

**Q: Were there many women students on campus?**

**A:** Only 4% of all undergraduates were female, a large fraction in biology—far fewer in physics, chemistry, or engineering. Academically, women were doing well. But one thing they mentioned was how isolated they felt. There would be empty seats next to them in class, so they wondered if they belonged there. Male professors didn’t know how to interact with their female research students.

**Q: How have things changed?**

**A:** Now, close to 50% of undergraduates are women. They are no longer concentrated in biology. Attitudes are changing, too. Today, students have their own support groups. They take hold of the situation and try to arrive at solutions.

**Q: Is it just a matter of time until women achieve equal (or near-equal) representation on faculties?**

**A:** No. That will take much longer. At graduation, the average academic performance of women at the institute is better than that of men. But some women choose to have less demanding jobs if they start a family or for some other reason. If you take time off, you are no longer considered competitive; your publication record isn’t as convincing. Even in biology, where the number of men and women students has been roughly equal

for a while now, women are still not equally represented at the faculty level.

**Q: Are there hidden barriers to advancement?**

**A:** Yes. I was a great believer in the idea of a critical mass of female students. With a minimum of 15% in each class, I thought the lack of isolation would be enough. In the 1980s, we were coasting toward these numbers. At the

faculty level, men and women seemed to have equal chance of attaining tenure. A decade later, Nancy Hopkins initiated her eye-opening study on the status of women at MIT. The data on pay scales, lab space, and other resources allotted to women showed how wrong I was. Nancy said that we’d have to beat on these guys to change things.

**Q: All those inbuilt prejudices! What made you stay on?**

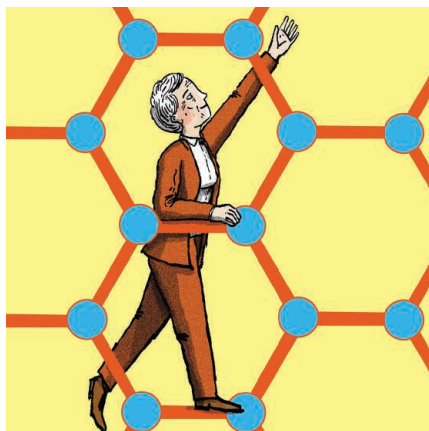
**A:** The same reason we all stay on: because we love the work. Here’s the interesting thing about women researchers: Once they hit their stride, they don’t want to stop. For many of them, this happens after they are done with the child rearing. Men’s careers wind down when they reach their 70s. Women don’t retire so quickly. I continue to work. So does Brenda Milner, the winner of the

2014 Kavli Prize for neuroscience. She is 96 now.

**Q: What would your message be to those women who aspire to be in academia?**

**A:** Don’t give up. There are equal opportunity laws in this country. There are processes to check if women have been interviewed for the job. Where the selection process is equal, some of you will get the jobs you aspire to get. Once you are on the faculty, you should advance at the same speed. Develop connections with the women who are already in such positions. Be confident. Apply. ■

*Vijaysree Venkatraman is a Boston-based science journalist. For more on life and careers, visit [www.sciencecareers.org](http://www.sciencecareers.org).*



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# Science

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