

MOVERS

Melissa Hines, director, Cornell Center for Materials Research, Ithaca, New York



1994–present: Assistant professor, associate professor and, since 2004, professor, Department of Chemistry and Chemical Biology, Cornell University, Ithaca, New York

1992–94: Postdoctoral member of technical staff, Optical Physics, AT&T Bell Laboratories, Murray Hill, New Jersey

Melissa Hines has no idea what set her on a career path towards materials science. But her desire to be a chemist has not wavered since she was seven years old. This drive has helped to propel her to leadership at an interdisciplinary research centre comprising some 100 faculty members from Cornell University in Ithaca, New York.

As a chemistry undergraduate at the Massachusetts Institute of Technology (MIT) in Cambridge, she followed prudent advice: work for a young faculty member who will have more time to devote to his or her students. Her choice was Sylvia Ceyer, who was not only the youngest member of MIT's chemistry department at the time, but one of the few women. Ceyer inspired Hines to work hard and to focus on surface chemistry. Ceyer also highlighted the importance of communicating science to the public.

"She convinced me that if you can't explain what you are doing to someone outside the field, you probably don't understand it yourself," says Hines.

After a PhD in chemistry at Stanford University, Hines went on to a postdoc at Bell Labs in Murray Hill, New Jersey — a career-altering experience. There, she learned how materials science could be used to solve problems in fields that she never would have encountered otherwise, such as the engineering and design of microprocessors.

She has combined that appreciation for applied research with her zeal for basic science in her current position as director of the Center for Materials Research at Cornell, which emphasizes collaborations between ten different departments at the university.

In this job, Hines finds herself revisiting the advice she got at MIT about communicating with the public. "People think of chemicals as something bad, to be avoided, and that's a real challenge that the scientific community needs to address," she says. To meet that challenge, she gives seminars on public speaking for scientists to help them communicate with students, politicians and others.

Hines counsels students to keep an open mind about what kind of scientist they are and want to be. It seems odd advice from someone with such a focused career path, but she says that she has become much more open-minded about different research fields over the years.

"Life throws you a lot of opportunities and if you automatically shut these out, you could miss something wonderful," she says.

Virginia Gewin

RECRUITERS & ACADEMIA

Lessons in professorship

Scientists spend a lot of time in the university system, but few know what it means to actually work in academia as what, in North America, is described as a 'professor'. Where do you learn how to be a professor? What exactly is tenure track and how does one 'get on it'? How do you negotiate for what you need?

FORWARD to Professorship is a workshop spread over two and a half days that helps faculty-to-be and new tenure-track faculty members explore the above questions and much more. About a quarter of the workshop is devoted to issues specific to women and other under-represented groups in science, engineering and mathematics. We aim to equip participants with a personal plan for their path to tenure and to a balanced life. With funding from the US National Science Foundation, we have held the workshop for the past three years at Gallaudet University in Washington DC, with 40 to 50 participants from across the United States. We took it on the road for the first time this year, to the Massachusetts Institute of Technology.

We address the three components of professorship: teaching, research and service. For teaching, we demonstrate a variety of styles. For research, the focus is on securing funding; guest speakers from various funding agencies discuss requirements and expectations for

proposals. For service, we address the need for university service, while cautioning against over-commitment.

We also give participants time to do some writing — typically on research or teaching statements — and to receive feedback. Experts in negotiation discuss why women often do not negotiate well or much, and review strategies. Family issues such as your options if you want children and if your partner is in the same field are addressed by professors who have successfully handled these situations. Participants sit with department chairs and deans in small groups to ask questions about how administrators view certain situations.

Follow-up surveys have shown that networks and mentoring begun at the workshop continue long after it ends. One participant arrived at the workshop three years ago having decided to quit her PhD programme. While there, she found mentors and support. We are pleased to report that she has now completed her doctorate.

For more information about attending the workshop or bringing it to your institution, please contact us at Forward.office@gallaudet.edu.

Charlene Sorensen is a professor at Gallaudet University in Washington DC and a co-organizer of the FORWARD to Professorship workshop.
www.seas.gwu.edu/~forward/advance

GRADUATE JOURNAL

Learning from teaching

I used to teach ballroom dancing as a way to earn some pocket money during my master's studies. It was an interesting experience, but I never thought of it as serious professional training, because it was so different from my real job as a scientist. But now that experience has become useful to me in the lab.

I never thought there would be a day when I would be teaching students at my university. The prospect seemed distant and unreal. But now it is a task I must undertake: I am helping to supervise a master's student. This is not a classroom full of children, but one person sitting next to me.

I suddenly realized that I bear a great deal of responsibility for the quality of his work, and that I must do my best to encourage him and to help him improve his skills. Although this scared me at first, I began to teach and to learn from teaching. I finally understood the importance of the management, psychology and philosophy classes that I had to take earlier in my education. These classes showed me a different way of looking at the world — and at people.

I now see that my experience as a dance teacher was not a waste of time either. It showed me how different people react to different situations. I've been able to transfer the knowledge gained in dance classes to laboratory teaching, and this has also helped my everyday relations with people in general.

Karolina Tkaczuk is a graduate student at the Technical University of Lodz, Poland.