

# Women scientists unite to battle cowboy culture

**Developmental biologist Nancy Hopkins conquered the 'Wild West culture' of MIT, but other women are still fighting. After last week's report on sexual prejudice at the institute, she argues the case for 'institutional change'.**

**Steve Nadis**

[BOSTON] Nancy Hopkins is trying to determine the 'development genes' critical for making a vertebrate. A molecular biologist at the Massachusetts Institute of Technology, she is addressing the question by studying tiny zebrafish, creating mutant breeds with retroviruses and finding the defective genes.

Over the next two years, she and 25 co-workers in her laboratory plan to examine 1.2 million zebrafish. It's a huge undertaking costing more than \$2 million a year, and requiring a lot of space. Five rooms in her lab are devoted solely to housing the fish, in some 4,000 tanks.

Yet it has taken a long struggle for her to muster the resources necessary for this experiment. Since joining the MIT faculty in 1973, and especially since becoming a tenured professor in 1982, Hopkins has faced a system stacked against senior women researchers.

In her battles with the establishment, however, she has helped forge a movement that is now benefiting other MIT women scientists. The problem of sexual discrimination at the institute was formally acknowledged in a report presented to the faculty last month. Hopkins chaired the committee that issued the report and drafted the document.

The publication of the report was a milestone, as MIT publicly owned up to a long-standing pattern of gender bias. And it struck a chord: Hopkins has heard from women scientists around the world who describe similar experiences.

It started when Hopkins discovered that the problems she encountered were common to other women scientists on campus.

Her first battle had to do with laboratory space. About six years ago, shortly after switching from virology to developmental biology and starting her work with zebrafish, Hopkins tried to expand her lab by a modest 200 square feet, but encountered numerous obstacles. Male investigators were sometimes getting whole new buildings while she couldn't even get a closet.

One problem, she says, was "the perception that women liked smaller labs". But she desperately needed more space, and her lab

was smaller than that normally given to starting professors. Although the matter was finally resolved months later, she says, the lengthy ordeal had "sapped her strength".

Then in 1994, two male professors took over a popular biology course that she had developed, and turned it into a book and CD-ROM. Not only was she hurt by the lack of collegiality and respect, but she then had to put a lot more time into designing a new course, taking her away from research. "Time is everything in science," she says. "A few months or a few weeks can cost you the Nobel Prize."

In the wake of this incident, she wrote to MIT president Charles Vest, complaining about the environment that prevailed in science at the institute, which she describes as "a Wild West culture where the strong take from the weak".

## Paying a high price for success

Hopkins and two female colleagues, who endorsed her letter, then polled other tenured women scientists at the institute. They were surprised to find there were only 15 tenured women in science, compared with 197 men.

"What was so amazing was that each of us thought we were the only ones struggling," says Hopkins. "These were all gifted women, doing incredibly well in their fields, yet paying a high price for it."

A committee headed by Hopkins was formed to investigate the problem. The members unveiled a process that routinely led to the "marginalization" of senior women faculty, who were kept from the highest levels of power in their departments.

Whereas significant resources are devoted to launching the careers of junior faculty, both male and female, senior women did not have equal access to MIT's vast resources, and often did not even know these resources were available.

Hopkins experienced this first-hand in 1995, when she read in a newspaper that Amgen (which now supports her research) was soliciting proposals from MIT researchers. She asked an administrator how to apply, but he merely replied that a committee had not yet been formed. At the same



**Nancy Hopkins: battled a masculine culture in which "the strong took from the weak".**

time, the administrator was urging a male colleague to apply for the grants.

She calls this a classic example of why the women's group had to form. "I had to spend so much time fighting for things that others — that is to say, men — got as routine," she explains. "Science is hard enough, but this kind of stress makes it much harder."

Although the committee found that women scientists at MIT are paid less than men of equal standing, "this fight has never been about money," Hopkins says. "What is important to us is our ability to do research."

Life has now improved dramatically for the 15 tenured women, with the support of Vest and Robert Birgeneau, the dean of science. Their salaries have increased by an average of 20 per cent, and they no longer have to raise part of their salaries from grants. They have received help in finding space and resources for their research. The institute has vowed to hire more women scientists, to reflect a student body in which there are now nearly as many women as men.

"Before and after are like two different lifetimes," says Hopkins. Yet she's not certain that conditions have changed in general for women researchers. "This endeavour was essentially secret and focused on the problems of 15 individuals," she notes.

The trick is to make the changes "permanent and institutionalized", she adds. "We can't expect to change everyone's heart and minds, so we have to change the system to make it fairer." Harder still will be to change the cultural climate. "To get ahead here, you have to be so aggressive," she says. "But if women are too aggressive they're ostracized and if they're not aggressive enough, they have to do twice the work." □