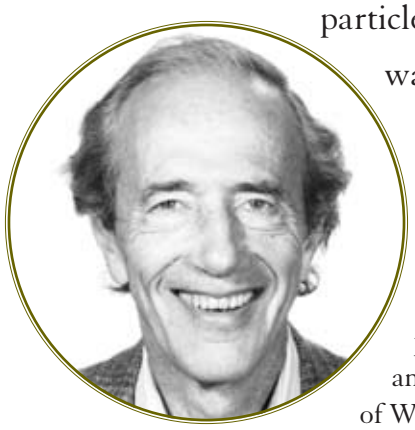
In Remembrance

Physicist Francis E. Low, former MIT provost, dies at 85

Francis E. Low, a retired MIT physicist and provost who worked on the Manhattan Project, died of heart failure on February 16 at a retirement home in Haverford, PA. He was 85.

"Francis was a hero of the physics department," said department head Marc Kastner. "His theoretical ideas shaped much of modern particle physics as well as condensed matter physics, and he was a wise, generous colleague who helped many of us when we were starting our careers at MIT."



Low described his teaching and interactions with students as highlights in his long career. His former students include Alan Guth (PhD 1972), the Victor F. Weisskopf professor of physics at MIT; Mitchell Feigenbaum (PhD 1970), Toyota professor of mathematical physics, The Rockefeller University; and Susan Coppersmith (SB 1978), professor of physics, University of Wisconsin-Madison.

Low joined MIT's physics department in 1957 and served as provost from 1980 to 1985. During that time, he encouraged a prominent role for the humanities in MIT's curriculum. He was also proud that MIT became affiliated with the Whitehead Institute for Biomedical Research during his tenure as provost, according to his daughter, Margaret Low Smith.

Before becoming provost, he directed MIT's Center for Theoretical Physics and the Laboratory for Nuclear Science. An Institute Professor, he retired from MIT in 1991 but continued to teach physics for a few more years.

In 1969, he became a founding member of the Union of Concerned Scientists. He served as chair for a short period but stepped down over a disagreement with members who refused to study whether nuclear reactors could be made safe and reliable.

During World War II, Low worked on the mathematics of uranium enrichment processes for the Manhattan Project at the Oak Ridge National Lab in Tennessee. He left the project to join the Army's 10th Mountain Division in Europe. He served as a mule driver and later as an artillery surveyor.

Lecture Hall Lowisms

Throughout his years of teaching at MIT, Prof. Low's unique style of getting his point across made him something of a legend amongst his students. Collected here are some memorable moments from the Francis Low classroom.

On Problem Solving

You can do it or you can just understand it.

If you're very good at calculus, you could probably figure out a way of doing it without thinking.

You solve the electromagnetic wave problem one way or another — generally badly.

It's not hard because we're only going to do things we can do.

If it works, it's probably right.

On Teaching Technique

I'm lying to you a little, but it's OK.

And if I'm feeling sadistic, I may assign it as a problem.

I'm just mentioning it so you know I know about it.

You can count on it, but don't rely on it.

It's a good question, but I think it's not meaningful.

It's a little bit silly to describe uncertainties too exactly.

Excerpted from "Francis E. Low: Coming of Age as a Physicist in Postwar America," by David Kaiser, physics@mit*, Fall 2001. The complete article is available in PDF at* web.mit.edu/physics/alumniandfriends/physicsatmit/fall2001.html.

After the war, Low went to Columbia University, where he earned his Ph.D. in physics in 1950, followed by postdoctoral work at the Institute for Advanced Study in Princeton, NJ. He spent a few years teaching at the University of Illinois at Urbana before arriving at MIT.

Low, who grew up in Manhattan, married his wife, Natalie Sadigur Low, in 1948. After she died in 2004, he moved from Belmont, MA, to Haverford.

He had a pilot's license, enjoyed tennis, and was a gifted piano player, known among friends for his ability to sing and play tunes by Cole Porter.

In addition to his daughter Margaret, he is survived by another daughter, Julie; a son, Peter; and six grandsons.

This article originally appeared in the February 20, 2007, on-line news service of the MIT News Office*, reprinted here by kind permission.*