

## **Biography: Elsa Garmire**

Elsa Garmire is Sydney E Junkins Professor of Engineering Sciences at Dartmouth College, Hanover New Hampshire, where she served as Dean of the Thayer School of Engineering from 1995 - 1997. She is on sabbatical as a Jefferson Science Fellow at the U. S. Department of State from August 2007 to August 2008.

Prior to coming to Dartmouth, Garmire was William Hogue Professor of Electrical Engineering, Professor of Physics, and Director of the Center for Laser Studies, at the University of Southern California, where she had been since 1975. Garmire received her A.B. in Physics at Harvard and her PhD in Physics at M.I.T. and served on the research staff at Caltech for nine years.

Professor Garmire has been elected member of the National Academy of Engineering and the American Academy of Arts and Sciences. She is a fellow of the Institute of Electrical and Electronic Engineers, the Optical Society of America, the American Physical Society, and the Society of Women Engineers. She received the Society of Women Engineers Achievement Award (their highest award), has been a Fulbright Scholar and was elected an honorary member of Phi Beta Kappa.

Garmire's research has focused on lasers and optics, including opto-electronics, nonlinear optics, optical devices, fiber optics, quantum electronics, device fabrication and semiconductors. She has authored over 200 journal papers, holds 9 patents, and has supervised 30 PhD and 15 MS theses. She has been active in the research community, serving on the boards of five professional societies and as President of the Optical Society of America. She has organized 7 conferences and been associate editor for 4 technical journals.

She has served on visiting committees of ten internationally prominent research universities. She has consulted for more than 20 companies, all in the field of lasers and optics. Garmire served on the International Commission for Optics, has visited scientific institutions in every inhabited continent, and has advised graduate students and post-docs from all over the globe.

Garmire has advised government policy-makers through service on advisory boards and panels for DOE, the Air Force, the National Science Foundation, and through the public affairs committees of the American Physical Society and the American Institute of Physics. Most recently, she has served on the Committee on Science, Engineering and Public Policy of the National Academies. Under this committee's auspices the need for increased funding in the physical sciences and engineering was made clear to Congress and the President. This idea was included in last year's State of the Union address, and substantive bills have been placed before Congress.

Some of her recent activity has been on the need for technological literacy among decision makers in this country and abroad. She has worked with the National Academy of Engineering to help define what it means to be literate in technology, has edited a book on approaches to assessing technological literacy for the National Academy Press, and is writing a book on engineering and technology for the general populace.