

Douglas B. Fitchen

June 8, 1936 — February 9, 2008

After an assault by cancer over a period of several months, Douglas B. Fitchen, Professor of Physics, Emeritus, died on February 9, 2008 at his home.

Fitchen was born June 8, 1936, in New York City. Many of his earlier roots were in Ithaca, where his great-grandparents and grandparents were active members of the Ithaca community. After graduating from Harvard College in 1957, he moved to the University of Illinois in Champaign-Urbana for graduate work in physics, completing his Ph.D. degree in 1962, working with Professor David Lazarus. He came immediately to Cornell as an Assistant Professor of Physics, thus beginning a 45-year career devoted to research, teaching and departmental leadership.

Doug, as leader of an active and productive research group in the Physics Department over a period of 25 years, mentored and inspired some 30 graduate students and worked with nine post-doctoral associates and senior visitors to produce over 70 papers and conference reports. His research was recognized by the award of an A.P. Sloan Fellowship and by Fellowship in the American Physical Society. His scientific program profited from sabbatical leaves at the Clarendon Laboratory, Oxford; the Laboratory of Solid State Physics at the University of Paris-South at Orsay; the Los Alamos Laboratory; and Oregon State University.

Upon arrival at Cornell, he joined the program in the Physics Department involved with elucidating the properties of alkali halide crystals. Supported by grants from the Alfred P. Sloan Foundation, the AEC (now the DOE) and the NSF, through the Cornell Materials Science Center (now the Cornell Center for Materials Research), he used optical absorption and emission spectroscopy to carry out extensive studies of the influence of pressure and of magnetic and electric fields on the properties of point defects (color centers and chemical impurities) in these systems. He helped develop the initial explication of the narrow features, “zero-phonon lines” as they are termed, which appeared in the low-temperature optical spectra of these defects, and then exploited them in studies that revealed the defect structures and their dynamics. The development of LASER technologies led to further studies using time-resolved photoluminescence and excited state absorption spectroscopy. Doug published an extensive review of his own and related work in 1968.

In the mid 1970s, as the research in the alkali halides matured, Doug recognized the potential for application to problems in biology of LASER techniques, including Raman spectroscopy, pulsed photo-luminescence and

transient absorption spectroscopy. He was a member of an ad hoc committee appointed to explore the possibilities of developing an interdisciplinary program to link Cornell programs in the physical and biological sciences and engineering. A program was subsequently established, and Doug, as member of the Biophysics Advisory Committee, joined with others from several departments in developing a number of instrumentation proposals and research projects. Supported by NIH grants and Cornell's Materials Science Center, he engaged in Raman studies of the structure and vibrational dynamics of various biomolecules: for example, heme proteins, cytochrome-c, and chlorperoxidase. In the final years of his research program, his focus was on LASER studies of the vibrational and electronic dynamics of pure and doped electrically conducting polymers, primarily polyacetylene.

In 1977, in the midst of his personal research and teaching, Fitchen took on the chairmanship of the Physics Department, initially for a five-year term. Thus began a major leadership role for the department and the University. With interludes of department management by other colleagues, he again served as Chair in the periods 1986-91 and 1994-99. The confidence that his colleagues and University administration had in his leadership is evident.

Fitchen's long service as Chair was marked by a number of accomplishments stemming from his strong personal leadership. (1) In each of his three terms, he worked personally and continually to upgrade the quality of Physics courses, particularly those at the introductory level. (2) In the late 1970s, as the potential for major renovation of Rockefeller Hall came into view, he became a central figure in leading the departmental input to the renovation process, working effectively with architects, College of Arts and Sciences administration and Cornell buildings and properties people. The result was an academic building whose interior is visually striking and whose service to the College and the University is significantly broadened. A plaque on the ground floor of Rockefeller acknowledges Doug's great contribution, and directs the viewer to a tree, the "Fitchen tree" planted outside as a tribute. (3) A third special contribution was providing personal leadership in breaking the gender barrier in the department's professorial faculty. In the latter part of his first term as chair, he helped pave the way for appointment of Barbara H. Cooper in 1983 as the first tenure-track female member of the faculty. He also provided special support for succeeding appointments of women: Persis Drell in 1988, Ritchie Patterson in 1994, and Michelle Wang in 1998. Each has proceeded on to a tenured appointment and has made strong contributions to the department and the University.

Doug's contributions to the quality of the introductory physics courses lay in his personal teaching, as well as in support of the work of others. In the period of the early 1990s, between his final two terms as Chair, he worked with

several colleagues in the redesign of Physics 207-208, a course designed to give physics background to students concentrating in other sciences, primarily chemistry and biology.

Doug's public service to the physics community also extended to the national scene. In the wake of the "opening" of the People's Republic of China, a special national program to connect promising Chinese physics students to physics graduate programs in the United States was established. The so-called CUSPEA ("China-U.S. Physics Examination and Application") program ran from 1981-89. Doug and his wife, Janet (an anthropology faculty member at Ithaca College at the time), served in three summers as one of several teams that went to China to interview Chinese student applicants to the program. The idea was to ascertain their overall level of preparation for graduate work in physics in the U.S. as well as their competence in use of the English language. The program brought a number of talented Chinese students to Cornell during the 1980s.

Many of his extracurricular activities centered around enjoyment of the outdoors, with activities such as hiking and cross-country skiing, as well as amateur study of nature's flora and fauna. The Fitchen family enjoyed and shared with others the wooded land they purchased in 1975, located in the Town of Caroline. They have maintained the land in its undeveloped state, in early resonance with twenty-first century concerns about taking care of Mother Earth.

While in graduate school in Urbana, Doug and Janet Mathews were married. They raised their three children in Ithaca after their arrival in 1962. Janet taught anthropology for many years at Ithaca College, concentrating her studies on the world of rural poverty in New York State and the wider U.S. She authored a 1991 monograph drawn from these studies, *Endangered Spaces, Enduring Places*. At the time of her untimely death from cancer in 1995, she had been appointed Chair of the Department of Anthropology at Ithaca College and soon thereafter as a member of the faculty of Cornell's Department of Rural Sociology (now Development Sociology). Doug and Janet's sister, Nancy, were married soon after Janet's death; unhappily Nancy was also a victim of cancer in 2000. In 2002, Doug and Karen Brazell, now Professor Emeritus of Japanese Literature and Theatre, were married. They enjoyed travels, and life with their greatly extended family until Doug's death.

He is survived by his children, John Fitchen of Portland, Maine; Katherine Nisbet and son, Stephen, of Bozeman, Montana; and Sylvia Fitchen of Tucson, Arizona.

Robert H. Silsbee, Chairperson; Neil W. Ashcroft, Donald F. Holcomb