

Dean Lee Taylor

July 2, 1949 — July 31, 1997

Dean Lee Taylor, a Cornell University Professor of Mechanical and Aerospace Engineering and a leading researcher and educator in computer-aided design (CAD), died at home in Ithaca, July 31, 1997. He was 48 years of age.

Professor Taylor joined the faculty of Cornell's Sibley School of Mechanical and Aerospace Engineering in 1976 after graduate study at Stanford where he completed his Ph.D. degree in 1975. His undergraduate degree was earned at Oklahoma State University in 1971. He served as the Sibley School's Associate Director from 1991-96, leading a major curriculum review and revision. He was elected as a Fellow of the American Society of Mechanical Engineers in 1995, and was honored with the Cornell College of Engineering's Excellence in Teaching Award in 1989. He was a Visiting Research Fellow at the University of Birmingham, United Kingdom, in 1981 and a Visiting Scholar at the University of California at Berkeley in 1990.

He will be remembered as an effective researcher and educator in the fields of system dynamics, computer-aided design, design theory, micromechanical machines, and concurrent engineering. In addition, he made important contributions to the design of bone-implant systems by directing the development of software for determining the geometry and material properties of bones from CT scans. Dean developed important laboratories for research and education, including the Integrated Mechanical Analysis Project Laboratory and its successor, the Biomechanics Computing Laboratory, which is now used extensively for the analysis and design of orthopedic implants and other aspects of the musculoskeletal system.

His textbook, *Computer-Aided Design*, presented a new approach to using the computer for design and analysis. Whereas early computer-aided design systems concentrated on the design and graphical representation of individual components, Taylor sought to expand the capabilities of computer-aided design to represent assemblies of interacting parts and their function as an engineering system.

In addition to teaching in the College of Engineering, Taylor contributed to the continuing education of industrial executives through short courses taught in the Johnson Graduate School of Management at Cornell. He also was active in the Realization Consortium, a national engineering educational effort, and the Cornell Manufacturing Enterprise.

These are the basic facts. We, however, remember him more personally as a colleague who was an innovator, a servant, an innovative teacher, a family man, and a friend.

He was an innovator. Dean was curious and thirsty for knowledge; he wanted to learn about the next thing that would be important. He had a broad horizon and he was more interested in learning about new things than becoming the expert in a narrowly focused area. And so his students worked on the next thing too: on mesh generators for finite element structural analyses; on computer-aided modeling capabilities that enabled other students to analyze and design bone-implant systems; on imaging techniques that could be used to implement robotic orthopedic surgery; on magnetic bearings; on micro electro-mechanical devices; on design theory and product design. Dean wanted to bring the computer to bear on the analysis of mechanical systems and he did by creating the Integrated Mechanical Analysis Laboratory, which evolved into our Biomechanics Computing Lab.

He was a servant. Computer Science needed a computer graphics course and Dean taught one. He served the school during a time of transition. Dean was the Associate Director with three directors in five years, which must be some kind of a record. He served the College of Engineering as Director of the Computer-Aided Design Instructional Facility, one of those next things, in its early years. He served us all—we, his colleagues, always had someone to go to with our questions about computing and computer systems, and someone who more than likely could cut a deal with industry to get the equipment we needed.

He was an innovative teacher. He thought of new ways to teach computer-aided design and produced a textbook to do it. He envisioned new ways of teaching design and analysis to sophomores and moved a curriculum to include it and developed a design studio, “The Design Studio of the Future”, to implement it. “We as engineers”, he said to a colleague only a few weeks before he passed away, “have a lot to learn from the professional schools—business, law, veterinary medicine”—and he worked with architecture to develop the design studio and with the Johnson School to teach leaders from industry.

He was a family man. We knew that he was proud of his wife, Kathy, and his daughter, Lauren, and their many accomplishments. His ability to juggle the responsibilities of family and career was admired.

He was a friend. An avid sailor, he shared his enthusiasm for the sea by taking students and a colleague’s son with him on summer sailing excursions. He introduced friends to good books, technical and otherwise, and his easy way with students was appreciated by those of us who are more introverted.

He was away from the Sibley School during the 1996-97 academic year. He came back to Cornell toward the end of the summer of 1997 after his sabbatical leave, after a family vacation in Europe and England, eager to innovate, ready to teach, ready to advise members of the Class of ‘01, full of energy, and ideas, and enthusiasm, and great

joy. We shall miss him. The design studio of the future now bears his name. We are grateful for the reminder it provides of his contributions to Cornell and to those of us privileged to know him as a colleague and friend.

Now finale to the shore!

Now, land and life, finale, and farewell!

Now Voyager depart! (much, much for thee is yet in store;)

...Depart upon thy endless cruise, old Sailor!

From Now Finale to the Shore, Walt Whitman, Leaves of Grass

Albert George, Frank Moon, Donald Bartel