Jerrold Eldon Marsden, the Braun Professor of Engineering, Control and Dynamical Systems, and Applied and Computational Mathematics, passed away on the evening of September 21, 2010, with his wife and daughter by his side. He was 68.

Marsden was one of the leading world experts in mathematical and theoretical mechanics. His work spanned a variety of fields, including fluid mechanics, geometric mechanics, elasticity, control theory, dynamical systems, and numerical methods. By focusing on geometric foundations, he was able to unite different disciplines, connecting mathematical theory with physical models and practical applications. His work has, consequently, influenced geometers and physicists alike. His research has led to advances in many areas, including spacecraft mission design, turbulence modeling, and the design of underwater vehicles. Marsden’s influence was felt around the globe, in no small part because of his countless international collaborations.

Born in British Columbia, Marsden graduated from the University of Toronto in 1965 with a BSc in mathematics. He received his PhD in applied mathematics in 1968 from Princeton. He then joined the faculty at UC Berkeley before coming to Caltech in 1992 as a Fairchild Distinguished Scholar. He was appointed professor of control and dynamical systems in 1995, and in 2003, he was named the Braun Professor. In 1992, he helped found the Fields Institute, a mathematical research institute at the University of Toronto, where he was a director until 1994.

Marsden was an accomplished educator and mentor, having written six undergraduate math textbooks, which are used worldwide, and 14 monographs, many of which are the definitive references in their fields. He has had more than 40 PhD students and postdocs. In 2006, Caltech’s Graduate Student Council awarded him its Teaching and Mentoring Award.

He received numerous other awards that recognized his contributions as a researcher and educator: the Jeffrey-Williams Prize, the AMS-SIAM Norbert Wiener Prize, two Humboldt Prizes, a Fairchild Fellowship, the Max Planck Research Award, the SIAM von Neumann Prize, and the United Technologies Research Award. In 2006, he received an honorary doctorate from the University of Surrey. He was posthumously awarded the 2010 Thomas K. Caughey Award in November in Vancouver.

He was elected a Foreign Member of the Royal Society in 2006 and was a fellow of the Royal Society of Canada and the American Academy of Arts and Sciences.

He is survived by his wife, Barbara; his children, Christopher and Alison; grandchildren Eliza and Isaac; and a sister, Judy.

The family has requested that, in lieu of flowers, contributions be made to the Jerrold E. Marsden Scholarship Fund. Alternatively, contributions can be made to the Pasadena dog rescue, Mutts and Moms. A memorial service is planned for January 28, 2011. —MW/JW