

Biography: David J. Steigmann

Office

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Education

- Ph.D. (1988) Brown University, Providence, R.I. (Thesis: *Tension-field Theory*. Adviser: A.C. Pipkin, Division of Applied Mathematics).
- M.Sc. (1982) M.I.T., Cambridge, MA. (Thesis: *Numerical Simulation of Transient Finite Deformations of Structures*. Adviser: E.A. Witmer, Department of Aeronautics and Astronautics).
- B.Sc. (1979) U. of Michigan, Ann Arbor, MI. (Department of Aeronautics and Astronautics).

Appointments

- July, 2005 to present: Professor, Dept. of Mechanical Engineering, U.C. Berkeley.
- March, 1998 to June, 2005: Associate Professor, Dept. of Mechanical Engineering, U.C. Berkeley.
- Jan., 1997 to March, 1998: Acting Assoc. Prof., Dept. of Mechanical Engineering, U.C. Berkeley.
- July, 1995 to December, 1997: Professor, Department of Mechanical Engineering, University of Alberta, Canada.
- July, 1991 to June, 1995: Assoc. Professor, University of Alberta.
- Sept., 1988 to June, 1991: Assist. Professor, University of Alberta.

Research Interests

- Mechanics of thin films and thin-film/substrate systems
- Electromagnetic phenomena in solid mechanics; applications to thin-film/substrate problems
- Surface stress, capillary phenomena, biological cell membranes, surfactant films
- Diffusive phenomena
- Finite elasticity
- Variational methods and elastic stability
- Tensile (membrane) structures
- Continuum mechanics
- Numerical analysis of ill-conditioned structural problems
- Thin shells
- Plasticity theory

Honors and Awards

- Berkeley Junior Faculty Fellowship (1997).
- Fellow of the Society of Engineering Science (Elected 2010).
- Midwest Mechanics Tour (2009-10 academic year).
- Visiting Research Professor, 2013 and 2015: Universita di Roma, la Sapienza.
- Levi-Civita Prize, 2013.
- Engineering Science Medal, conferred by the Society of Engineering Science, for 'Singular Contributions to Engineering Science' (2013).
- Special issue of Continuum Mechanics and Thermodynamics, dedicated to D.J. Steigmann (<http://link.springer.com/journal/161/28/1/page/1>).
- Diamond Jubilee International Fellowship, 2016: Southampton University
- Acta Mechanica Sinica 2017 Best Paper Award
- Mentorship Award, Department of Mechanical Engineering, UC Berkeley (2018).

Editorial Boards

ZAMP (Zeitschrift für Angewandte Mathematik und Physik): Solid Mechanics Editor

Mathematics and Mechanics of Solids: Editorial Board: Editor-in-Chief.

Journal of Elasticity

International Journal of Engineering Science

Mathematics and Mechanics of Complex Systems

Journal of the Mechanics of Materials and Structures

International Journal of Solids and Structures

Mechanics Research Communications

Journal of Peridynamics and Nonlocal Modeling

Teaching:

Graduate:

Linear Elasticity (ME 282), Elastic Stability (ME 288), Finite Elasticity (ME 284), Shell Theory (ME 289), Electrodynamics of Continuous Media (ME 285C), Engineering Rheology (ME 285D), Mechanics and Physics of Lipid Bilayers (ME 285E).

Undergraduate:

Continuum Mechanics (ME 185), Engineering Analysis (E 117), Introduction to Solid Mechanics (MEC 85).