

Brief Biographical Sketch

Professor Roger Fosdick:

Professor Roger Fosdick joined the Department of Aerospace Engineering and Mechanics faculty at the University of Minnesota in 1969. He received his Ph.D. in Applied Mathematics from Brown University in 1963 and his B.S. in Mechanical Engineering from the Illinois Institute of Technology in 1959. Dr. Fosdick's career is one filled with teaching, research, and service. He has served three terms as Chairman of the Society for Natural Philosophy, on the Board of Directors of the Society of Engineering Sciences, and he serves or has served on the editorial board of several professional journals. He has been the Editor-in-Chief of the *Journal of Elasticity: The Physical and Mathematical Science of Solids* since 1998 and a member of its editorial board since 1970.

Fosdick's research applies fundamental principles of nonlinear continuum mechanics, thermomechanics and electromechanics within various constitutive theories of material behavior in order to better understand phenomena associated with phase changes, coexistent phases, material instability, structure and stability properties of intense shock waves, and departures from classical constitutive laws including that of heat conduction and long-range spatial dependence. Current research directions include both solid- and fluid-like materials and are concerned with crystalline and amorphous structures, as well as mixtures. He has most recently been involved with research on the nonrelativistic theory of electromagnetism within the area of continuum thermodynamics. Here, his interests are on understanding the notion of minimal, or relatively minimal, energy states as they are suggested from a study of isolated electromechanical-thermodynamical processes and related Lyapunov functions. Also, a study of the motion of domain walls as propagating singular surfaces in electromechanically sensitive materials is part of this program of research. Finally, the fundamental issue of self-intersection within physical theories which describe the behavior of solids is an on-going program of investigation.

Professor Fosdick is a Fellow of the American Academy of Mechanics, a member of the Society for Rheology, the Society for the Interaction of Mechanics and Mathematics, and Sigma Xi. Since 1994, he has served as a Visiting Professor at the Politecnico di Bari in Italy, from which he recently received the honorary degree, *Laurea Specialistica Honoris Causa, Ingegneria Meccanica*. He has advised 18 PhD students, 13 Masters students and has hosted 12 different post-doctoral scholars and visitors. Professor Fosdick has published approximately 110 research papers, prefaces and forewords in refereed journals and has edited two books

