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## **Biographical Sketch of J. N. Reddy**

Dr. Reddy, the Oscar S Wyatt Endowed Chair Professor in J. Mike Walker '66 Department of Mechanical Engineering at Texas A&M University, is a highly-cited researcher, author of 21 textbooks and nearly 700 journal papers, and a leader in the applied mechanics field for more than 45 years. He is known worldwide for his significant contributions to the field of applied mechanics through the authorship of widely used textbooks on the linear and nonlinear finite element analysis, variational methods, and composite materials and structures. His pioneering works on the development of shear deformation theories (that bear his name in the literature as the *Reddy third-order plate theory* and the *Reddy layerwise theory*) have had a major impact and have led to new research developments and applications. Some of the ideas on shear deformation theories and penalty finite element models of fluid flows have been implemented into commercial finite element computer programs like ABAQUS, NISA, and HyperXtrude. His earlier research focused primarily on mathematics of mixed finite elements, variational principles of mechanics, shear deformation and layerwise theories of laminated composite plates and shells, analysis of bimodular materials, modeling of geological and geophysical phenomena, penalty finite elements for flows of viscous incompressible fluids, and least-squares finite element models of fluid flows and solid continua. In recent years, Reddy's research deals with 7-, 8-, and 12-parameter shell theories, nonlocal and non-classical continuum mechanics problems, and problems involving couple stresses, surface stress effects, and discrete fracture and flow.

Professor Reddy is a legend in mechanics education. His books have been used for the last three generations of engineers and they will be used for many generations to come. He has co-authored and authored a wide variety of mechanics books, beginning with variational principles and methods, mathematical theory of finite elements, engineering analysis, linear and nonlinear finite elements, finite elements in heat transfer and fluid dynamics, mechanics of composite materials and structures, plates and shells, continuum mechanics, and mechanics of materials. Recent Honors include: 2019 Timoshenko Medal from the American Society of Mechanical Engineers, 2018 Theodore von Karman Medal from the Engineering Mechanics Institute of the

American Society of Civil Engineers, the 2017 John von Neumann Medal from the U.S. Association of Computational Mechanics, the 2016 *Prager Medal*, Society of Engineering Science, the 2016 Thomson Reuters IP and Science's Web of Science Highly Cited Researchers - *Most Influential Minds*, and the 2016 *ASME Medal* from the American Society of Mechanical Engineers. He is a member US National Academy of Engineering and foreign fellow of Indian National Academy of Engineering, the Canadian Academy of Engineering, and the Brazilian National Academy of Engineering.