

J.N. REDDY

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SUMMARY

Dr. Reddy is a Distinguished Professor, Regents' Professor, and inaugural holder of the *Oscar S. Wyatt Endowed Chair* in Mechanical Engineering at Texas A&M University, College Station, Texas. Dr. Reddy earned a Ph.D. in Engineering Mechanics in 1974 from University of Alabama in Huntsville. He worked as a Post-Doctoral Fellow in Texas Institute for Computational Mechanics (TICOM) at the University of Texas at Austin, Research Scientist for Lockheed Missiles and Space Company, Huntsville, during 1974-75, and taught at the University of Oklahoma from 1975 to 1980, Virginia Polytechnic Institute & State University from 1980 to 1992, and at Texas A&M University from 1992.



Dr. Reddy is the author of over 550 journal papers and 19 books (several with second, third, and fourth editions) on energy principles, variational methods, plates and shells, composite materials, mechanics of solids, and the finite element method and its applications. The books authored by Dr. Reddy include: *An Introduction to Continuum Mechanics with Applications*, Cambridge University Press (2004, 2nd ed. 2013); *Theory and Analysis of Elastic Plates and Shells*, Taylor & Francis (1999, 2nd ed., 2007); *An Introduction to the Finite Element Method*, McGraw-Hill (1984, 3rd ed. 2006; 4th ed. 2016); *An Introduction to Nonlinear Finite Element Analysis*, Oxford University Press (2004, 2nd ed. 2015); *Mechanics of Laminated Composite Plates and Shells: Theory and Analysis*, CRC Press (1999, 2nd ed., 2004); *Energy Principles and Variational Methods in Applied Mechanics*, John Wiley (1984; 2nd ed. 2002; 3rd ed. 2015); *Applied Functional Analysis and Variational Methods in Engineering*, McGraw-Hill, 1986. Dr. Reddy has delivered over 138 plenary, keynote lectures, or general invited lectures at international conferences; taught over 100 short courses on linear and nonlinear finite elements, composite materials, and nonlocal structural theories; he advised 36 postdoctoral fellows and research visitors and 108 graduate students (62 Ph.D. and 46 M.S. students).

Dr. Reddy is the first recipient of the University of Oklahoma's College of Engineering's *Award for Outstanding Faculty Achievement in Research*, the 1984 *Walter L. Huber Civil Engineering Research Prize* of the American Society of Civil Engineers (ASCE), the 1985 *Alumni Research Award* at Virginia Polytechnic Institute, and 1992 *Worcester Reed Warner Medal* and 1995 *Charles Russ Richards Memorial Award* of the American Society of Mechanical Engineers (ASME). He received German Academic Exchange (DAAD) and von Humboldt Foundation (Germany) research awards. Dr. Reddy received the 1997 *Melvin R. Lohmann Medal* from Oklahoma State University's College of Engineering, Architecture and Technology, the 1997 *Archie Higdon Distinguished Educator Award* from the Mechanics Division of the American Society of Engineering Education, the 2014 *Raymond D. Mindlin Medal* and the 1998 *Nathan M. Newmark Medal* from the American Society of Civil Engineers, the 2000 *Excellence in the Field of Composites* and 2004 *Distinguished Research Award* from the American Society for Composites, the 2000 *Faculty Distinguished Achievement Award for Research* from Texas A&M University, the 2003 *Texas*

A&M Bush Excellence Award for Faculty in International Research award, the 2003 *Computational Solid Mechanics* award from USACM, 2014 *The IACM O.C. Zienkiewicz Award* from the International Association of Computational Mechanics, and 2007 *Distinguished Achievement in Teaching Award*, Association of Former Students (AFS), Texas A&M University. Dr. Reddy received a *Technical Achievement Award* from the National Academy of Engineering for “outstanding contributions to engineering education and research.” He has also received *Certificates of Teaching Excellence* at Virginia Polytechnic Institute and *Outstanding Graduate Teaching* award from Texas A&M University. In 2011, Dr. Reddy was selected as the *Honorary Member* of the American Society of Mechanical Engineers, and received honorary degrees (*Honoris Causa*) from the Technical University of Lisbon, Portugal in 2009 and Odar Yurdu University, Baku, Azerbaijan in 2011. In 2015, Dr. Reddy was elected as a member of the **US National Academy of Engineering** for “contributions to composite structures and to engineering education and practice” and as a Foreign Fellow of the Indian National Academy of Engineering. Also, he was inducted into the Hall of Fame of the College of Engineering, Architecture and Technology of Oklahoma State University. He will receive the *Prager Medal* of the Society of Engineering Science at its 53rd Annual Meeting in October 2016.

Dr. Reddy is a *life fellow* of the American Society of Mechanical Engineers (ASME), and a *fellow* of the American Academy of Mechanics (AAM), the American Institute of Aeronautics and Astronautics (AIAA), the American Society of Civil Engineers (ASCE), the American Society for Composites (ASC), International Association of Computational Mechanics (IACM), U.S. Association of Computational Mechanics (USACM), the Aeronautical Society of India, and the Institution of Structural Engineers, U.K.

Dr. Reddy serves on the editorial boards of about two-dozen journals, including *Annals of Solid and Structural Mechanics*, *Composite Structures*, *International Journal for Numerical Methods in Engineering*, *International Journal for Numerical Methods in Biomedical Engineering*, and *International Journal of Non-Linear Mechanics*. He is the Editor-in-Chief of *Mechanics of Advanced Materials and Structures*, *International Journal of Computational Methods in Engineering Science and Mechanics*, and *International Journal of Structural Stability and Dynamics*. Dr. Reddy served as the chair of the ASME (Applied Mechanics Division) Committee on Computing in Applied Mechanics, the ASCE (Engineering Mechanics Division) Committee on Computational Mechanics, the Executive Committee and Advisory Board of the Engineering Mechanics Division of ASCE. Dr. Reddy is also a member of the International Association of Computational Mechanics, former co-editor of its bulletin, a founding member and former president of the U.S. Association of Computational Mechanics.

Dr. Reddy’s research has involved extensions and applications of the finite element method, originally applied to structural analysis in aerospace systems, to broader ranges encompassing composite structures, numerical heat transfer, computational fluid dynamics, and more recently to biology and medicine. His shear deformation plate and shell theories and their finite element models have been implemented into commercial finite element computer programs like ABAQUS, NISA, and HyperXtrude.

As a result of Dr. Reddy’s extensive publications of archival journal papers and books in wide range of topics in applied sciences and engineering, Dr. Reddy is one of the original top 100 *ISI Highly Cited Researchers* in Engineering around world with over 18,250 citations (16,950 without self-citations) with h-index of over 63 as per Web of Science, 2015; as per Google Scholar, the number of citations is over 43,863 with h-index of 86 and i10-index of 391 (i.e., 391 papers are cited at least 10 times). A more complete resume with links to journal papers can be found at <http://www.tamu.edu/acml>.