



Special Issue of the *Mechanics of Advanced Materials and Structures*, Honoring Professor J.N. Reddy on his 70th Birthday

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To cite this article: Dr. Vinu U. Unnikrishnan (2018) Special Issue of the *Mechanics of Advanced Materials and Structures*, Honoring Professor J.N. Reddy on his 70th Birthday, *Mechanics of Advanced Materials and Structures*, 25:15-16, 1239-1240, DOI: [10.1080/15376494.2018.1503627](https://doi.org/10.1080/15376494.2018.1503627)

To link to this article: <https://doi.org/10.1080/15376494.2018.1503627>



Published online: 13 Dec 2018.



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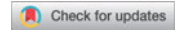


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PREFACE



Special Issue of the *Mechanics of Advanced Materials and Structures*, Honoring Professor J.N. Reddy on his 70th Birthday



Professor J. N. Reddy

It is with great pleasure that the Special Issue of the *Mechanics of Advanced Materials and Structures* (MAMS), honoring Professor J.N. Reddy on his 70th Birthday is presented, with articles contributed by friends and distinguished colleagues of Professor Reddy. This special issue features 13 peer reviewed articles on various topics in “Mechanics of Advanced Materials”, specifically focusing on topics ranging from *nonlocal plate theories, third-order shear and normal deformable theory for shells, thermodynamic laws and constitutive theories, multiscale theories in fracture, advanced composites, higher order finite element formulations, and mechanics of nano- and bio-materials*, which are of keen interest to Professor Reddy and the greater mechanics community.

Professor Reddy, who is an eminent leader in the applied mechanics field for over 40 years, is currently the Oscar S Wyatt Endowed Chair Professor, Distinguished Professor, and Regents Professor of Mechanical Engineering at Texas A&M University and is a member of the National Academy of Engineering. He is a very highly-cited researcher, and author of over 21 seminal textbooks (several textbooks with second, third, or fourth editions) and over 600 journal publications in various topics on mechanics. During these past years, Professor Reddy has contributed immensely to the development of linear and nonlinear finite element analysis, variational methods, composite materials and structures, applied functional analysis, and continuum mechanics. Professor Reddy’s refined third-order and layer-wise plate and shell theories that bears his name, are some of his significant impacts in applied mechanics. These theories and finite element models have also been incorporated into commercial software packages, such as ABAQUS, NISA, and HyperXtrude.


Professor Reddy is a great teacher and mentor and has advised over 36 postdoctoral fellows and research visitors and 111 graduate students (65 Ph.D. and 46 M.S. students). He

takes immense pride and comfort in being able to guide and mentor the next generation of engineers and researchers. He has delivered over 145 plenary, keynote lectures, or general invited lectures at international conferences; taught over 105 short courses on linear and nonlinear finite elements, composite materials, and nonlocal structural theories – are testament to his resolve and commitment in being a mentor and teacher par excellence. His excellence in teaching and mentorship was recognized by various teaching and mentorship awards namely the 1997 Archie Higdon Distinguished Educator Award from the Mechanics Division of the American Society of Engineering Education, Certificates of Teaching Excellence at Virginia Polytechnic Institute and Outstanding Graduate Teaching award from Texas A&M University, Distinguished Achievement in Teaching Award in 2017 by the Association of Former Students (AFS), Texas A&M University, to name a few.

Professor Reddy has also received numerous awards for his technical contributions. He was awarded the American Society of Mechanical Engineers (ASME) Medal in 2016 in recognition of his “*eminently distinguished engineering achievement*,” the Prager Medal, in 2016 by the Society of Engineering Science for his *outstanding research contributions in either theoretical or experimental Solid Mechanics or both*, the 2017 John von Neumann Medal from the US Association of Computational Mechanics, and the 2018 Theodore von Karman Medal from the American Society of Civil Engineers. In 2015, Professor 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, Canadian Academy of Engineering, and the Brazilian National Academy of Engineering. He was also inducted into the Hall of Fame of the College of Engineering, Architecture and Technology of Oklahoma State University. Professor Reddy is one of the original top 100 ISI Highly Cited Researchers in Engineering around the world with over 25,000 citations with *h*-index of over 76 as per the Web of Science. He has a total number of citations of nearly 62,200 with *h*-index of 100 and *i10*-index of 478 as per the Google Scholar.

The guest editor takes this opportunity to wish Professor Reddy good health and happiness always, with continued success in achieving far-reaching scholarly contributions through publications, teaching and mentoring, and lectures. On a personal level, this guest editor is lost for words in thanking Professor Reddy for being his ‘*guru*’ (Sanskrit – *gu* means darkness, *ru*, - who dispels it), a mentor and a constant source of support and encouragement.

The guest editor would also like to thank all of Professor Reddy's friends and colleagues who have contributed to this special issue and the reviewers for their time and efforts. Finally, the guest editor thanks the Editor-in-Chief, Professor Erasmo Carrera, who has agreed to this special issue in *Mechanics of Advanced Materials and Structures*.

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