

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 (1974) from University of Alabama in Huntsville. He worked as a Post-Doctoral Fellow in Texas Institute for Computational Mechanics (TICOM, which grew into ICES) at the University of Texas at Austin (1974), Research Scientist for Lockheed Missiles and Space Company, Huntsville (1974-75), and taught at the University of Oklahoma (1975-1980), Virginia Polytechnic Institute & State University (1980-1992), and at Texas A&M University from 1992 till now.

Dr. Reddy's research has involved the development of dual-complementary variational principles in theoretical mechanics, mathematical theory of finite elements (especially mixed finite element formulations), refined mathematical models of laminated composite plates and shells, penalty formulations of the flows of viscous incompressible fluids, least-squares formulations of solid and fluid continua, and extensions and applications of the finite element method to a broad range problems, including: composite structures, numerical heat transfer, computational fluid dynamics, and biology and medicine. His shear deformation plate and shell theories and their finite element models and the penalty finite element models of non-Newtonian fluids have been implemented into commercial finite element computer programs like ABAQUS, NISA, and HyperXtrude.

The current research of Dr. Reddy and his group deals with 7- and 12-parameter shell theories and nonlocal beam and plate theories using the ideas of Eringen, Mindlin, Koiter, and others (in collaboration with colleagues from China, Finland, France, India, Singapore, Spain). With Dr. Arun Srinivasa he developed a thermodynamically based strain gradient elasticity theory that contains Mindlin's model as a special case. They also conceived a transformative non-parametric network based methodology to study damage and fracture in solids (GraFEM). His collaboration with Dr. Karan Surana of the University of Kansas is about polar continuum theories in which varying internal rates of rotations and conjugate moments that exist in all deforming homogeneous and isotropic solid and fluent continua are incorporated in the derivations of the conservation and balance laws. His collaboration with Dr. Debasish Roy and his group of the Indian Institute of Science deals with (1) micropolar cohesive damage model for delamination of composites (the main idea is to embed micropolarity, which brings an additional layer of kinematics through the micro-rotation degrees of freedom within a continuum model to account for the microstructural effects during delamination), (2) a physics-based model for dislocation mediated thermo-viscoplastic deformation in metals, and (3) continuum plasticity model for metals from considerations of non-equilibrium thermodynamics.

Dr. Reddy is the author of a large number of journal papers and 21 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 (linear and nonlinear) and its applications. Dr. Reddy has delivered over 165 plenary, keynote, and invited lectures at international conferences; taught 111 short courses on continuum mechanics, variational methods, linear and nonlinear finite elements, composite materials, and nonlocal structural theories; he advised 46 postdoctoral fellows and research visitors, and guided and co-guided 118 graduate students (72 Ph.D. and 46 M.S. students).

Dr. Reddy is the recipient of numerous professional awards from various professional organizations and societies. The most significant national and international awards are (a full list can be found under **Honors and Awards**):

- *Ralph R. Teetor Education Award*, Society of Automotive Engineers (1976)
- *Walter L. Huber Civil Engineering Research Prize*, American Society of Civil Engineers (1984)
- *Worcester Reed Warner Medal*, American Society of Mechanical Engineers (1992)
- *Charles Russ Richards Memorial Award*, American Society of Mechanical Engineers (1995)
- *Archie Higdon Distinguished Educator Award*, American Soc. of Engineering Education (1997)
- *Nathan M. Newmark Medal*, American Society of Civil Engineers (1998)
- *Excellence in the Field of Composites*, American Society for Composites (2000)
- *Belytschko Medal*, US Association for Computational Mechanics (2003)
- *Distinguished Research Award*, American Society for Composites (2004)
- *Honorary Member*, American Society of Mechanical Engineers (2011)
- *Raymond D. Mindlin Medal*, American Society of Civil Engineers (2014)
- *IACM O.C. Zienkiewicz Award*, International Association of Computational Mechanics (2014)
- *Member, US National Academy of Engineering* (2015)
- *Foreign Fellow, Indian National Academy of Engineering* (2015)
- *ASME Medal, American Society of Mechanical Engineers* (2016)
- *Prager Medal from the Society of Engineering Science* (2016)
- *Foreign Fellow, Canadian Academy of Engineering* (2017)
- *Foreign Fellow, Brazilian National Academy of Engineering* (2017)
- *John von Neumann Medal*, US Association for Computational Mechanics (2017)
- *JS Rao Medal in Vibration Engineering*, Vibration Institute of India (2017)
- *JN Reddy Medal in Mechanics of Advanced Materials and Structures* (2018)
- *Thodore von Karman Medal*, American Society of Civil Engineers (2018)

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, United Kingdom.

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.

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 **26,600** citations and h-index of 77 as per Web of Science; the number of citations is over **64,250** with h-index of 101 and i10-index of 493 (i.e., 493 papers are cited at least 10 times) as per Google Scholar. A more complete information, visit <http://mechanics.tamu.edu/>

CURRICULUM VITAE

PERSONAL

Naturalized U.S. citizen

EDUCATION

- B.E. (5yr Course), Mechanical Engineering, Osmania University, Hyderabad, Andhra Pradesh, India, 1968.
- M.S., Mechanical Engineering, Oklahoma State University, Stillwater, Oklahoma, 1970.
- Ph.D., Engineering Mechanics (*Advisor*: Dr. J. T. Oden), University of Alabama in Huntsville, Alabama, 1974.
- Post-Doctoral Fellow, Texas Institute for Computational Mechanics, University of Texas at Austin, 1973-1974.

PROFESSIONAL EXPERIENCE

- 1974: *Research Scientist*, Lockheed Missiles and Space Company, Huntsville, Alabama.
- 1975-1978: *Assistant Professor*, School of Aerospace, Mechanical, and Nuclear Engineering, University of Oklahoma, Norman.
- 1978-1980: *Associate Professor*, School of Aerospace, Mechanical, and Nuclear Engineering, University of Oklahoma, Norman.
- 1980-1985: *Professor*, Engineering Science and Mechanics Department, Virginia Polytechnic Institute and State University, Blacksburg, Virginia.
- 1986-1992: *Clifton C. Garvin Professor* of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, Virginia.
- 2006-2007: *Head of Engineering Science Programme*, National University of Singapore, Singapore (an honorary position to provide intellectual leadership, vision, and policy making).
- **1992-present**: Inaugural appointment to the *Oscar S. Wyatt, Jr. Chair* in Mechanical Engineering; **adjunct faculty appointments** in Department of Civil Engineering, Department of Aerospace Engineering, and Department of Mathematics, Texas A&M University, College Station, Texas.
- **1998-present**: *Distinguished Professor*, Texas A&M University, College Station, Texas.
- **2005-2007**: Head, Engineering Science Program, National University of Singapore
- **2010-present**: *Regents' Professor*, Texas A&M University, College Station, Texas.

HONORS AND AWARDS

Significant National and International Honors and Awards

- *Member*, NAE Awards Committee, The Council of the National Academy of Engineering (2019-2020 – a two-year term)
- *Honorary Professor*, College of Engineering, Universidad Peruana de Ciencias Aplicadas, Lima, Peru, 2018-present.
- *Graduation Speaker*, College of Engineering, Vaal University of Technology, South Africa, 12 September 2018.
- ***The JN Reddy Medal in Mechanics of Advanced Materials and Structures, Inaugural Recipient***, The First International Conference on Mechanics of Advanced Materials and Structures (MAMS), 18-20 July 2018, Torino, Italy.

- ***The Theodore von Karman Medal***, The American Society of Civil Engineers (ASCE), 2018; it is the highest mechanics award from ASCE.
- ***The JS Rao Medal in Vibration Engineering 2017, Inaugural Recipient***, The Vibration Institute of India, Dec 28, 2017.
- ***Foreign Fellow***, Brazilian National Academy of Engineering, November 2017.
- ***The John von Neumann Medal***, The US Association of Computational Mechanics (USACM), 2017; it is the highest award given by USACM to honor individuals who have made outstanding, sustained contributions in the field of computational mechanics generally over periods representing substantial portions of their professional careers.
- ***Foreign Fellow (inaugural batch)***, The Canadian Academy of Engineering, June 2017.
- ***The Arthur Newell Talbot Distinguished Lecture***, University of Illinois at Urbana-Champaign, April 2017.
- ***ASME Medal***, American Society of Mechanical Engineers, 13 November 2016 (ASME Medal, established in 1920, is the highest award that the Society can bestow and is to recognize “eminently distinguished engineering achievement.” Only one ASME Medal is awarded annually. Although Reddy has been honored by both the ASME Medal and Honorary Membership, each award has been made on the basis of different accomplishments).
- ***William Prager Medal***, Society of Engineering Science, July 2016; the prize is awarded for outstanding research contributions in either theoretical or experimental solid mechanics or both.
- ***Simpson Distinguished Visiting Professor***, Department of Mechanical Engineering, Northwestern University, April-May, 2016.
- ***Honoree, Current Trends in Non-Classical Continuum Mechanics***, 14-15 December, Goa, India (a conference dedicated to Professor J. N. Reddy on his 70th birthday).
- ***Honoree, International Conference on Computer Aided Engineering 2015***, 10-12 December 2015, GITAM University, Hyderabad, INDIA (conference dedicated to Professor Reddy on his 70th birthday).
- ***Honoree***, Special Session titled, DESIGN AND MODELLING OF FGM STRUCTURES IN HONOR OF PROF. J. N. REDDY, is organized at the XXXVI IberoLatin American Congresso on Computational Methods in Engineering (CILAMCE 2015), Pontifical Catholic University of Rio de Janeiro, Brazil, 22-25 November 2015.
- ***Honoree***, 52nd Annual Technical Meeting of the Society of Engineering Science (symposium titled, ***Advances in Continuum Mechanics and Computational Engineering Science***, organized in honor of Professor J. N. Reddy)
- ***Inductee***, The Hall of Fame of the College of Engineering, Architecture and Technology, Oklahoma State University, Stillwater, October 17, 2015.
- ***Honoree, International Conference on Composite Science and Technology (ICCST/10)***, 2-4 September 2015, Lisbon, Portugal (conference was dedicated to Prof. J. N. Reddy on his 70th birthday).
- ***Foreign Fellow***, the Indian National Academy of Engineering, September 2015.
- Member, The Interdisciplinary Committee of the World Cultural Council (by invitation only), 2015.
- ***Honoree, International Conference on Advances in Applied and Computational Mechanics*** (a conference organized in honor of Professor JN Reddy on the occasion of his 70th birthday), 5-7 August 2015, Izmir, Turkey.
- ***Honoree***. Special Sessions organized in honor of Professor JN Reddy at the *Eighth International Conference on Advances in Steel Structures (ICASS)* and *IJSSD Symposium on Progress in Structural Stability and Dynamics*, July 22-24, 2015, Technical University of

Lisbon, Portugal (a special issue of the *International Journal of Structural Stability and Dynamics* in honor of JN Reddy is published).

- **Honoree.** Special Sessions organized in honor of Professor JN Reddy at the *18th International Conference on Composite Structures*, held in Lisbon, Portugal, June 15-18, 2015, Lisbon, Portugal (a special issue of the *Composite Structures* journal in honor of JN Reddy has appeared).
- **Honoree.** Special issue of *Mechanics of Advanced Materials and Structures* journal on the occasion of the 70th Birthday of Professor Reddy has appeared.
- **Member**, US National Academy of Engineering (NAE), Washington, DC, 2015.
- **Member**, the Academy of Medicine, Engineering & Science of Texas (TAMEST), 2015.
- *Distinguished Visiting Professor*, Centre for Advanced Composite Materials, the University of Auckland, New Zealand, 2015.
- *Chief Guest and Plenary Speaker* at three international Conferences held in India (Dec 2014).
- **The IACM Award** (now named as the **O.C. Zienkiewicz Award**) from the International Association for Computational Mechanics (IACM), 2014.
- **Raymond D. Mindlin Medal** from the American Society of Civil Engineers, 2014.
- *Finland Distinguished Professor* (FiDiPro), Aalto University and National Technology Agency of Finland (Tekes), 2014-2018.
- *Visiting Professor* of the *Science without Borders Program* of Brazil (University of Sao Paulo), 2014-2016.
- *Chair of Excellence*, Universidad Carlos III de Madrid, Spain, 2014-2015.
- *Distinguished Visiting Professor*, City University of Hong Kong, Hong Kong, 2014.
- *Distinguished Visiting Professor*, Institute of Solid Mechanics, School of Aeronautical Science and Engineering, Beihang University, Beijing, China, 2014.
- *Recognition for Career Achievement*, presented by the organizers of the *17th International Conference on Composite Structures (ICCS/17)*, at the University of Porto, Porto, Portugal, 17-21 June 2013.
- *Distinguished Visiting Fellowship*, The Royal Academy of Engineering, London, UK, 2013.
- *Top 100 Scientists*, International Biographical Centre, Cambridge, England, October 2012.
- *Satish Dhawan Visiting Professor*, Department of Aerospace Engineering, Indian Institute of Science, Bangalore, 2012-2013.
- "Alternative Least-Squares Finite Element Models of Navier-Stokes Equations for Power-Law Fluids," (coauthored with V. P. Vallala and K.S. Surana), *Engineering Computations* (International Journal for Computer-Aided Engineering and Software), Vol. 28 No. 7, pp. 828-852, 2011. **Selected as a Highly Commended paper at the Literati Network Awards for Excellence 2012.**
- **Computational Mechanics Award**, the Japanese Society of Mechanical Engineers (JSME), October 2012.
- "Alternative least-squares finite element models of Navier-Stokes equations for power-law fluids," (by V. Vallala, J.N. Reddy, and K.S. Surana) published in *Engineering Computations* Dec 2010, has been chosen as a Highly Commended Award Winner at the Emerald Literati Network Awards for Excellence 2012.
- *Leading Scientists of the World*, International Biographical Centre, Cambridge, England, August 2012.
- **Bharat Jyoti Award**, India International Friendship Society, New Delhi, India, Jan 2012.

- **ASME Honorary Member**, American Society of Mechanical Engineers (ASME), Nov. 2011 (an Honorary Member, first awarded in 1880, shall be a person who has made “distinctive contributions” to engineering, science, industry, research, public service, or other pursuits allied with and beneficial to the engineering profession).
- *Honorary Doctorate Degree*, Odar Yurdu University, Baku, Azerbaijan, September 2011.
- **Life Fellow**, American Society of Mechanical Engineers (ASME), June 2011.
- *Award for Career Achievement*, presented by the organizers of the ACE-X 2010, Paris, France, July 2010.
- *AIAA Best Paper Award* for “Continuous Sensitivity Analysis of Fluid-Structure Interaction Problems Using Least-Squares Finite Elements, “ (authored by Douglas Wickert, Robert Canfield, and J.N. Reddy) AIAA Paper 2008-5931, the 2008 AIAA Best Paper; certificate presented by the AIAA Multidisciplinary Design Optimization Technical Committee, September 2010.
- *The Bert Distinguished Lecture*, School of Aerospace and Mechanical Engineering, University of Oklahoma, Norman, OK, March 6, 2009.
- **The 2009 Landis-Epic Lecture** (presented once in 5 years), Department of Civil and Environmental Engineering, University of Pittsburgh, Pittsburgh, March 20, 2009.
- *Distinguished Lecture Series Lecturer*, College of Engineering, West Virginia University, Morgantown, WVA, March 27, 2009.
- *Honoris Causa*, Honorary degree from the Technical University of Lisbon, Portugal, Feb. 16, 2009.
- *JN Reddy Symposium*, Symposium organized in honor of J.N. Reddy for life time achievements and contributions to composite materials, the *23rd Annual Technical Conference on Composite Materials*, American Society of Composite Materials, Memphis, Tennessee, 9-11 September 2008.
- *Honorary Professor*, South China University of Technology, Guangzhou, 2007-present.
- *Editor-in-Chief, Applied Mechanics Reviews*, American Society of Mechanical Engineers, New York, 2007-2012.
- *JN Reddy Book prizes*, presented to the top students in 1st, 2nd, and 4th year of the Engineering Science Programme at the National University of Singapore (instituted in 2006).
- *B. R. Seth Memorial Lecture*, the 51st Congress of Indian Society of Theoretical and Applied Mechanics (ISTAM), December 18-21, 2006, Andhra University, Visakhapatnam, INDIA.
- *Fellow*, the Institution of Structural Engineers, Singapore, 2005.
- *Fellow*, the American Institute of Aeronautics and Astronautics (AIAA), May 2005.
- *Distinguished Research Award* of the American Society for Composites, October 2004.
- *The Dow Chemical Best Paper Award* for the paper “Assessment of Plastic Failure of Polymers due to Surface Scratches,” (with G. T. Lim and H.-J. Sue) in the General Category of the Failure Analysis and Prevention Special Interest Group at *ANATECH* 2004, Chicago, 2004.
- *Winner* of the Poster Competition in *the International Conference on Polyolefins*, Houston, Texas, 2004.
- **Computational Solid Mechanics Award** (now renamed as the **Belytschko Medal**) of the US Association for Computational Mechanics, July 2003.
- *C. S. Krishnamoorthy Memorial Lecture*, Indian Institute of Technology, Madras, December 10, 2002.
- *Fellow* of the American Society for Composites (ASC), October 2002.

- *Alumni of Achievement*, the University of Alabama in Huntsville, Alabama, February 4, 2002.
- *TANA Award for Excellence in Education and Research* from the Telugu Association of North America, July 2001, New York.
- *Distinguished Alumni (Engineering)* from the University of Alabama in Huntsville, Huntsville, Alabama, May 11, 2001.
- *Nanyang Professorship*, Nanyang Technological University, Singapore, 2002-2005.
- *Excellence in the Field of Composites Award* from the American Society for Composites, September 2000.
- ***Nathan M. Newmark Medal*** from the American Society of Civil Engineers, October 1998.
- *Outstanding Educator Award* from the American Telugu Association, Detroit, July 1998.
- *Fellow*, the International Association of Computational Mechanics (IACM), 1998.
- *Melvin R. Lohmann Medal* from Oklahoma State University, Stillwater, OK, 1997.
- ***Archie Higdon Distinguished Educator Award***, the American Society of Engineering Education, June 1997.
- *Karunesh Memorial Lecture*, the 42nd Congress of the Indian Society of Theoretical and Applied Mechanics (ISTAM), Regional Engineering College, Surat, India, Dec 28, 1997.
- ***Charles Russ Richards Memorial Award***, American Society of Mechanical Engineers, 1995.
- *Distinguished Visiting Professor*, Institute for High Performance Computing (IHPC) and the National University of Singapore, 1998-1999.
- *Technical Achievement Award*, the National Academy of Engineering (NAE), 1995.
- *Fellow*, the U.S. Association of Computational Mechanics (USACM), 1995.
- *Visiting Professor*, Institute for Computer Applications and Design, University of Stuttgart, Germany, 1994.
- NATO Fellow, Middle East Technical University, Ankara, Turkey, 1994.
- *Fellow*, the American Society of Civil Engineers (ASCE), 1992.
- *The Neelakantam Memorial Lecture*, presented at the Annual Convention of the Aeronautical Society of India, December 11, 1992, Bangalore, India.
- ***Worcester Reed Warner Medal***, the American Society of Mechanical Engineers, 1992.
- *Invited Speaker, Southwest Mechanics Lecture Series* (University of Oklahoma, Texas A&M University, Rice University, and University of Houston), 1991.
- *Fellow*, the Aeronautical Society of India, 1991.
- *Oscar S. Wyatt, Jr., Chair Lecture*, Texas A&M University, November 11, 1991.
- *Fellow*, the American Society of Mechanical Engineers (ASME), 1989.
- *Visiting Scientist*, Alcoa Centennial Technical Seminars on Mechanics, Hilton Head, 1987.
- *Visiting Professor*, University of Missouri-Rolla, 1986.
- *The Alexander von Humboldt Foundation Research Fellowship*, Germany, 1986.
- *The German Academic Exchange Service Research Grant*, Germany, 1986.
- *Fellow*, the American Academy of Mechanics (AAM), 1985.
- ***Walter L. Huber Civil Engineering Research Prize***, American Society of Civil Engineers, 1983.
- *Who's Who in Computational Science and Engineering*, 2003.
- ***Ralph R. Teetor Education Award***, Society of Automotive Engineers (SAE), 1976.
- *2000 Outstanding Scholars of the 21st Century*, First Edition, 2001.

- *Who's Who in Executives and Professionals*, 2001.
- *Highly Cited Researchers*, 2000.
- *Outstanding Man of the 21st Century*, 2000.
- *Dictionary of International Biography*, 27th Edition, 1998.
- *Five Hundred Leaders of Influence*, 1998.
- *Five Thousand Personalities of the World*, 6th Edition, 1998.
- *The International Directory of Distinguished Leadership*, 1998, 2001.
- *Outstanding People of the 20th Century*, 1998.
- *Who's Who in Engineering Education*, Academic Keys, 2005.
- *Who's Who in America*, 52nd Edition, 1998.
- *Men of Achievement*, 1994.
- *Most Admired Men & Women of the Year*, 1994.
- *Who's Who Among Asian Americans*, 1994.
- *Who's Who in Science and Engineering*, 2nd Edition, 1994.
- *Who's Who in Technology*, 1979-present, 6th Edition, 1988.
- *Personalities of America*, 4th Edition, 1985.
- *Outstanding Young Men of America*, 1979.
- *American Men and Women of Science*, 17th Ed., 1978.
- *Who's Who in the South and Southwest*, 1976-1996 (24th Ed.)
- *Who's Who in Computer Education and Research*, 1975.
- *Who's Who in America*, 2004 (59th edition).
- *American Medal of Honor* (American Biographical Institute), 2006.
- *2000 Outstanding Intellectuals of the 21st Century* (International Biographical Centre, Cambridge, England), 2006.

Significant Institutional Awards

- Masters student advisee, Ms. Sravani Nuti, Received the *2014-2015 Outstanding Engineering Master's Graduate Student Award* from College of Engineering at TAMU, November 2014, for her thesis "Dynamic Simulations of Elastic Rods for Medical Applications," (co-advised with Dr. Annie Ruimi, TAMU-Q).
- *Regents' Professor*, Texas A&M University, College Station, Texas, December 2010.
- *Distinguished Achievement in Teaching Award*, Association of Former Students (AFS), Texas A&M University, 2007.
- *Distinguished Lecture* of the Sigma Xi, Texas A&M University, October 2005.
- *Distinguished Research Award* of the Sigma Xi, Texas A&M University, March 2005.
- *Texas A&M Bush Excellence Award for Faculty in International Research*, 2003.
- *Distinguished Achievement in Teaching Award*, Association of Former Students (AFS), Texas A&M University, 2002.
- *Lockheed Martin Fort Worth Company Excellence in Teaching*, Texas A&M University, 2002.
- *Distinguished Achievement in Research Award*, Association of Former Students (AFS), Texas A&M University, 2000.
- *Outstanding Graduate Teaching award*, Department of Mechanical Engineering, Texas A&M University, 1995.
- *Oscar S. Wyatt, Jr. Chair*, Texas A&M University, 1992-present.
- *Clifton C. Garvin Professorship*, Virginia Tech (VPI&SU), 1985-1992.
- *Certificates of Teaching Excellence*, Virginia Tech (VPI&SU), 1981 and 1990.
- *The Alumni Research Award*, Virginia Polytechnic Institute and State University, 1985.

- Finalist for *Sporn Teaching Award*, Virginia Polytechnic Institute & State University, 1983.
- *Outstanding Faculty Achievement in Research (the inaugural recipient)*, University of Oklahoma, 1979.
- *Purple Shaft Award* (for a caring but tough faculty member) University of Oklahoma, 1978.

EDITORSHIP OF ARCHIVAL JOURNALS AND SERIES

- **Founding Editor-in-Chief**, *Mechanics of Advanced Materials and Structures* (formerly, *Mechanics of Composites Materials and Structures*, John Wiley & Sons, Chichester, UK, 1994-1996); Taylor and Francis, Philadelphia (1997-2016).
- **Founding Editor-in-Chief**, *International Journal for Computational Methods in Engineering Science and Mechanics*, Taylor and Francis, Philadelphia (2005-present); formerly, *International Journal of Computational Engineering Science (IJCES*, World Scientific, Singapore).
- **Founding Editor-in-Chief** (with Y. B. Yang and C. M. Wang) *International Journal of Structural Stability and Dynamics (IJSSD)*, World Scientific, Singapore, (2001-present).
- **Founding Series Editor** *Computational Mechanics and Applied Mathematics*, CRC Press, Boca Raton, Florida, (1995-present).

MEMBERSHIP ON EDITORIAL BOARDS OF JOURNALS

Present Memberships

- *Computer Methods in Applied Mechanics and Engineering*, Elsevier Science, England (1997-present).
- *International Journal for Numerical Methods in Engineering*, John Wiley & Sons, London (1984-present).
- *International Journal for Numerical Methods in Biomedical Engineering*, John Wiley & Sons, London (1984-present).
- *Composite Structures*, Elsevier, London (2011-present)
- *Engineering Computations*, MCB University Press, West Yorkshire, England (1984-present).
- *Finite Elements in Analysis and Design* (the international journal of applied finite elements and computer aided engineering), Elsevier, London; member of the editorial board, 2001-present.
- *Annals of Solid and Structural Mechanics*, Springer-Verlag, Member of Editorial Board (2009-present).
- *Latin American Journal of Solids and Structures* (www.lajss.org), University of Sao Paulo, Brazil, member of International Advisory Board, 2010-present.
- *International Journal for Multiscale Computational Engineering*, Begell House, Inc., NY, (Editorial Board member, 2000-present).
- *Asian Journal of Civil Engineering (Building and Housing)*, The Building and Housing Research Centre, Tehran, Iran, member of Editorial Advisory Board, 1999-present.
- *Journal of Solid Mechanics* (www.jsm-iauarak.com), Department of Mechanical Engineering, Islamic Azad University, Arak Branch, Iran, member of Editorial Board, 2009-present.
- *International Journal of Applied Mechanics*, Imperial College Press (published by World Scientific, Singapore), member of Editorial Board, 2009-present.
- *International Journal of Mechanics and Materials in Design*, University of Toronto, Canada; member of the editorial board (2002-present).
- *Interaction and Multiscale Mechanics: an International Journal (IMMIJ)*, Techno-Press, member of the Editorial Board (2002-present).
- *International Journal for Integrated Computer-Aided Engineering (ICAE)*, ISO Press, member of the Editorial board (2007-present).
- *Journal of Engineering and Applied Sciences (IJEAS)*, Member of Honorary Editorial Board (2009-present).

- *International Journal of Computational Materials Science and Engineering (IJCMSE)*, published by Imperial College Press, Member of the Editorial Board (2011-present).
- *Journal of Computational and Applied Research in Mechanical Engineering (JCARME)*, Member of the Advisory Board and member of the Editorial Board (2012-present) <http://jcarme.srttu.edu>.
- *International Journal of Aerospace and Lightweight Structures (IJALS)*, published by Imperial College, Member of the Editorial Board Member (2011-present).
- *Computer and Experimental Simulations in Engineering and Science (CESES)*, published by Malliarispedia (www.j-ceses.com), member of Editorial Board, 2008-present.
- *International Journal of Virtual Technology and Multimedia*, published by Inderscience (www.inderscience.com), member of the Editorial Board, 2008-present.
- *Chinese Journal of Solid Mechanics* (English title of *Acta Mechanica Solida Sinica*), Huazhong University of Science and Technology, Wuhan, Hubei, 430074, 1996-present.
- *International Journal of Computational and Numerical Analysis and Applications*, Bulgaria, 2001-present.
- *International Journal of Mechanics and Solids*, RIP (Research India Publications), 2006-present.
- *Curved and Layered Structures*, (www.degruyter.com), University of Bologna, Italy, 2014-present.
- *Journal of Modeling in Mechanics & Materials*, 2016-present (<http://www.multi-science.co.uk/>).
- *Mathematical and Computational Applications*, MDPI Publishers, Switzerland, 2016-present.

Past Memberships

- **Editor**, *Applied Mechanics Reviews*, the American Society of Mechanical Engineers, 2006-2011.
- **Editor**, *USACM Newsletter*, the U.S. Association of Computational Mechanics, 1988-1993.
- **Associate Editor**, *Journal of Applied Mechanics*, American Society of Mechanical Engineers, New York (1992-2006).
- **Associate Editor**, *Journal of Engineering Mechanics*, the American Society of Civil Engineers (ASCE), New York, (1992-1994).
- *Scholarly Research Exchange*, Hindawi Publishing Corporation (www.hindawi.com), Member of the Advisory Board, 2008-2009).
- *Manufacturing Technology & Research, An International Journal*, Birla Institute of Technology, Mesra, Ranch, INDIA; member of the editorial board (2003-present).
- *Journal of Mathematical and Physical Sciences*, the Indian Institute of Technology, Madras, India (1989-present).
- *Journal of the Aeronautical Society of India*, the Aeronautical Society of India, New Delhi, India (1995-present).
- *Journal of Aerospace Sciences and Technologies*, the Aeronautical Society of India, Bangalore, India (2003-present).
- *The Institution of Engineers*, Singapore, six journals published by IES, (International Advisory Panel member, 1998-present).
- *Sadhana* (Academy Proceedings in Engineering Sciences), Indian Academy of Sciences, Bangalore, India, 2001-2008.

- *Iranian Journal of Science and Technology* (Transactions: Technology), School of Engineering, Shiraz, Iran, 1996-2008.
- *Asian Journal of Structural Engineering*, The Building and Housing Research Centre and Iran University of Science and Technology, Tehran, Iran (1993-2008).
- *Computers & Structures*, Pergamon Press, London (1985-2002).
- *International Journal for Numerical Methods in Fluids*, John Wiley, London (1984-2002).
- *Journal of Applied Mechanics, the American Society of Mechanical Engineers*, ASME, New York, (Associate Editor, 1992-1999).
- *Journal of Engineering Mechanics, the American Society of Civil Engineers*, ASCE, New York, (Associate Editor, 1992-1996).
- *Computational Mechanics Advances*, an official publication of the International Association for Computational Mechanics (IACM), North-Holland, The Netherlands (1992-1996).
- *Mathematical Modeling and Scientific Computing*, the International Association for Mathematical and Computer Modeling, Principia Scientia, St. Louis, 1993-1995.
- *Modeling and Computational Experiment in Engineering and Technology*, University of Kocaeli, Izmit, Turkey, 1994-1996.
- *IACM Bulletin*, Newsletter of the International Association of Computational Mechanics, IACM, John Wiley, London, (Editor, 1992-1996).
- *USACM Newsletter*, the U.S. Association of Computational Mechanics (USACM), (Editor, 1988-1993).
- *Meccanica*, International Journal of the Italian Association of Theoretical and Applied Mechanics, Kluwer, Netherlands (1989-1994).
- *IACM Expressions*, magazine of the International Association of Computational Mechanics, IACM, IACM Secretariat, Barcelona, Spain, (member, 1996-2000).
- *Structural Engineering and Mechanics*, Techno-Press, S. Korea, 1999-2009.
- *Engineering Structures*, Elsevier Science, Oxford, England (1997-2002).
- *Associate Editor, Journal of Engineering Mechanics*, the American Society of Civil Engineers (ASCE), New York, (2012-2014).

OTHER PROFESSIONAL MEMBERSHIPS

1. **International Advisory Committee Member**, Engineering Science Programme, National University of Singapore, 2015 – present.
2. **International Advisory Board Member**, SRM University, Tamilnadu, INDIA, 2009-present.

KEY NOTE AND PLENARY LECTURES AND SPECIAL SEMINARS DELIVERED

1. J.N. Reddy, "Recent Developments in the Analysis of Composite Plates and Shell Structures," *Symposium on Mechanics of Structures*, Faculty of Engineering, University of Rome II, Italy, May 4-7, 1982.
2. J.N. Reddy, "Nonlinear Analysis of Layered Composite Structures," *FEMSA/83 Symposium*, Jan. 10-12, 1983, University of Cape Town, South Africa.
3. J.N. Reddy, "A Shear Deformable Shell Element for Laminated Composites," *NASA Lewis/University/ Industry Workshop on Nonlinear Analysis for Engine Structures*, April 19-20, 1983, NASA Lewis Research Center, Cleveland, OH.
4. J.N. Reddy, "On the Transient Response of Laminated Anisotropic Shells," the *17th Israel Convention on Mechanical Engineering*, July 12-14, 1983, Tel Aviv University, Tel Aviv, Israel.
5. J.N. Reddy, "Unilateral Contact Approach to Laminated Plates," the *CISM Symposium on Unilateral Problems in Structural Analysis*, September 22-24, 1983, Ravello, Italy.
6. J.N. Reddy, "On Mixed and Displacement Finite Element Models of a Refined Shear Deformation Theory for Laminated Anisotropic Plates," *Fourth International Conference on Applied Numerical Modeling*, National Cheng Kung University, Tainan, Taiwan, Dec. 28-31, 1984.
7. J.N. Reddy, "On Computational Schemes for Global-Local Stress Analysis," *Workshop on Computational Methods for Structural Mechanics and Dynamics*, NASA Langley Research Center, Hampton, VA, June 20-21, 1985.
8. J.N. Reddy, "Finite Element Models of Fluid Flow," *International Symposium on Variational Methods in Geosciences*, University of Oklahoma, October 15-17, 1985.
9. J.N. Reddy, "Finite Element Models of Plates and Shells," *Applications of Mathematics in Mechanics, Ecole Nationale d'Ingenieurs de Tunis*, Monastir, Tunisia, July 17-19, 1986.
10. J.N. Reddy, "A Mixed, Updated Lagrangian Computational Model for Plane Elastic Contact Problems," *Symposium on Unilateral Problems in Mechanics*, The International Society for the Interaction of Mechanics and Mathematics, Universita di Roma 2, April 6-8, 1987.
11. J.N. Reddy, "On Refined Theories of Composite Laminates," Alcoa Laboratories, *Centennial Technical Seminar on Mechanics: Micromechanics to Product Design Symposium*, Hilton Head, SC, April 8-11, 1987.
12. J.N. Reddy, "An Overview of Computational Methods in Composites," **Keynote Lecture**, the *10th Conference on Computer Methods in Mechanics*, May 22-28, 1989, Rytro, Poland.
13. J.N. Reddy, "A Computational Model for Study of Local Effects," *Inter. Conference on Engineering Software*, December 4-7, 1989, Indian Institute of Technology, New Delhi, India.
14. J.N. Reddy, "On New Developments in the Refined Theories of Plates," *New Developments in Structural Mechanics*, University of Catania, Italy, July 4-6, 1990.
15. J.N. Reddy, "Modeling of Delamination in Composite Laminates Using a Layer-Wise Plate Theory," *Indo-US Workshop on Composites for Aerospace Applications*, Bangalore, India, July 23-27, 1990.
16. J.N. Reddy, "Current Research in the Modeling of Laminated Composite Structures," *EMRC's Conference and Lecture Program*, Engineering Mechanics Research Corporation, Troy, MI, Oct. 3, 1990.
17. J.N. Reddy, "Finite Element Modeling of Structural Vibrations: Recent Developments," **Keynote Lecture** delivered at the *International Congress on Recent Developments in Air- and Structure-Borne Sound and Vibration*, March 6-8, 1990, Auburn University, AL.
18. J.N. Reddy, "On the Modeling of Thick Composite Laminates," **Keynote Lecture**, the *First U. S. National Congress on Computational Mechanics*, Chicago, IL, July 21-24, 1991.

19. J.N. Reddy, "Advances in the Modeling of Laminated Plates," **Keynote Lecture**, the *First International Conference on Computational Structures Technology*, Heriot-Watt University, Edinburg, U.K., August 20-22, 1991.
20. J.N. Reddy, "Global-Local Analysis of Composite Laminates Using Hierarchical Finite Elements and Mesh Superposition," **Keynote Lecture**, the *IBM Europe Institute on Structural Analysis*, Oberlech, Austria, July 20-24, 1992.
21. J.N. Reddy, "Analysis of Composite Laminates Using Variable Kinematic Finite Elements," **Keynote Lecture**, the *7th Brazilian Symposium on Piping and Pressure Vessels*, October 7-9, 1992, Florianopolis, Santa Catarina, Brazil.
22. J.N. Reddy, "The Modeling of Composite Laminates: Intuition to Generality and Theory to Practice," **the Neelakantam Memorial Lecture** presented at the Annual Convention of the Aeronautical Society of India, December 11, 1992, Bangalore, India.
23. J.N. Reddy, "Global-Local Computational Methodologies for the Analysis of Composite Laminates," **Keynote Lecture**, the *International Congress on Computational Method in Engineering*, Shiraz, Iran, May 3-5, 1993.
24. J.N. Reddy, "On Computational Strategies for the Analysis of Thick Composites," **Keynote Lecture**, the *Advanced Technology on Design and Fabrication of Composite Materials and Structures*, Politecnico di Torino, Torino, Italy, May 24-28, 1993.
25. J.N. Reddy, "Recent Developments in the Modeling of Laminated Composite Structures," **Keynote Lecture**, the *Nonlinear Finite Element Analysis and ADINA*, Boston, MA, June 23-25, 1993.
26. J.N. Reddy, "An Evaluation of Equivalent-Single-Layer and Layerwise Theories of Composite Laminates," **Keynote Lecture**, the *Seventh International Conference on Composite Structures*, University of Paisley, Scotland, 5-7 July 1993.
27. J.N. Reddy, "Modeling of Composite Structures," **Plenary Lecture**, the *Advanced Study Institute on Computational Methods for Engineering Analysis and Design*, Indian Institute of Technology, Madras, India, August 2-11, 1993.
28. J.N. Reddy, "A Multiple Model Approach for Laminated Composite Structures," **Keynote Lecture**, the *First Pan-Pacific Conference on Computational Engineering*, Korea Advanced Study Institute of Science and Technology, Seoul, Korea, November 1-5, 1993.
29. J.N. Reddy, "An Hierarchical Multi-Model Approach to the Analysis of Laminated Composite Structures," **Keynote Lecture**, the *Third World Congress on Computational Mechanics (WCCM III)*, Chiba, Japan, August 1-5, 1994.
30. J.N. Reddy, "Recent Developments in the Modeling of Composite Structures," **Keynote Lecture**, presented at the *Energy Technology Conference & Exhibition (ETCE)*, Houston, January 28-February 2, 1996.
31. J.N. Reddy, "A Computational Methodology for Global-Local Analysis of Composite Structures," **Keynote Lecture**, the *Mathematics of Finite Elements and Applications IX (MAFELAP 1996)*, Brunel University, Uxbridge, U.K., June 25-28, 1996.
32. J.N. Reddy, "Refined Theories and Computational Procedures for the Modeling of Smart Composite Structures," **Keynote Lecture**, the *First International Conference on Composite Science and Technology*, Durban, South Africa, June 18-20, 1996.
33. J.N. Reddy, "Computational Structural Dynamics: Present and Future," **Keynote Lecture** the *67th Shock & Vibration Symposium*, Monterey, CA, November 18-22, 1996.
34. J.N. Reddy, "Recent Developments in Mechanics of Composite Materials," **Keynote Lecture**, the *Second International Conference on the Application of Numerical Methods in Engineering*, Universiti Pertanian Malaysia, Malaysia, June 23-25, 1997.

35. J.N. Reddy, "Developments in Computational Structural Dynamics," **Keynote Lecture**, the *Sixth International Conference on Recent Advances in Structural Dynamics*, The Institute of Sound and Vibration Research, University of Southampton, England, July, 14-17 1997.
36. J.N. Reddy, "Recent Developments in Mechanics of Smart Structures," **Plenary Lecture**, the *Symposium on Mechanics of Composite Materials (Simpósio em Mecânica dos Materiais Compósitos)*, Instituto de Engenharia Mecânica (IDMEC), Instituto Superior Técnico (IST), Lisbon, Portugal, July 22, 1997.
37. J.N. Reddy, "Theoretical Models and Computational Procedures for the Analysis of Plate Structures," **Karunesh Memorial Lecture** of the *42nd Congress of the Indian Society of Theoretical and Applied Mechanics (ISTAM)*, Regional Engineering College, Surat, Gujrat, India, December 28-31, 1997.
38. J.N. Reddy, "Computational Mechanics: Current Trends and Future Directions," **Keynote Lecture**, the *20th World Conference on the Boundary Element Method (BEM20)* University of Central Florida, Orlando, FL, August 19-21, 1998.
39. J.N. Reddy, "Computational Modeling of Local Stress Fields and Delamination Failures in Composite Laminates," **Keynote Lecture**, the *Integrity · Reliability · Failure, An International Conference* University of Porto, Portugal, July 19-22, 1999.
40. J.N. Reddy, "An Overview and Recent Developments in Vibrations of Laminated Composite Plates and Shells," **Keynote Lecture**, the *Asia-Pacific Vibration Conference '99 (A-PVC'99)*, Nanyang Technological University, Singapore, December 12-14, 1999.
41. J.N. Reddy, "Future Directions in Computational Methods and Simulations," **Keynote Lecture**, the *Fourth Asia-Pacific Conference on Computational Mechanics (APCOM'99)*, National University of Singapore, Singapore, December 14-16, 1999.
42. J.N. Reddy, "Recent Developments and Future Directions in Theoretical and Computational Mechanics," **Keynote Lecture**, the *Twentieth Southeastern Conference on Theoretical and Applied Mechanics (SECTAM XX)*, Callaway Gardens, Pine Mountain, Georgia, April 16-18, 2000.
43. J.N. Reddy, "Developments in Structural Dynamics with Special Focus on Shear Deformation Theories of Plates and Shells," **Keynote Lecture**, the *International Conference on Structural Stability and Dynamics*, Taipei, Taiwan, December 7-9, 2000.
44. J.N. Reddy, "Developments in Theoretical and Computational Mechanics of Composite Materials and Structures," **Keynote Lecture**, the *National Conference on Theoretical and Applied Mechanics*, Taipei, Taiwan, December 10-11, 2000.
45. J.N. Reddy, "A New Mathematical and Computational Basis for BVP and IVP," **Keynote Lecture**, the *Fifth World Congress on Computational Mechanics*, Vienna, Austria, July 7-12, 2002.
46. J.N. Reddy, "On Computational Modeling of Functionally Graded Materials and Smart Structures," **Keynote Lecture**, the *Second World Engineering Congress*, Kuching, Sarawak, Malaysia, July 22-25, 2002.
47. J.N. Reddy, "Computational Modeling of Advanced Materials and Structures," **C. S. Krishnamoorthy Memorial Lecture**, Indian Institute of Technology, Madras, December 10, 2002.
48. J.N. Reddy, "The k -Version Finite Element Method: A New Computational Methodology for Boundary Value Problems," **Plenary Lecture**, *International Conference on Smart Materials Structures and Systems*, Indian Institute of Science, Bangalore, India, Dec 12-14, 2002.
49. J.N. Reddy, "An Accurate and Robust Computational Methodology for Structural Dynamics Problems," **Plenary Lecture**, the *International Conference on Structural Stability and Dynamics*, Singapore, December 16-18, 2002.

50. J.N. Reddy, "Computational Modeling of Advanced Materials and Structures," **Keynote Lecture**, the *VII National Congress on Applied and Computational Mechanics*, Évora, Portugal, April 14-16, 2003.
51. J.N. Reddy, "Novel Computational Procedures for Modeling of Problems of Mechanics," **Seth Memorial Lecture**, 48th ISTAM (Indian Society of Theoretical and Applied Mechanics) Congress, Dec. 18-21, 2003, Birla Institute of Technology (BIT) Mesra, Ranchi, INDIA.
52. J.N. Reddy, "A Robust Computational Methodology for Numerical Simulation of Physical Processes," **Guest and Plenary Lecture** (and Guest of Honor) at the *International Conference on Theoretical, Applied, Computational and Experimental Mechanics* (ICTACEM 2004), Indian Institute of Technology, Kharagpur, India, December 28-30, 2004.
53. J.N. Reddy, "Computational Modeling of Materials and Structures and New Computational Methodology," the *US-Africa Workshop on Mechanics and Materials*, University of Cape Town, South Africa, January 23-28, 2005.
54. J.N. Reddy, "Advances in Computational Modeling of Materials and Structures," Key Note Lecture, the *Fifth International Conference on Composite Science & Technology (ICCT'05)* and *International Conference on Modeling, Simulation & Applied Optimization (ICMSAO'05)*, American University of Sharjah, Sharjah (UAE), February 1-3, 2005.
55. J.N. Reddy, "A Refined Finite Element for Geometrically Nonlinear Analysis of Shell Structures," **Keynote Lecture**, the 5th International Conference on Computation of Shell and Spatial Structures June 1-4, 2005 Salzburg, Austria.
56. J.N. Reddy, "Refined Computational Models of Functionally Graded and Smart Structures and Materials," **Keynote Lecture**, *II ECCOMAS Thematic Conference on Smart Structures and Materials*, Instituto Superior Técnico, Lisbon, Portugal, 18-21 July 2005.
57. J.N. Reddy, "Novel Computational Methods and Materials Modeling," **Plenary Lecture**, *XXVI Iberian Latin American Congress on Computational Methods in Engineering* (CILAMCE 2005), October 19-21, 2005, Guarapari, Espírito Santo, Brazil.
58. J.N. Reddy, "A Consistent Shell Element for Nonlinear Analysis of Composite and Functionally Graded Structures," **Opening Plenary Lecture** (and Guest of Honor) at *International Conference on Advances in Structural Dynamics and Its Applications* (ICASDA-2005), 7-9 December 2005, Visakhapatnam, Andhra Pradesh, India.
59. J.N. Reddy, "A Finite Deformation Shell Formulation for the Analysis of Composite and Functionally Graded Material Structures," *Symposium on Physics and Mechanics of Advanced Materials*, January 18-20, 2006, Singapore.
60. J.N. Reddy, "Role of Computational Engineering Science in Modeling of Physical Phenomena," *Symposium on Engineering Science*, April 20, 2006, Singapore.
61. J.N. Reddy, "A Consistent Finite Element Model for Nonlinear Analysis of Composite and Functionally Graded Shell Structures," **Opening Plenary Lecture**, at *International Conference on Composite Materials and Nano-Structures* (IC2MS-06), April 26-29, 2006, Shah Alam (Kuala Lumpur), Malaysia.
62. J.N. Reddy, "Nonlinear Analysis of Composite and FGM Shell Structures Using Tensor-Based Shell Elements," **Keynote Lecture**, *III European Conference on Computational Mechanics, Solids, Structures and Coupled Problems in Engineering*, Laboratório Nacional de Engenharia Civil, (LNEC), Lisbon, Portugal, June 5-8, 2006.
63. J.N. Reddy, "Nonlinear Analysis of Functionally Graded Shell Structures Using Tensor-Based Shell Element," **Opening Plenary Lecture**, *5th International Conference on Mechanics and Materials in Design (M2D'2006)*, Porto, Portugal, July 24-26, 2006.
64. J.N. Reddy, "On Nonlinear Analysis of Composite and Functionally Graded Shell Structures," *Tenth East Asia Pacific Conference on Structural Engineering and Construction*, August 2-4, 2006, Bangkok, Thailand.

65. J.N. Reddy, "Computational Models of Viscous Flows and Shell Structures," Opening Plenary Lecture, *International Conference on Enhancement and Promotion of Computational Methods in Engineering Science and Mechanics*, Changchun, China, Aug 10-12, 2006.
66. J.N. Reddy, "Nonlinear Analysis of Composite and FGM Shell Structures Using Tensor-Based Shell Elements," *International Workshop in Mechanics of Composites*, Bad Herrenab, Germany, November 26-29, 2006.
67. J.N. Reddy, "Forty Years of Significant Developments in Mechanics of Composite Materials and Structures" **Special Invited Lecture**, *International Workshop in Mechanics of Composites*, Bad Herrenab, Germany, November 26-29, 2006.
68. J.N. Reddy, "Computational Engineering Science: The Third Scientific Methodology for the 21st Century and Beyond," **B. R. Seth Memorial Lecture** at the *51st Congress of Indian Society of Theoretical and Applied Mechanics (ISTAM)*, December 18-21, 2006, Andhra University, Visakhapatnam, INDIA.
69. J.N. Reddy, "The Finite Element Method in Structures and Beyond," **Plenary Lecture**, SPDC ASME USB (Student Professional Development Conference), University of Simon Bolivar, Caracas, Venezuela, May 9-13, 2007.
70. J.N. Reddy, "Coupled Blood Arterial Wall Analysis Using Fluid Biphase Interface Models" (with Ginu Unnikrishnan and Vinu U Unnikrishnan), **Keynote Lecture** presented in *Mechanics of Nano-, Bio- and Cellular Materials* session at *McMat 2007, ASME Applied Mechanics and Materials Conference*, June 3-7, 2007, University of Texas at Austin, Austin, Texas.
71. J.N. Reddy, "Nonlinear Analysis of Composite and FGM Shells using Tensor-Based Finite Elements," (with R. A. Arciniega), **Keynote Lecture**, *The Fifth International Conference on Nonlinear Mechanics (ICNM-V)*, June 11-14, 2007, Shanghai University, Shanghai, China.
72. J.N. Reddy, "Engineering Science: Educating Engineer-Scientists," Lecture presented on the occasion of the appointment of **Consultant Professor** at South China University of Technology, Guangzhou, June 14, 2007.
73. J.N. Reddy, "Continuum Modeling of the Cell," *Second GEM4 Summer School on Cell and Molecular Mechanics in Biomedicine with a focus on cancer* (in connection with the **GEM4 Conference on Cancer 2007**), June 25-July 6, 2007, National University of Singapore.
74. J.N. Reddy, "Role of Engineering Science in Education with Special Focus on Modeling of Nanosystems," *Teaching Nanoscience and Nanoengineering* at **International Conference on Materials for Advanced Technologies 2007**, 1-6 July 2007, Suntec Singapore International Convention and Exhibition Centre, Singapore.
75. J.N. Reddy, "A New Mathematical and Computational Framework for BVP and IVP," **Keynote Lecture**, delivered in the session *The k-Version of the Finite Element Method and h-p-k Adaptive Processes* at the 9th US National Congress on Computational Mechanics, San Francisco, CA, July 22-26, 2007.
76. J.N. Reddy, "Tensor-Based Shell Element and Modeling of Biological Cells," Plenary Lecture (and Guest of Honor), the *International Conference on Recent Developments in Structural Engineering (RDSE-2007)*, Manipal Institute of Technology, Manipal, India, 29 August – 1 September, 2007.
77. J.N. Reddy, "Simulation Based Computational Engineering Science: Least-Squares FEM," **Lindberg Lecture Series**, Department of Mechanical Engineering, University of Wisconsin, Madison, September 27, 2007.
78. J.N. Reddy, "A First-Order Shell Theory with Thickness Stretch and Locking-Free Shell Finite Element," **Opening Plenary Lecture** (and **Chief Guest**), *International Conference on Computer Aided Engineering*, December 13-16, 2007, Indian Institute of Technology-Madras, Chennai, India.

79. J.N. Reddy, “Thermomechanical Analysis of FGM Shells,” (with Roman A. Arciniega), a **Keynote Lecture** presented at the *Sixth International Conference on Computation of Shell & Spatial Structures (Spanning Nano to Mega)*, International Association of Shell Structures (IASS) International Association of Shell Structures (IASS) and International Association of Computational Mechanics (IACM), Cornell University, Ithaca, May 28-31, 2008.
80. J.N. Reddy, “Computational Modeling of Glucose Distribution in Hollow Fiber Membrane Bioreactors,” (with V. U. Unnikrishnan and G.U. Unnikrishnan), a **Keynote Lecture** presented at the *Sixth International Conference on Computation of Shell & Spatial Structures (Spanning Nano to Mega)*, International Association of Shell Structures (IASS) and International Association of Computational Mechanics (IACM), Cornell University, Ithaca, May 28-31, 2008.
81. J.N. Reddy, “Multiscale Computational Analysis of Biomechanical Systems,” (with V. U. Unnikrishnan and G.U. Unnikrishnan) **Invited Lecture** presented at the *IUTAM Symposium on Multi-Functional Material Structures and Systems*, Indian Institute of Science, Bangalore, INDIA, 10-13 December 2008.
82. J.N. Reddy, “Multiscale Analysis of Biomaterials and Nanostructures,” **Plenary Lecture** and (and Guest of Honor), *International Conference on Computational Methods in Engineering and Sciences*, January 8-10, 2009, Hyderabad, India.
83. J.N. Reddy, “Analysis of Composite and FGM Shells Using a Refined Shear Flexible Shell Finite Element,” **Bert Lecture** in the School of Aerospace and Mechanical Engineering, University of Oklahoma, Norman, March 6, 2009.
84. J.N. Reddy, “Modeling and Simulation of Complex Structures: From Physical to Biological Systems,” **The 2009 Landis-Epic Lecture**, University of Pittsburgh Department of Civil and Environmental Engineering, Friday March 20, 2009, Frick Fine Arts Auditorium, Pittsburgh.
85. J.N. Reddy, “Nonlinear Analysis of Laminated Composite Structures Using a Refined Shell Finite Element,” **Distinguished Lecture** in the Department of Mechanical Engineering, University of West Virginia, Morgantown, Mar 27, 2009.
86. J.N. Reddy, “Micromechanics Based Biphasic Model Of Biological Cells,” (with G.U. Unnikrishnan, V. U. Unnikrishnan), **Keynote Lecture** presented in the *Symposium on Cell & Molecular Biomechanics - Experiments & Computation at International Conference on Computational and Experimental Engineering Sciences (ICCES09)*, Phuket, Thailand, 8-13 April 2009.
87. J.N. Reddy, “Developments in the Mathematical Modeling and Numerical Simulation of Composite Materials and Structures,” **Plenary Lecture** presented at the *IISc Centenary International Conference and Exhibition on Aerospace Engineering (ICEAE2009)*, Indian Institute of Science, Bangalore, India, 18 – 22 May 2009.
88. J.N. Reddy, “Numerical modeling of complex structures: shells and cells,” **Opening Plenary Lecture**, at the *3rd International Conference on Advanced Computational Engineering and Experimenting (ACE-X 2009)*, Rome, Italy, 22-23, June, 2009.
89. J.N. Reddy, “Multiscale Thermal Analysis of Nanostructures” (with V. U. Unnikrishnan and D. Banerjee), **Keynote Lecture** at the *Third International Conference on Integrity, Reliability and Failure: Challenges and Opportunities (IRF2009)*, University of Porto, Porto, Portugal, July 20-24, 2009.
90. J.N. Reddy, “Computational Mechanics: Present and Future,” **Opening Plenary Lecture** at the VII Congreso Colombiano de Modelamiento Numerico, Universidad de los Andes, Bogota, Colombia, August 10-14, 2009.

91. J.N. Reddy, "Recent Developments in the Analysis of Carbon Nanotubes and Nonlinear Shell Theories," (with Román A. Arciniega and C. M. Wang) , **Opening General Lecture** presented at the *9th Conference on Shell Structures, Theory and Applications*, Gdańsk-Jurata, Poland, 14-16, October 2009.
92. J.N. Reddy, "Nonlinear Analysis of Laminated Composite and FGM Structures Using a Refined Shell Element," **Plenary Lecture** (Track 11), *2009 ASME International Engineering Congress & Exposition*, November 18, 2009, Lake Buena Vista, Florida.
93. J.N. Reddy, "Multiscale Analysis and Nutrient Transport in Carbon Nanotube Reinforced Nanofiber Bioreactor," (with V. U. Unnikrishnan and G.U. Unnikrishnan), **Plenary Lecture and Honorary Chairman**, *2nd International Symposium on Computational Mechanics and 12th International Conference on Enhancement and Promotion of Computational Methods in Engineering and Science*, Nov 30 – Dec 3, 2009, Hong Kong – Macau, China.
94. **J.N. Reddy** and G. S. Payette, "Least-Squares Finite Element Technology in Fluid Dynamics and Structural Mechanics," **Opening Plenary Lecture**, *4th International Conference on Advanced Computational Engineering and Experimenting (ACE-X2010)* 08-09 July 2010, Hotel Concordia La Fayette, Paris, France.
95. **J.N. Reddy**, K.S. Surana, and G. S. Payette, "Least-Squares Finite Element Models and the k-version FEM: an Overview and Recent Developments," **Semi-Plenary Lecture**, *9th World Congress on Computational Mechanics and 4th Asian Pacific Congress on Computational Mechanics (WCCM/APCOM 2010)*, Sydney, Australia, 19 – 23 July 2010.
96. J.N. Reddy, "Computational Modeling of Materials and Structures: Composite Shells and Biological Cells," **Keynote Lecture**, *International Conference on Applied Mechanics, Materials and Manufacturing (ICAMMM)*, Sultan Qaboos University, Muscat, Oman, 13 – 15 December 2010.
97. **J.N. Reddy**, V. U. Unnikrishnan, and G.U. Unnikrishnan, "Multiscale Modelling of Biological Systems," **Plenary Lecture**, *Second International Conference on Multiscale Modeling and Simulation (ICMMS 2010)*, Guangzhou, China, 17 – 19 December 2010.
98. J.N. Reddy, "Nanocomposites," **Plenary Lecture**, *International Conference on Composites for 21st Century: Current and Future Trends*, Indian Institute of Science, Bangalore, Jan 4-7, 2011.
99. J.N. Reddy, "Multiscale Processes in Analysis of Nanotube Reinforced Tissue Engineering Bioreactors," **Plenary Lecture**, *2nd International Conference on Mathematical and Computational Biomedical Engineering - CMBE2011*, March 30 - April 1, 2011, George Mason University, Washington D.C.
100. V. U. Unnikrishnan, G.U. Unnikrishnan, and **J.N. Reddy**, "Biomechanics of Breast Density and Collagen Content in Cancer Formation," **Invited Lecture**, *Workshop on Microscale Modeling in Biomechanics and Mechanobiology*, Hotel Vila Gal, Ericeira, Portugal, May 30 - June 1, 2011.
101. J.N. Reddy, "Modelling of Composite and Functionally Graded Structures: Theories and Computational Models," **Plenary Lecture**, *16th International Conference on Composite Structures (ICCS 16)*, June 28-30, 2011, University of Porto, Porto, Portugal
102. **J.N. Reddy** and A. Muliana, "Thermomechanical Response of Functionally Graded Structures," **Plenary Lecture**, *5th International Conference on Advanced Computational Engineering and Experimenting, ACE-X 2011* –Algarve, Portugal, 3 -6 July, 2011.
103. **J.N. Reddy**, V. U. Unnikrishnan, and R. Arciniega, "Analysis of Composite and Multifunctional Materials: Recent Developments," **Guest and Opening Plenary Lecture**, *International Symposium on Advances in Applied Mechanics and Modern Information Technology 2011 (AAM&MIT'11)*, 22-23 Sep. 2011, Baku, Azerbaijan.

104. G. Payette and **J.N. Reddy**, "Recent Developments in Shell Finite Elements for Large Deformation Analysis," **Semi-Plenary Speaker**, *Third International Symposium on Computational Mechanics (ISCM III)* in conjunction with the *Second Symposium on Computational Structural Engineering (CSE II)*, Taipei, Taiwan, 5-7 December 2011.
 105. J.N. Reddy, "Modified Couple Stress Theories of Functionally Graded Shear Deformable Beams and Plates," **Plenary Lecture**, *Fourth International Conference on Structural Stability and Dynamics*, Malavia National Institute of Technology, Jaipur, India, 4-6 January 2012.
 106. J.N. Reddy, "Numerical Simulations: The Third Scientific Methodology," **Plenary Lecture**, *Pragyan 2012*, National Institute of Technology, Trichy, India, 23-26 Feb 2012.
 107. **J.N. Reddy** and Gregory S. Payette, "A Higher-Order Spectral/hp Shell Finite Element for the Nonlinear Analysis of Laminated Composites and Functionally Graded Elastic Shell Structures," **Opening Plenary Lecture**, *International Iranian Mechanical Engineering Conference*, Shiraz University, May 14-17, 2012, Shiraz, Iran.
 108. J.N. Reddy "A Nonlinear Modified Couple Stress-Based Theories of Functionally Graded Beams and Plates," **Opening Technical Plenary Lecture**, *International Conference on Mechanics of Nano, Micro and Macro Composite Structures*, 18-20 June 2012, Politecnico di Torino, Italy.
 109. G. S. Payette and **J.N. Reddy**, "A General Shell Element with Thickness Stretch for Large Deformation Analysis of Composite Structures," **Plenary Lecture**, *SOMIM Conference*, Salamanca, Mexico, 19-21 September 2012.
 110. J.N. Reddy "Modified Couple Stress-Based Theories of Functionally Graded Beams and Plates," **Plenary Lecture**, *International Conference in Innovations in Design and Manufacturing (InnDeM 2012)*, 5-7 Dec 2012, IIITDM Jabalpur, India.
 111. G. S. Payette and **J.N. Reddy** "A General Shell Finite Element for Large Deformation Analysis of Composite Structures," **Opening Plenary Lecture**, *International Congress on Computational Mechanics and Simulation (ICCMS2012)*, Indian Institute of Technology, Hyderabad, India, 10-12, December 2012.
 112. J.N. Reddy, "Spectral Finite Element Technology for Large Deformation Analysis of Composite Shells," **Keynote Lecture**, *Indo-US Workshop on Recent Developments in Composite Materials and Structures*, JFWTC- GE Global Tech. Center, Bangalore, India, March 18-20, 2013.
 113. **J.N. Reddy**, G. S. Payette, and V. Vallala, "A Spectral/hp Shell Finite Element for the Nonlinear Analysis of Laminated Composites and Functionally Graded Elastic Structures," **Opening Guest and Plenary Lecture**, *the Fourth International Symposium on Solid Mechanics - MecSol 2013*, Porto Alegre, Rio Grande do Sul, Brazil, 18-19 April 2013.
 114. **J.N. Reddy**, G. S. Payette, and V. Vallala, "Spectral/hp Approximations in the Finite Element Analysis of Solid and Fluid Mechanics Problems," **Plenary Lecture**, *Fourth International Conference on Mathematical and Computational Applications (ICMCA 2013)*, June 11-13, 2013, Manisa, Turkey.
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