# 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 (l974-75), 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 160 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 45 postdoctoral fellows and research visitors, and guided and co-guided 117 graduate students (71 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, and the 2014 *IACM O.C. Zienkiewicz Award* from the International Association of Computational Mechanics. Dr. Reddy received a *Technical Achievement Award* from the National Academy of Engineering for "outstanding contributions to engineering education and research." 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 Odlar Yurdu University, Baku, Azerbaijan in 2011. Dr. Reddy is an elected member of the US National Academy of Engineering and Foreign Fellow of the Brazilian Academy of Engineering, Canadian Academy of Engineering, and 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. Dr. Reddy received the 2016 *Prager Medal* from the Society of Engineering Science, the 2016 *ASME Medal* from the American Society of Mechanical Engineers, the 2017 *John von Neumann Medal* from the U.S. Association for Computational Mechanics, and the 2018 Thodore von Karman Medal from the American Society of Civil Engineers.

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 **25,700** citations and h-index of 75 as per Web of Science; the number of citations is over **62,500** with h-index of 101 and i10-index of 482 (i.e., 482 papers are cited at least 10 times) as per Google Scholar. A more complete information, visit **http://mehanics.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.
- **2013-2016:** *FiDiPro (Finland Distinguished Professor)*, Aalto University, Finland.
- **2015-present**: *A.P.J. Abdul Kalam Distinguished Professor of Engineering*, SRM University, Chennai, India.
- **2016**: *Simpson Distinguished Visiting Professor*, Northwestern University, Evanston, Illinois (March-May).

## HONORS AND AWARDS

### Significant National and International Honors and Awards

- ***The JN Reddy Medal in Mechanics of Advanced Materials and Structures,*** Inaugural Recopient, 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***, The Inaugural Recipient, The Vibration Institute of India, Dec 28, 2017.
- ***Foreign Fellow***, Brazilian 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 Candian Academy of Engineering, 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).
- ***Prager Medal***, Society of Engineering Science; 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.

- 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*, held in Lisbon, Portugal, 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).
- 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).
- 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 Boarders 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*, Odlar 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.
- "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.
- *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* of the Institution of Structural Engineers, Singapore, 2005.
- *Fellow* of the American Institute of Aeronautics and Astronautics, 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.
- The *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* of the International Association of Computational Mechanics (IACM), 1998.
- The *Melvin R. Lohmann Medal* from Oklahoma State University, Stillwater, OK, 1997.
- The *Archie Higdon Distinguished Educator Award* from 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* of the National Academy of Engineering (NAE), 1995.
- *Fellow* of 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* of 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.
- The *Worcester Reed Warner Medal* of 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* of the Aeronautical Society of India, 1991.
- *Oscar S. Wyatt, Jr., Chair Lecture*, Texas A&M University, November 11, 1991.
- *Fellow* of 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* of 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), l976.
- *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, l998.
- *Five Hundred Leaders of Influence*, l998.
- *Five Thousand Personalities of the World*, 6th Edition, l998.
- *The International Directory of Distinguished Leadership*, l998, 2001.
- *Outstanding People of the 20th Century*, l998.
- *Who's Who in Engineering Education,* Academic Keys, 2005.
- *Who's Who in America*, 52nd Edition, l998.
- *Men of Achievement*, l994.
- *Most Admired Men & Women of the Year*, l994.
- *Who's Who Among Asian Americans*, l994.
- *Who's Who in Science and Engineering*, 2nd Edition, l994.
- *Who's Who in Technology*, 1979-present, 6th Edition, 1988.
- *Personalities of America*, 4th Edition, l985.
- *Outstanding Young Men of America*, l979.
- *American Men and Women of Science*, 17th Ed., l978.
- *Who's Who in the South and Southwest*, l976-1996 (24th Ed.)
- *Who's Who in Computer Education and Research*, l975.
- *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, College Station, TX 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, l985.
- Finalist for *Sporn Teaching Award*, Virginia Polytechnic Institute & State University, 1983.
- *Outstanding Faculty Achievement in Research* (the FIRST recipient), University of Oklahoma, l979.
- *Purple Shaft Award* (for a caring but tough faculty member) University of Oklahoma, 1978.

## EDITORSHIP OF ARCHIVAL JOURNALS AND SERIES

- **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-present).
- **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).
- **Editor-in-Chief** (with Y. B. Yang and C. M. Wang) *International Journal of Structural Stability and Dynamics (IJSSD),* World Scientific, Singapore, (2001-present).
- **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, Thamilnadu, 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, l984.
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 dÍngenieurs 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 (Simp□sio em Mecânica dos Materialis Compósitos),* Instituto de Engenharia Mecânica (IDMEC), Instituto Superior Tecnico (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 ***I****nternational* ***C****onference on* ***C****omposite Materials and Nano-****S****tructures* (IC2MS-06), April 26-29, 2006, Shah Alam (Kaula 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 Biphasic 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,** *5thInternational 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.
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**Manuscripts Accepted for Publication**

630. Namhee Kim and J.N. Reddy, "Least-squares finite element analysis of flow of a generalized newtonian fluid past a circular cylinder," *Mechanics of Advanced Materials and Structures,* accepted for publication.
631. Jani Romanoff, Jasmin Jelovica, Bruno Reinaldo Goncalves, J. N. Reddy, Heikki Remes, "Post-buckling response of plates with periodic, unidirectional, microstructure," *Engineering Structures*, accepted for publication.
632. Ginu U. Unnikrishnan, Vinu U. Unnikrishnan, and J. N. Reddy, "Contribution of material properties of cellular components on the viscoelastic, stress-relaxation response of a cell during AFM indentation," *International Journal of Computational Methods in Engineering Science and Mechanics*, accepted for publication.
633. Rakesh Ranjan and J.N. Reddy, "Non Uniform Rational Bspline (NURBS) based non-linear analysis of straight beams with mixed formulations," *Journal of Solid Mechanics*, accepted for publication.
634. C.Y. Kiyono, S.L. Vatanabe, E.C.N. Silva, and J.N. Reddy, "Stress-based topology optimization for continuum and composite structures," *Composite Structures,* accepted for publication.
635. B. Umesh, A. Rajagopal, and J.N. Reddy, "Higher Order Continuous Approximation for Nonlocal-Gradient enhanced Damage Model," *Mechanics of Advanced Materials and Structures*, accepted for publication.
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638. M. K. Apalak, M. Dorduncu, and J. N. Reddy, "Stress wave propagation in adhesively bonded functionally graded cylinders: An improved model," *Journal of Adhesion Science and Technology*, accepted for publication.

**Manuscripts in Review**

639. Wilfredo Montealegre Rubio, E.C.N. Silva, J.N. Reddy, "Manufacturing of PZT-Nickel functionally graded piezoelectric ceramics using spark plasma sintering," *Experimental Mechanics*, in review.
640. Francesco Tornabene, Michele Bacciocchi, Nicholas Fantuzzi, and J. N. Reddy, "Multiscale approach for the free vibration analysis of three-phase CNT/polymer/fiber laminated nanocomposite plates and shells," *Compoites Part A,* in review.

## SEMINARS AND PAPERS PRESENTED AT CONFERENCES

1. "A General Treatment of Complementary Variational Principles in Mathematical Physics," *Seminar on Approximations in Nonlinear Mechanics*, University of Alabama in Huntsville, January 1972.
2. "Mixed Finite Element Approximations for Nonlinear Boundary Value Problems by the Method of Conjugate Projections," (with J. T. Oden) *1972 SIAM Fall Meeting*, Austin, Texas, October 1972.
3. "Accuracy and Convergence of Mixed Finite Element Approximations of Thin Bars, Membranes and Plates on Elastic Foundation," Proc. of the *Fourth Southwestern Graduate Research Conference in Applied Mechanics*, Paper 1B.5, 1973.
4. "Some Mathematical Properties of Certain Mixed Galerkin Approximations in Nonlinear Elasticity," *Computational Methods in Nonlinear Mechanics*, J. T. Oden *et al.* (ed.), University of Texas at Austin, Austin, pp. 627-635, October 1974.
5. "Mathematical Consideration of Mixed Finite Element Approximations in Mechanics," *Solid Mechanics Seminar Series*, Division of Engineering, Brown University, Providence, Rhode Island, February 4, 1974.
6. "Consistency, Stability and Convergence of Mixed Finite Element Approximations," *TICOM Seminar*, Texas Institute for Computational Mechanics, The University of Texas at Austin, March 14, 1974.
7. "Dual Complementary Variational Principles in Mechanics," *Seminar*, School of Aerospace, Mechanical and Nuclear Engineering, University of Oklahoma, Norman, July 25, 1974.
8. "A Finite Element Solution of Nonlinear PDE's in the Hydrodynamics of Hypervelocity Impact," Advances in Computer Methods for Partial Differential Equations, R. Vichnevetsky (ed.), Rutgers University, pp. 220-224, 1975.
9. "On Mixed Hybrid Finite Element Approximations of the Biharmonic Equation," *SIAM-SIGNUM 1975 Fall Meeting*, San Francisco, Dec. 3-5, 1975.
10. "Some Computational Aspects of Mixed Finite Element Approximations," *Proceedings, 12th Annual Meeting of the Society of Engineering Science*, University of Texas, Austin, pp. 965-980, October 1975.
11. "On Hydrodynamics of Hypervelocity Impact by the Finite Element Method," *ASCE National Structural Engineering Convention*, New Orleans, April 14-18, 1975, Meeting Preprint No. 2417.
12. "On Mixed Finite Element Approximations in Continuum Mechanics: Theory and Practice," *The 14th International Union of Theoretical and Applied Mechanics*, Delft, The Netherlands, Aug. 30-Sept. 4, 1976.
13. "A Finite Element Formulation of High-Velocity Impact," *Proceedings of the AIAA/ASME/SAE 17th Structures, Structural Dynamics and Materials Conference*, King of Prussia, Pennsylvania, May 5-7, pp. 313-323, 1976.
14. "Alternate Finite Element Formulation of Incompressible Fluid Flow with Application to Geological Folding" (with K. H. Patil), *Applications of Computer Methods in Engineering*, Vol. I, L. C. Wellford, Jr. (ed.), University of Southern California, Los Angeles, pp. 179-190, 1977.
15. "Numerical Solution of Linear Integral Equations by the Finite Element Method" (with V. D. Murty), *15th Midwestern Mechanics Conference*, Chicago, IL, March 23-25, 1977.
16. "Dynamic Response of a Geometrically Nonlinear Composite Elastic-Viscoelastic Cylinder" (with A. K. Neighbors and T. L. Cost), *CANCAM 77*, Vancouver, B.C., May 30-June 3, 1977.
17. "Stability of Thin Rectangular Plates Using a Simplified Finite Element" (with Chen-Shyh Tsay), *15th Midwestern Mechanics Conference*, Chicago, IL, March 23-25, 1977.
18. "Mixed Rectangular Finite Elements for Plate Bending" (with C. S. Tsay), *Proceedings of the Oklahoma Academy of Science*, Vol. 57, pp. 144-148, 1977.

19. "Large Deflection and Large Amplitude Free Vibrations of Thin Rectangular Plates Using Mixed Isoparametric Elements" (with J. D. Stricklin), *Applications of Computer Methods in Engineering*, Vol. II, L. C. Wellford, Jr. (ed.), University of Southern California, Los Angeles, pp. 1323-1335, 1977.
20. "Free Vibration of Thin Rectangular Plates by a Mixed Finite Element" (with C. S. Tsay), *Sixth ASME Mechanical Vibrations Conference*, Chicago, Illinois, Sept. 26-28, 1977, ASME Paper No. 77-DET-143.
21. "Mathematical Theory of Mixed and Penalty Finite Element Methods Applied to Thin Elastic Plates and Incompressible Fluid Flow Problems," *Seminar*, Institute of Mathematics, University of Rome, Italy, November, 1977.
22. "Mixed Finite Elements in Bending, Stability, and Vibration of Thin Plates," *Seminar*, Institute of Structural Engineering, Univ. of Rome, Italy, Nov., 1977.
23. "Theory of Finite Elements," a series of lectures delivered to the Department of Structures, University of Calabria, Cosenza, Italy, November, 1977.
24. "Design of Stable Numerical Schemes in Atmospheric Models," presented at the *Joint IUTAM/IUGG Symposium on Monsoon Dynamics*, December 5-9, 1977, New Delhi, India.
25. "The Finite Element Method in Engineering Science and Mechanics," *Mathematics Colloquium*, Oklahoma State University, Stillwater, 1978.
26. "Primitive Variable Finite Element Formulations of Incompressible Fluid Flow: Theory and Application" (with K. H. Patil), *Developments in Theoretical and Applied Mechanics (proceedings of Ninth SECTAM*) Vanderbilt University, Nashville, pp. 113-123, 1978.
27. "On the Finite Element Method with Penalty for Incompressible Fluid Flow Problems," *Proceedings of MAFELAP* (The Mathematics of Finite Elements and Applications III J. R. Whiteman (ed.), Academic Press, London, pp. 227-235, 1979), Brunel University, Uxbridge England, April 1978.
28. "Penalty Velocity-Stream Function Finite Element Models for Free Convection Heat Transfer Problems" (with D. R. Mamidi), *Recent Advances in Engineering Science*, R. L. Sierakowski (ed.), University of Florida, Gainesville, pp. 381-386, 1978.
29. "Simple Finite Elements with Relaxed Continuity for Nonlinear Analysis of Plates," *Finite Element Methods in Engineering* (*Proc. 3rd Int. Conference in Australia on Finite Element Methods*), A. P. Kabaila and V. A. Pulmano (eds.), The University of New South Wales, Sydney, pp. 265-281, 1979.
30. "Penalty Finite Element Methods for the Solution of Advection and Free Convection Flows," *Finite Element Methods in Engineering*, (*Proc. 3rd Int. Conference in Australia on Finite Element Methods*), A. P. Kabaila and V. A. Pulmano (eds.), The University of New South Wales, Sydney, pp. 583-598, 1979.
31. "Mathematics of Finite Elements," a series of lectures delivered at Tata Institute of Fundamental Research, Bangalore (on the campus of the Indian Institute of Science), July 1979.
32. "On the Existence and Accuracy of Solutions to Penalty Finite Element Models of Viscous Incompressible Flows," paper presented at the *l6th Annual Meeting of the Society of Engineering Science*, Northwestern University, Evanston, Sept. 5-6, 1979.
33. "Penalty-Finite Elements for Nonlinear Problems with Linear Equality Constraints," invited by the Mathematical Methods Committee of the *Third ASCE/EMD Specialty Conference*, University of Texas, Austin, Texas, Sept. 17-19, 1979.
34. "A Penalty Finite Element for Nonlinear Analysis of Thin and Moderately Thick Plates," *Developments in Mechanics*, Vol. 10 (Proceedings of the 16th Midwestern Mechanics Conference), S. C. Sinha, et al. (eds.), Kansas State University, Manhattan, Sept. 19-21, pp. 213-217, 1979.

35. "Finite Element Analysis of Free Convection in Enclosures," *Seminar on Numerical Methods in Engineering*, Wichita State University, Wichita, Kansas, October 1979.
36. "Analysis of Plates Constructed of Fiber Reinforced Bimodulus Materials," (with C. W. Bert), *Mechanics of Bimodulus Composite Materials*, session at the Winter Annual Meeting of ASME, New York City, New York, December 2-7, 1979. *Mechanics of Bimodulus Materials* (edited by C. W. Bert), ASME AMD Vol. 33, pp. 67-83, 1979. Appeared in *Mechanics of Bimodulus Materials* (edited by C. W. Bert), ASME AMD Vol. 33, pp. 67-83, 1979.
37. "A Comparison of Closed-Form and Finite-Element Solutions of Layered Composite Plates," *Seminar*, Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, VA, February, 1980.
38. "The Finite Element Analysis of Thick Laminated Anisotropic Rectangular Plates," *Solid Mechanics Seminar*, Department of Applied Mechanics and Engineering Sciences, University of California, San Diego, May, 1980.
39. "Analysis of Thick Rectangular Plates Laminated of Bimodulus Composite Material" (with C. W. Bert, V. S. Reddy, and W. C. Chao), *AIAA/ASME/ASCE and AHS 21st Structures, Structural Dynamics and Materials Conference,* Seattle, May 12-14, 1980.
40. "On the Mathematical Theory of Penalty-Finite Elements for Navier-Stokes Equations," *Third Int. Conf. on Finite Elements in Flow Problems*, Banff, Alberta, Canada, June 10-13, pp. 146-154, 1980.
41. "A Finite Element Approach to Combined Conductive and Radiative Heat Transfer in a Planar Medium" (with R. Fernandes and J. Francis), *15th AIAA Thermophysics Conference*, July 14-16, 1980, Snowmass, Colorado.
42. "Large Deflection and Large Amplitude Free Vibrations of Laminated Composite-Material Rectangular Plates" (with W. C. Chao), *Symposium on Computational Methods in Nonlinear Structural and Solid Mechanics*, George Washington University, October 6-8, pp. 371-376, 1980.
43. "On the Development of a Shear Deformable Finite Element for the Analysis of Layered Composite Plates and Shells," *17th Annual Meeting of the Society of Engineering Science*, December 10-12, 1980, Georgia Institute of Technology, Atlanta.
44. "Thermal Bending of Thick Rectangular Plates of Bimodulus Composite Materials" (with C. W. Bert et al.), *17th Annual Meeting of the Society of Engineering Science*, December 10-12, 1980, Georgia Institute of Technology, Atlanta.
45. "The Finite Element Method in Incompressible Fluid Flow," lectures delivered at a short course, *Advances in Computational Fluid Dynamics*, The University of Tennessee Space Institute, TN, December, 1980.
46. "Numerical Solution of Three-Dimensional Navier-Stokes Equations by a Penalty Function Formulation," *Seventeenth Midwestern Mechanics Conference*, May 6-8, 1981, The University of Michigan, Ann Arbor, Michigan.
47. "Bending and Free Vibration of Thick Beams Made of Bimodulus Materials," (with C. W. Bert and A. D. Tran) *Seventeenth Midwestern Mechanics Conference*, University of Michigan, Ann Arbor, MI, May 6-8, 1981.
48. "A Finite-Element Analysis of Bimodulus Composite Plates and Shells," *Proc. IXth International Congress on the Application of Mathematics in Engineering*, June 28-July 5, 1981, Weimar, DDR (East Germany), pp. 30-34, 198l.
49. "The Finite Element Method in the Analysis of Incompressible Fluid Flows," *Seminar*, Bhabha Atomic Research Center, Bombay, India, June 30, 1981.
50. "Finite-Element Analysis of Three-Dimensional Navier-Stokes Equations by the Penalty Function Method," *Seminar*, Department of Chemical Engineering, University of Naples, Italy, July 2, 1981.

51. "On the Nonlinear Analysis of Layered Composite-Plates: A Review of Recent Advances," *Seminar,* Department of Structures, University of Calabria, Cosenza, Italy, July 4, 1981.
52. "On Thermal Bending of Layered Composite Plates and Shells of Bimodulus Materials" (with C. W. Bert and Y. S. Hsu), *Numerical Methods in Thermal Problems*, Vol. II, R. W. Lewis, *et al.* (eds.), Pineridge Press, Swansea, U.K., 1981, pp. 384-395 (paper presented at the Second Int. Conf. Numer. Meth. in Thermal Problems, July 7-10, 1981, Venice, Italy).
53. "On the Finite-Element Analysis of Ordinary and Bimodulus-Material Plates and Shells," *Seminar*, The International Center for Mechanical Sciences, Udine, Italy, July 9, 1981.
54. "Natural Convection Between Concentric (Horizontal) Circular Cylinders by a Penalty-Finite Element Method," (with A. Satake), *Numerical Methods in Laminar and Turbulent Flow*, C. Taylor and B. A. Shrefler (eds.), Pineridge Press, Swansea, U.K., 1981, pp. 969-980 (paper presented at the Second Int. Conf. in Numer. Meth. in Laminar and Turbulent Flows, July 10-13, 1981, Venice, Italy.)
55. "Large-Deflection Vibration of Cross-Ply Laminated Rectangular Plates with Certain Edge Conditions," (with W. C. Chao), *18th Annual Meeting of the Society of Engineering Science*, September 2-4, 1981, Brown University, RI.
56. "Nonlinear Vibration of Layered Composite Plates Including Transverse Shear and Rotatory Inertia," *1981 (ASME) Vibration Conference*, September 20-23, 1981, Hartford, Connecticut ASME Paper No. 81-DET-144.
57. "Large Deflection Analysis of Thick, Orthotropic, Axisymmetric Annular Plates," presented at *ASME Winter Annual Meeting*, November 15-20, 1981, Washington, D.C., ASME Paper No. 81-WAM/DE-3.
58. "Nonlinear Oscillations of Laminated, Anisotropic, Thick Rectangular Plates," (with W. C. Chao), *Symposium on Structures and Materials II: Impact and Vibrations of Composites and Structures*, ASME Winter Annual Meeting, November 15-20, 1981, Washington, D.C.; Advances in Aerospace Structures and Materials, AD-01, pp. 115-125, 1981.
59. "A Finite-Element Analysis of Large-Deflection Bending of Laminated Anisotropic Shells," *Symposium on Nonlinear Finite-Element Analysis of Shells, 1981 ASME Winter Annual Meeting*, November 15-20, 1981, Washington, D.C.; Nonlinear Finite Element Analysis of Plates and Shells, AMD-Vol. 48, pp. 249-264, 1981.
60. "Vibration and Buckling of Thick Cylindrical Shells of Bimodulus Composite Materials," (with C. W. Bert), *Symposium on Structures and Materials II: Impact and Vibrations of Composites and Structures,* ASME Winter Annual Meeting, November 15-20, 1981, Washington, D.C.; Advances in Aerospace Structures and Materials, AD-01, pp. 109-114, 1981.
61. "Nonlinear Transient Analysis of Composite Plates," *Seminar*, Department of Mechanical Engineering, Texas A&M University, College Station, Texas, January 29, 1982.
62. "Analysis of Bimodular-Material Composite Plates," *Solid Mechanics Seminar*, Division of Applied Mechanics, Stanford University, Stanford, CA, Feb. 4, 1982.
63. "Finite Element Simulation of Three-Dimensional Viscous Incompressible Fluid Flows" *Fluid Mechanics Seminar*, Department of Aeronautics and Astronautics, Stanford University, Stanford, CA, Feb. 2, 1982.
64. "Finite Element Applications to Incompressible 3D Fluid Flow Problems," *Seminar in the Joint Inst. for Aeronaut. and Acoust.*, Stanford University, Feb. 1, 1982.
65. "Nonlinear Vibration of Rectangular Composite Plates with Rectangular Cutouts," *Proc. Eleventh Southeastern Conference on Theoretical and Applied Mechanics*, April 8-9, 1982, Developments in Theoretical and Applied Mechanics, T. J. Chung and G. R. Karr (eds.), University of Alabama in Huntsville, pp. 329-240, 1982.

66. "A Penalty-Finite Element with Variable Penalty Parameter for Incompressible Fluid Flow," *Eleventh Southeastern Conference on Theoretical and Applied Mechanics*, April 8-9, 1982, University of Alabama in Huntsville, Alabama.
67. "Computational Aspects of the Large Deformation Dynamic Response of Structures Subjected to Intense Impulsive Loading," *ARO Workshop on Computational Aspects of Penetration Mechanics*, Ballistic Research Laboratory, Aberdeen Proving Ground, Maryland, 27-29 April, 1982.
68. "Finite-Element Analysis of Bimodular Composite Plates," *Symposium on Finite Element Methods and Their Applications*, International Congress on Technology and Technology Exchange, 3-6 May 1982, Pittsburgh(PA).
69. "Mechanics of Bimodular Composite Structures," (with C. W. Bert) in *Mechanics of Composite Materials: Recent Advances*, Z. Hashin and C. T. Herakovich (eds.), Pergamon Press, pp. 323-337, 1983 (Proc. IUTAM Symp. held at Virginia Polytechnic Institute, June 1982).
70. "Transient Analysis of Layered Composite Plates Using a Shear Deformation Theory," (with D. J. Mook) *Computational Methods and Experimental Measurements*, G. A. Keramidas and C. A. Brebbia (eds.), Springer-Verlag, Berlin, pp. 737-748, June 30-July 2, 1982, Washington, D. C.
71. "Finite-Element Simulation of Natural Convection in Three-Dimensional Enclosures," *AIAA/ASME Fluid, Plasma, Thermophysics, and Heat Transfer Conference*, June 7-9, 1982, St. Louis, Mo., ASME Paper No. 82-HT-71.
72. "Finite-Element Analysis of Three Dimensional Incompressible Flows by Penalty Function Methods," *Fourth International Symposium on Finite Element Methods in Flow Problems*, July 26-29, 1982, Tokyo, Japan.
73. "On Penalty Function Finite Element Models for the Analysis of Three-Dimensional Flows," *10th IMACS World Congress on Systems Simulation and Scientific Computation*, August 8-13, 1982, Montreal, Canada.
74. "Nonlinear Transient Response of Layered Composite Plates," *International Conference on Finite Element Methods,* August 2-6, 1982, Shanghai, Peoples' Republic of China.
75. "Nonlinear Transient Analysis of Composite Plates," *Mechanics of Composites Review*, The Materials Laboratory, Wright-Patterson Air Force Base, October 5-7, 1982.
76. "Computational Strategy for Nonlinear Analysis of Bimodular-Material Structures," *ASCE National Convention*, New Orleans, October 25-29, 1982.
77. "Forced Motions of Anisotropic Composite Plates," *Dynamics of Composite Materials*, session at the 19th Annual Meeting of the Society of Engineering Science, University of Missouri-Rolla, October 27-29, 1982.
78. "On an Isoparametric Finite Difference Energy Method and a Five-Node Finite Element for the Solution of Fluid Flow Problems," (with R. Tam), *19th Annual Meeting of the Society of Engineering Science*, October 27-29, 1982, University of Missouri-Rolla, Rolla.
79. "Large Deflection Bending of Laminated Shells," (with W. C. Chao), *19th Annual Meeting of the Society of Engineering Science*, October 27-29, 1982, University of Missouri-Rolla, Rolla.
80. "Geometrically Nonlinear Analysis of Layered Composite Shells," (with W. C. Chao), *Advances in Aerospace Structures and Materials*, AD-03, pp. 25-28, 1982 Winter Annual Meeting of ASME, Phoenix, Arizona, Nov. 14-19, 1982.
81. "Three-Dimensional Finite-Element Analysis of Layered Composite Plates," (with N. S. Putcha), *Advances in Aerospace Structures and Materials*, AD-03, pp, 29-35, 1982 Winter Annual Meeting of ASME, Phoenix, Arizona, Nov. 14-19, 1982.

82. "Penalty Function Methods in Mechanics: A Review of Recent Advances," *Penalty Finite Element Methods in Mechanics*, AMD-Vol. 51 pp. 1-20, 1982, The American Society of Mechanical Engineers, New York.
83. "Nonlinear Analysis of Layered Composite Plates," *Proceedings of FEMSA-83 International Symposium on Design and the Finite Element Method*, University of Cape Town, Jan. 10-12, 1983.
84. Four lectures on "The Techniques and Formulations in Finite Element Analysis of Composite Structures and Fluid Dynamics," *National Research Institute for Mathematical Sciences*, Council for Scientific and Industrial Research, Pretoria, South Africa, Jan. 17-21, 1983.
85. "Application of Penalty Function-Finite Elements to Problems in Fluids and Solids," *Mechanical and Aerospace Engineering Department*, West Virginia University, April, 1983.
86. "A Shear Deformable Shell Element for Laminated Composites," (with W. C. Chao) *Proceedings of the NASA Lewis/University/Industry Workshop on Nonlinear Analyses for Engine Structures*, NASA Lewis Research Center, April 19-20, 1983.
87. "On a Refined Theory of Plates," *Seminar,* Department of Mechanical Engineering, The City College of the City University of New York, New York, May 1984.
88. "On Exact Solutions of Cross-Ply Laminated Thick Shells," *Proc. of the l8th Midwestern Mechanics Conference*, University of Iowa, Iowa City, May 16-18, 1983.
89. "Dynamic Response of Layered Anisotropic Composite Plates by a 3-D Element," (with N. S. Putcha) ASCE/EMD Specialty Conference, May 23-25, 1983, Purdue University, West Lafayette, Indiana.
90. "A Unilateral Contact Approach to Debonding in Layered Composite Plates," (with A. Grimaldi), *Second U.S.-Japan Conference on Composite Materials*, June 6-8, 1983, NASA Langley Research Center, Hampton, Virginia.
91. "Mechanical Behavior of Bimodular-Material Composite Plates Under Dynamic Loads," *Ninth U.S. National Congress of Applied Mechanics*, June 21-25, 1983, Cornell University, Ithaca, New York.
92. "Elastic-Plastic and Nonlinearly-Elastic Analysis of Laminated Composites," (with T. Kuppusamy) *Int. Symposium on Current Theories of Plasticity and Their Applications*, University of Oklahoma, Norman, July 30-August 3, l984.
93. "A Unilateral-Contact Approach to Delamination in Plates," (with A. Grimaldi) *Proc. Fourth International Conference on Mathematical Modelling*, Zurich, Switzerland, August 15-17, 1983.
94. "On Delamination in Plates: A Unilateral Contact Approach," (with A. Grimaldi), *Proceedings of the Second Meeting on Unilateral Problems in Structural Analysis*, Ravello, Italy, September 22-24, 1983.
95. "Large Deformation Analysis of Layered Composite Shells," (with W.C. Chao), *Mechanics of Composite Materials and Structures*, AMD-Vol. 58, pp. 19-31, Winter Annual Meeting of ASME, November 15-18, 1983, Boston.
96. "A Mixed Shell Finite Element for Laminated Composites," (with N. S. Putcha, *Advances in Aerospace Structures, Materials and Dynamics*, AD-06, pp. 31-39, Winter Annual Meeting of ASME, November 15-18, 1983, Boston.
97. "An Accurate Prediction of Natural Frequencies of Laminated Plates by a Higher-Order Theory," *Advances in Aerospace Structures, Materials and Dynamics*, AD-06, pp. 157-162, Winter Annual Meeting of ASME, November 15-18, 1983, Boston.
98. "Influence of Rotatory Inertia and Transverse Shear Deformation on Flexural Vibration of Plates," (with N. D. Phan) *12th Southeastern Conf. on Theoretical and Appl. Mech.*, Callaway Gardens, GA, May 10-11, 1984.

99. "On Extensions of Hencky-Kromm Theories of Plates," *12th Southeastern Conf. on Theoretical and Appl. Mech.*, Callaway Gardens, GA (hosted by Auburn University), May 10-11, 1984.
100. On the Numerical Study of Non-Newtonian Fluids in Two-Dimensional Enclosures," (with D. G. Baird), *12th Southeastern Conference on Theoretical and Applied Mechanics*, Callaway Gardens, GA (hosted by Auburn University), May 10-11, 1984.
101. "Numerical Experiments with the Five-Node Rectangular Element in the Analysis of Incompressible Fluids," *1984 ASCE Spring Convention*, May 14-16, 1984, Atlanta, GA.
102. "A Refined Shear Deformation Theory for Laminated Anisotropic Plates," *Second Army Conference on Applied Mathematics and Computing*, Rensselaer Polytechnic Institute, Troy, New York, May 22-25, l984.
103. "Dynamic Analysis of Laminated Plates Using a Higher-Order Theory," (with N. D. Phan) *25th Structures, Structural Dynamics and Materials Conference*, Palm Springs, CA, May l4-l6, l984, pp. 20l-205.
104. "A Refined Higher-Order Theory of Laminated Composite Shells," *1984 ASCE-EMD Specialty Conference*, University of Wyoming, August 1984.
105. "Elastic-Plastic and Nonlinearly-Elastic Analysis of Laminated Composites," (with T. Kuppusamy) *Int. Symp. on Current Theories of Plasticity and Their Applications*, University of Oklahoma, Norman, OK, July 30 - Aug. 3, l984.
106. "A Refined Transverse Shear Deformation Theory for Laminated Anisotropic Plates," *Mechanical Engineering Seminar*, Yale University, New Haven, Connecticut, September 1984.
107. "A Refined Shear Deformation Theory for Laminated Composite Plates," *Seminar, Department of Mechanical Engineering*, Florida State University, Tallahassee, FL, September, 1984.
108. "Nonlinear Material Models for Laminated Composite Plates and Shells," (with K. Chandrashekhara) *21st Annual Meeting of the Soc. of Engng. Sci.*, VPI&SU, Blacksburg, Oct. 15-17, 1984.
109. "A Refined Shear Deformation Theory for Laminated Shells," (with C. F. Liu) *21st Annual Mtg. of the Soc. of Engng. Sci.*, VPI&SU, Blacksburg, Oct. 15-17, 1984.
110. "Free Edge Stress Reduction in a Capped Laminate," (with P. R. Heyliger) *21st Annual Mtg. of the Soc. of Engng. Sci.*, VPI&SU, Blacksburg, Oct. 15-17, 1984.
111. "On Dynamics of Laminated Anisotropic Plates Using a Refined Mixed Plate Element," (with N. S. Putcha), *Dynamics and Vibrations*, 1984 ASME Winter Annual Meeting, New Orleans, Dec. 1984.
112. "On Modeling of Delamination in Laminated Plates," (with A. Grimaldi and D. Frederick), *Advances in Fracture Research*, Vol. 4, edited by S. R. Valluri, *et al.*, ( *Proc. of the Sixth Int. Conf. on Fracture*, New Delhi, India, Dec. 4-l0, l984), pp. 2923-293l.
113. "On Mixed and Displacement Finite Element Models of a Refined Shear Deformation Theory for Laminated Anisotropic Plates," *Proc. Fourth International Conference on Applied Numerical Modeling*, National Cheng Kung University, Tainan, Taiwan, Dec. 27-29, l984, pp. 64-72, l984.
114. "The Finite Element Method -- A Child of the Computer Age," *Seminar*, Wright State University, Dayton, Ohio, March 1985.
115. "The Finite Element Method in Engineering Science," *Seminar*, Chemical and Metallurgical Engineering Department, University of Nevada, Reno, March 1985.
116. "Computational Models of Contact Stress Problems," *ONR Workshop on Computational Methods and Shell Structures*, Stanford University, Stanford, CA, March 26-27, l985.

117. "Penalty Function Method in the Finite-Element Analysis of Problems in Mechanics," *Seminar*, Department of Mechanical Engineering, Auburn University, Auburn, Alabama, April 1985.

118. "Computational Solid Mechanics: Global/Local Analysis," *Seminar*, George Washington University on NASA Langley Research Center, Hampton, VA, May 1985.

119. "On the Solvability and Computational Aspects of a Higher-Order Shear Deformation Theory of Plates," *Third Army Conference on Applied Mathematics and Computing*, Georgia Institute of Technology, Atlanta, GA, May l3-l6, l985.

120. "Analysis of Adhesive Joints: Computational Methods and Experiments," (with D. Post), Adaptive Mesh Refinements and Nonlinear Analyses session of Recent Advances in Computational Mechanics, *Joint ASME/ASCE Mechanics Conference*, Albuquerque, New Mexico, June 24-26, l985.

121. "On Mixed Formulations of Various Plate Theories," Reduced Integration and Mixed Elements session of Recent Advances in Computational Mechanics, *Joint ASME/ASCE Mechanics Conference*, Albuquerque, New Mexico, June 24-26, l985.

122. "Recent Developments and Trends in Computational Natural Convection," (with D. Pelletier and J. Schetz) Computational Fluid Mechanics session of Recent Advances in Computational Mechanics, *Joint ASME/ASCE Mechanics Conference*, Albuquerque, New Mexico, June 24-26, l985.

123. "On Computational Schemes for Global-Local Stress Analysis," *Workshop on Computational Methods for Structural Mechanics and Dynamics*, W. J. Stroud, *et al.* (eds.), Conference Publication 3034, pp. 123-134, NASA Langley Research Center, Hampton, VA, June 29-21, 1985.

124. "On a Higher Order Shear Deformation Theory for Laminated Plates," *Seminar*, L.T.A.S. Dynamique des Constructions Mechaniques, Universite de Liege, June 1985.

125. "Mixed Formulations of Various Plate Theories," *Seminar*, School of Aerospace, Mechanical and Nuclear Engineering, University of Oklahoma, October, 1985.

126. "Stress Prediction in Composite Panels," *Seminar*, NASA Langley Research Center, Hampton, VA, November 15, 1985.

127. "On Higher-Order Shear Deformation Plate Theories and Mixed Finite Element Models," *Seminar*, Civil and Environmental Engineering, University of Rhode Island, Kingston, Rhode Island, November, 1985.

128. "Finite Element Methods of Fluid Flow," *Seminar*, Defense Metallurgical Research Laboratory, Hyderabad, India, Nov. 25, 1985.

129. "Nonlinear Analysis of Composite Laminates," *Seminar*, Defense Metallurgical Research Laboratory, Hyderabad, India, Nov. 26, 1985.

130. "Nonlinear Material Models of Composite Plates and Shells," *Seminar*, Bhabha Atomic Research Center, Trombay, India, Dec. 5, 1985.

131. "Nonlinear Finite Element Models of Laminated Plates and Shells," (with K. Chandrashekhara), *Int. Conference on Finite Elements in Computational Mechanics*, Indian Institute of Technology, Bombay, India, Dec. 2-6, 1985.

132. "The Finite Element Method: Intuition to Generality and Practice," *The Clifton C. Garvin Distinguished Professorship Lecture*, Dec. 10, 1985, Virginia Polytechnic Institute, Blacksburg, VA 24061.

133. "The Finite Element Method: A Decade of Innovation and Maturity," *Seminar*, The City College of New York and Columbia University Joint Seminars in Engineering Mechanics (the first seminar), Feb. 19, 1986.

134. "Some Ideas on the Modeling of Thick-Section Composites," *Navy Workshop on Stiffened Shell Structures*, Washington, D.C., March 17-18, 1986.

135. "On Kinematic and Constitutive Models of Laminated Composite Plates," *ARO Workshop on Constitutive Models*, Virginia Polytechnic Institute and State University, Blacksburg, March 24-26, 1986.

136. "Penalty Variational Formulation of Viscous Incompressible Fluid Flows," *Variational Methods in Geosciences*, Y. K. Sasaki (ed.), Elsevier, Amsterdam, 1986.

137. "Mixed Variational Formulations of Various Theories of Laminated Composite Plates," *Computational Mechanics '86 Theory and Applications*, Vol. 1 (G. Yagawa and S. N. Atluri, eds.), pp. IV-213 to IV-223, Springer-Verlag, Tokyo, 1986.

138. "On a Third-Order Shear Deformation Theory for Laminated Composite Shells," (with C. F. Liu), *Proc. Int. Symp. on Composite Materials and Struct.*, Beijing, China, June 10-13, 1986, pp. 288-294.

139. "Nonlinear Analysis of Composite Laminates Accounting for Elastic-Plastic Material Behavior," (with K. Chandrashekhara), *Proc. Int. Symp. on Composite Materials and Struct.*, Beijing, China, June 10-13, 1986, pp. 162-167.

140. "On Refined Theories of Laminated Composite Plates," *Space Science and Technology Colloquia*, ISRO-IISC Space Technology Cell, Indian Institute of Science, Bangalore, India, 25 June 1986.

141. "Current Research Trends in Composite Mechanics," *Seminar*, ISRO Satellite Center, Bangalore, India, June 27, 1986.

142. "Finite Element Models of Fluid Flow with Heat Transfer," Seminar, Indian Institute of Technology, Madras, India, June 30, 1986.

143. "Nonlinear Vibrations of Laminated Composite Plates Using Mixed Shear Deformable Elements," (with C. F. Liu), *1986 Joint ASME PVP and Computer Engng. Div. Conference d Exhibition*, July 20-24, 1986, Chicago, Illinois.

144. "Analysis of Laminated Composite Plates Using Higher-Order Shear Deformation Theories," *Seminar*, Technical University of Munich, West Germany, July 24, 1986.

145. "Nonlinear Analysis of Laminated Composite Plates and Shells," *Seminar*, University of Wuppertal, West Germany, August 14, 1986.

146. "Transient Analysis of Laminated Plates and Shells with Elastic-Plastic Material Behavior," (with K. Chandrashekhara) *23rd Annual Meeting of the Society of Engineering Science*, State University of New York, Buffalo, August 25-27, 1986.

147. "A First-Ply-Failure Analysis of Composite Laminates," (with A. Pandey), *23rd Annual Meeting of the Society of Engineering Science*, State University of New York, Buffalo, August 25-27, 1986.

148. "On the Solutions of Shear Deformation Theories of Plates," (with A. Khdeir and L. Librescu), *23rd Annual Meeting of the Society of Engineering Science*, State University of New York, Buffalo, August 25-27, 1986.

149. "A Critical Review and Generalization Shear Deformable Plate Theories," (with L. Librescu) *EUROMECH Colloquium 219 On Refined Dynamical Theories of Beams, Plates, and Shells and Their Applications*, Gesamthochschule Kassel Universität, West Germany, Sept. 23-26, 1986.

150. "A Generalization of the Theory of Anisotropic Laminated Composite Plates," (with L. Librescu), *First Conference on Composite Materials*, Dayton, OH, October 7-9, 1986.

151. "n Refined Kinematic Modeling of Thick Laminated Composite Plates," *Solid Mechanics Seminar Series*, Department of Mechanical and Industrial Engineering, Clarkson University, Potsdam, TN, December 9, 1986.

152. "Some Recent Developments in the Modeling of Thick Laminated Composite Plates," *Graduate Mechanics Seminar*, Department of Engineering Science and Mechanics, University of Tennessee, Knoxville, TN, October 14, 1986.

153. "On Refined Theories of Laminated Composite Plates," *Seminar*, Department of Engineering Mechanics, Ohio State University, Columbus, OH, October 17, 1986.

154. "On the Numerical Modeling of Laminated Composite Structures," *Seminar*, General Motors Research Laboratories, January 9, 1987.

155. "Nonlinear Viscoelastic Analysis of Adhesively Bonded Joints,"(with S. Roy) *Tire Society Meeting*, University of Akron, OH, March 1987.

156. "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.

157. "A Post-First-Ply Failure Analysis of Composite Laminates," (with A. K. Pandey), *28th AIAA/ASME/ASCE/AHS Structures, Structural Dynamics and Materials Conference*, Monterey, CA, April 6-8, 1987.

158. "Geometric and Material Nonlinear Analysis of Laminated Composite Plates and Shells," (with D. Rourk), *28th Structures, Structural Dynamics and Materials Conference*, Monterey, CA, April 6-8, 1987.

159. "A Locally Implicit Scheme for Navier-Stokes Equations," (with K. C. Reddy and S. Nayani), *Fifth SSME CFD Working Group Meeting*, NASA Marshall Space Flight Center, Alabama, April 21-23, 1987.

160. "Penalty Finite-Element Analysis of Free Surface Flows of Power-Law Fluids," (with M. Iga), *The Mathematics of Finite Elements and Applications*, Brunel University, Uxbridge, England, April 28-May 1, 1987.

161. "A Refined Nonlinear Theory of Laminated Composite Plates," *The 5th Army Conference on Applied Mathematics and Computing*, U.S. Military Academy, West Point, June 15-18, 1987 (Transactions, pp. 183-202).

162. "A Penalty Finite Element Model for Flows of Non-Newtonian Fluids," (with A. Padhye and M. Iga), *Numerical Methods in Laminar and Turbulent Flow*, Part 2, C. Taylor, W. G. Habashi and M. M. Hafez (eds.), pp. 1153-1165, Concordia University, Montreal, July 6-10, 1987.

163. "Finite Element Models of Fluid Flow," *First Int. Conf. on Industrial and Applied Mathematics*, Paris, France, June 29-July 3, 1987.

164. "Small Strain and Moderate Rotation Shear Deformation Theories for Anisotropic Plates and Shells," *First Int. Conf. on Industrial and Applied Mathematics*, Paris, France, June 29-July 3, 1987.

165. "On a Moderate Rotation Theory of Elastic Anisotropic Shells," (with R. Schmidt and L. Librescu), *Proc. 20th Midwestern Mechanics Conference*, Purdue University, W. Lafayette, August 31-Sept. 2, 1987, pp. 616-622.

166. "Geometric and Viscoelastic Nonlinear Analysis of Adhesive Joints," (with S. Roy and H. F. Brinson), *Mechanical Behavior of Adhesive Joints (EUROMECH 227)*, Saint-Etienne, France, Aug. 31-Sept. 2, 1987.

167. "On a Generalization of Refined Plate Theories," *Joint Colloquium*, Department of Mechanical Engineering and Center for Space Structures and Controls, The University of Colorado at Boulder, Sept. 18, 1987.

168. "On Refined Theories of Laminated Anisotropic Composite Plates," *1987 Annual Meeting of the Society of Engineering Science*, University of Utah, Salt Lake City, Sept. 20-23, 1987.

169. "NOVA: A Nonlinear Viscoelastic Analysis Program," (with S. Roy), *Proceedings of the 19th International SAMPE Technical Conference on the Nation's Future Material Needs*, edited by T. Lynch, et al., SAMPE, Crystal City, VA, October 15-17,1987, pp. 87-99.

170. "On a Penalty Function Method in the Finite-Element Analysis of Problems in Mechanics," *Graduate Seminar*, Department of Mechanical Engineering, University of Pittsburgh, Pittsburgh, PA, October 23, 1987.
171. "A General Shear Deformation Theory of Laminated Composite Plates," Graduate *Seminar*, Department of Mechanical Engineering and Applied Mathematics, University of Virginia, Charlottesville, VA, Nov. 20, 1987.
172. "A General Theory of Laminated Composite Plates," *Winter Seminar Series*, CCMS, VPI&SU, Blacksburg, VA, December 1987.
173. "A Small Strain and Moderate Rotation Theory of Elastic Anisotropic Plates," *ASME Winter Annual Meeting*, Boston, December 13-18, 1987.
174. "The Diffusion of Gases and Vapors in Polymers: Effect of Strain and Boundaries with Applications to the Durability of Adhesive Joints," (with D. R. Lefebvre, S. Roy, D. A. Dillard, and H. F. Brinson), *1988 Adhesion Society Meeting*, February, Charleston, NC.
175. "Finite Element Models of Laminated Composite Plates," *Seminar*, Swanson Analysis Systems, Inc., April, 1988.
176. "On Recent Developments in Refined Theories of Composite Laminates," *Colloquium*, Department of Aerospace Engineering and Mechanics, University of Minnesota, Minneapolis, April, 1988.
177. "On Computational Models of Fluid Flow and Composite Laminates," *Seminar*, ICASE, NASA Langley, Hampton, VA, April, 1988.
178. "A Plate Bending Element Based on a Generalized Laminate Plate Theory," (with E. J. Barbero and J. L. Teply), *29th Structures, Structural Dynamics and Materials Conference*, April 18-20, Williamsburg, VA (AIAA 88-2322, pp. 927-943 of the proceedings).
179. "A Direct Incorporation of the Aboudi Micromechanical Constitutive Model into Lamination Theory," (with R. T. Arenburg) ASCE/EMD *Specialty Conference*, Virginia Polytechnic Institute, Blacksburg, VA, May 22-25, 1987.
180. "An Accurate Prediction of Stress and Natural Frequencies in Laminated Composite Plates," (with E. J. Barbero) ASCE/EMD *Specialty Conference*, Virginia Polytechnic Institute, Blacksburg, VA, May 23-25, 1987.
181. "On Dynamic Stability of Plates Using Shear Deformation Theories," (with E. Yogeswaren), ASCE/EMD *Specialty Conference*, Virginia Polytechnic Institute, Blacksburg, VA, May 23-25, 1987.
182. "A Moderate Rotation Plate Finite Element for Composite Laminates," (with F. A. Palmerio and R. Schmidt), *ASCE/EMD Specialty Conference*, Virginia Polytechnic Institute and State University, Blacksburg, VA, May 23-25, 1987.
183. "On Computational Models for the Nonlinear Analysis of Bolted and Adhesively Bonded Joints," *Applied Mechanics Seminar Series*, Montana State University, Bozeman, Montana, May 1988.
184. "Modeling of Composite Laminates," *Composites Seminar*, David Taylor Research Center, Annapolis, June 1988.
185. "Predictive Modeling of Adhesively Bonded Joints," (with S. Roy), *Thirty-Fifth Sagamore Materials Research Conference*, June 26-30, 1988, Manchester, New Hampshire.
186. "On Analytical Modeling of Thick Composites," (with E. J. Barbero and J. L. Teply), *Third Int. Conf. on CAD/CAM Robotics & Factories of the Future*, August 14-17, 1988, Southfield, Michigan.
187. "Finite-Element Analysis of Shell Structures," *Seminar*, Nuclear Systems Division, Indira Gandhi Center for Atomic Research, Kalpakkam, Tamilnadu, India, August 1988.
188. "Recent Advances in the Finite Element Analysis of Composite Structures," *Seminar*, Structural Engineering Research Center (CSIR), Taramani, Madras, India, August 1988.

189. "A Layer-Wise Shear Deformation Theory for Composite Laminates," *Seminar*, Aeronautical Development Agency, Bangalore, India, August 1988.

190. "An Overview of Shear Deformation Plate Theories," *Seminar*, Department of Aerospace Engineering, Indian Institute of Science, Bangalore, August, 1988.

191. "Analysis of Composite Structures," *Seminar*, The Aeronautical Society of India (Madras Branch), Madras, India, August 1988.

**The following lectures were delivered at the *Advanced Study Institute on Finite Element Analysis for Engineering Design*, 1-10 Aug. 1988, IIT-Madras, India:**

192. Review of the Equations of Mechanics."

193. "Variational Formulations and Methods."

194. "An Introduction to the Finite Element Method."

195. "Two-Dimensional Theories of Plates."

196. "Mechanics of Composite Structures."

197. "Analysis of Laminated Composite Structures."

198. "The Finite Element Method in Engineering Science," *Seminar* Chaitanya Bharati Institute of Technology, Hyderabad, India, August 1988.

199. "Numerical Simulation of Viscoelastic Flows Using a Penalty Finite Element Model," (with M. Iga), *International Conference on Computational Methods in Flow Analysis, (ICCMFA '88)*, Sept. 5-8, 1988, Okayama, Japan (pp. 257-265 of the proceedings).

200. "A Refined Small Strain and Moderate Rotation Theory of Elastic Anisotropic Shells," (with R. Schmidt), *1988 Winter Annual Meeting of ASME*, November 27-Dec. 2, 1988, Chicago, IL.

201. "Effect of Moisture Diffusion on Stress Distributions in Adhesive Joints," (with S. Roy), in session on *Advances in Adhesively Bonded Joints, 1988 Winter Annual Meeting of ASME*, November 27-December 2, 1988, Chicago, IL.

202. "A Review and Generalization of Displacement Based Theories," *First Pan American Congress of Applied Mechanics (PACAM)*, Rio de Janeiro, Brazil, Jan 3-6, 1989, pp. 597-600.

203. "On the Finite Element Modeling of Problems in Solid and Fluid Mechanics," *Seminar*, Laboratorion National de Computacao Cientifica (LNCC), Rio de Janeiro, Brasil, Jan 5, 1989.

204. "On Penalty Finite Element Models in Fluid and Structural Problems," *Seminar*, COPPE, Federal University of Rio de Janeiro, Brazil, January 6, 1989.

205. "On Refined Theories of Laminated Composite Plates," *Seminar*, Department of Mechanical Engineering, Florida State University, Tallahassee, Florida, March 27, 1989.

206. "Nonlinear Analysis of Composite Laminates Using a Generalized Laminated Plate Theory," (with E. J. Barbero), *Sixth Annual Review*, Center for Composite Materials and Structures, Virginia Tech., Blacksburg, April 9-11, 1989.

207. "The Penalty Function Method in the Formulation of Incompressible Fluids and Shear Deformable Plates," *Civil Engineering/Applied Mechanics Seminar*, University of Virginia, Charlottesville, VA, May 2, 1989.

208. "A General Nonlinear Theory of Laminated Anisotropic Composite Plates," (with E. J. Barbero and J. L. Teply) *The First USSR-USA Symposium on Mechanics of Composite Materials*, May 23-26, 1989, Riga, Latvian SSR, USSR, (pp. 177-186 of the proceedings).

209. "On Modeling of Delamination in Composite Laminates," *Seminar*, General Dynamics, Ft. Worth Division, July 6, 1989.

210. "Applications of the Aboudi Micromechanics Theory to Metal Matrix Composites," (with R. T. Arenburg), *The Third-Joint ASCE/ASME Mechanics Conference*, July 9-12, 1989, University of California, San Diego, CA; paper appeared in: *Mechanics of Composite Materials and Structures*, J.N. Reddy and J. L. Teply (eds.), AMD-Vol. 100, pp. 33-40, The American Society of Mechanical Engineers, New York, 1989.

211. "An Accurate Determination of Stresses in ARALL Laminates Using a Generalized Laminate Plate Theory," (with E. J. Barbero and J. L. Teply), *The Third-Joint ASCE/ASME Mechanics Conference*, July 9-12, 1989, University of California, San Diego, CA; paper appeared in: *Mechanics of Composite Materials and Structures*, J.N. Reddy and J. L. Teply (eds.), AMD-Vol. 100, pp. 55-62, The American Society of Mechanical Engineers, New York, 1989.

212. "Probabilistic Micromechanics for Metal-Matrix Composites," (with S. P. Engelstad) *The Third-Joint ASCE/ASME Mechanics Conference*, July 9-12, 1989.

213. "On Finite Element Models of the Buckling and Vibration of Composite Laminates," *The 1989 ASME Pressure Vessels and Piping Conference*, July 23-27, 1989, Honolulu, Hawaii; paper appeared in: *Dynamics of Plates and Shells-1989*, H. Chung, G. Yamada and Y. Narita (eds.), PVP-Vol. 1 78, pp. 1-16, The American Society of Mechanical Engineers, New York, 1989.

214. "Analisis de Placas de Materiales Compuestos con Delaminacion y Pandeo," (with E. J. Barbero), *X Congresso Ibero-Latino-Americano Sobre Methodos Computacionais em Engennaria (MECOM-89)*, Porto, Portugal, Sept. 25-27, 1989.

215. "An Application of the Generalized Laminate Plate Theory to Delamination Buckling," (with E. J. Barbero), *Fourth Technical Conference on Composite Materials*, American Society for Composites, Virginia Tech., Blacksburg, October 3-6, 1989.

216. "Numerical Stress Intensity Factor Determination of Notched Laminated Specimens," (with D. Turlier), *Mechanics and Mechanisms of Damage in Composites and Multimaterials*, St. Etienne, France, Nov. 15-17, 1989.

217. "A Computational Model for Study of Local Effects," (with E. J. Barbero), *International Conference on Engineering Software-89*, Indian Institute of Technology, Delhi, India, December 4-9, 1989.

218. "Vibrations of Laminated Composite Plates Using a Generalized Laminated Plate Theory," (with E. J. Barbero), *1989 ASME \ Winter Annual Meeting*, Dec. 14, 1989, San Francisco.

219. "A Critical Review of the Third-Order Theories of Laminated Composite Plates," *Seminar*, National Aeronautical Laboratory, Bangalore, India, December 15, 1989.

220. "A Study of Delamination in Composite Laminates with a Layer-Wise Laminate Plate Theory," *Seminar*, Indian Institute of Science, Bangalore, India, December 15, 1989.

221. "Characterization of Delamination in Thick Composite Laminates," *Seminar*, Bell Helicopter Textron, Inc., Fort Worth, TX, January 19, 1990.

222. "On a Layerwise Laminate Plate Theory with Application to Delamination," *Seminar*, Mechanics of Materials Branch, NASA Langley Research Center, Hampton, VA, January 22, 1990.

223. "Finite-Element Analysis of Structural Vibrations: Recent Developments," *Proceedings of the International Congress on Recent Developments in Air & Structure Borne Sound and Vibration*, edited by M. J. Crocker, pp. 291-305, Auburn University, Alabama, 1990.

224. "A Study of Delamination Buckling in Composite Laminates Using the Generalized Laminate Plate Theory," (with E. J. Barbero), *SECTAM XV (Southeastern Conference on Theoretical and Applied Mechanics)*, Georgia Tech, Atlanta, GA, March 22-23, 1990.

225. "Dynamic Instability of Composite Plates Using the First-Order Shear Deformation Theory," (with J. Moorthy and R. H. Plaut), *SECTAM XV (Southeastern Conference on Theoretical and Applied Mechanics)*, Georgia Tech, Atlanta, GA, March 22-23, 1990.

226. "Computational Aspects of Finite Elements," *Seminar on Engineering and Scientific Computing*, Department of Mathematics, Virginia Polytechnic Institute and State University, Blacksburg, VA, March 26, 1990.

227. "On the Finite Element Modeling of Physical Processes," *Seminar*, General Electric Company, Evendale, Ohio, May 9, 1990.

228. "A Unified Formulation of Micromechanics Models of Fiber-Reinforced Composites," (with J. L. Teply), *IUTAM Symposium on Elastic Behavior of Composite Materials*, May 29-June 1, 1990, Renesslaer Polytechnic Institute*, Troy, NY.* Appeared in *Inelastic Deformation of Composite Materials*, G. J. Dvorak (Ed.), Springer-Verlag, New York, pp. 341-370.

229. "On a Layer-Wise Plate Theory for Composite Laminates," *Engineering Mechanics Seminar*, Ohio State University, June 1, 1990.

230. "On Recent Developments in the Refined Theories of Composite Laminates," *Seminar*, University of Rome, Italy, June 26, 1990.

231. "On a Layer-Wise Laminate Plate Theory for Thick Composites," *Seminar*, University of Rome 2, 'Tor Vergata,' Rome, June 27, 1990.

232. "Penalty Finite-Element Analysis of Non-Newtonian Fluids in Three-Dimensional Enclosures," *Seminar*, University of Rome 2, June 28, 1990.

233. "Advances in the Analysis of Laminated Composite Plates," *Seminar*, Salerno, Italy, July 2, 1990.

234. "On New Developments in the Refined Theories of Plates," *New Developments in Structural Mechanics*, University of Catania, Italy, July 4-6, 1990.

235. "Characterization of Local Effects in Laminated Composite Plates," *Workshop on Composite Materials*, Indian Institute of Technology, Delhi, India, July 20, 1990.

236. "Modeling of Delamination in Composite Laminates Using a Layer-Wise Plate Theory," (with E. J. Barbero), *Indo-US Workshop on Composites for Aerospace Applications*, Bangalore, India, July 23-27, 1990.

237. "Interlaminar Shear Stress Effects on the Postbuckling Response of Graphite-Epoxy Panels," (with S. P. Engelstad and N. F. Knight, Jr.), *Advances in Structural Testing*, *Analysis and Design*, (Proc. Int. Conf. on Structural Testing, Analysis and Design, July 29-Aug. 3, 1990, Bangalore, India), Tata McGraw-Hill, New Delhi, pp. 102-107, 1990.

238. "On the Modeling of Thick Composites Using a Layer-Wise Laminate Theory," *Int. Conf. on Mechanics, Physics and Structure of Materials*, Thessaloniki, Greece, Aug. 19-24, 1990.

239. "A Computational Model for Smart Composite Structures with Embedded Actuators," (with D. H. Robbins, Jr.) *Second World Congress on Computational Mechanics*, University of Stuttgart, West Germany, August 27-31, 1990.

240. "On the Kinematic Modeling of Thick Composite Laminates," *Joint Seminar*, Center for Composite Materials and Structures, Rensselaer Polytechnic Institute, Troy, NY, Oct. 11, 1990.

241. "On the Modeling of Local Stress Fields in Composite Laminates," *Seminar*, Department of Aerospace Engineering, University of Maryland, College Park, MD, Oct. 12, 1990.

242. "On Buckling and Post-Buckling of Circular Cylindrical Shells with and without Stiffeners," *Seminar*, General Dynamics, Space Systems Division, San Diego, CA, Nov. 26, 1990.

243. "Buckling of Stiffened Circular Cylindrical Shells Using a Layer-Wise Shell Theory," *Seminar*, Madras Institute of Technology (MIT), Madras, Jan. 7, 1991.

244. "Postbuckling Response and Failure Prediction of Flat Rectangular Graphite-Epoxy Plates Loaded in Axial Compression," (with S. P. Engelstad and N. F. Knight, Jr.), *32nd Structures, Structural Dynamics and Materials (SDM) Conference*, April 8-10, 1991, Baltimore, Maryland (AIAA-91-0910-CP, pp. 888-895, Part 2 of the proceedings).

245. "Modeling of Actuators in Intelligent Structures," (with D. H. Robbins, Jr.), 1991 *Spring Meeting of Materials Research Society*, Anaheim, California, April 29-May 3, 1991.

246. "Energy and Variational Methods in Applied Mechanics," Lecture 1 at Instituto de Aeronautica e Espaco (Institute for Aeronautics and Space)- CTA, Sao Jose does Campos-SP, Brazil, May 6, 1991.

247. "Finite Element Analysis of Problems in Solid Mechanics, Fluid Mechanics, and Heat Transfer," Lecture 2 at Instituto de Aeronautica e Espaco (Institute for Aeronautics and Space)-CTA, São Jose dos Campos-SP, Brazil, May 7, 1991.

248. "On Refined Theories of Plates and Shells," Lecture 3 at Instituto de Aeronautica e Espaco (Institute for Aeronautics and Space)-CTA, São Jose dos Campos-SP, Brazil, May 8, 1991.

249. "Mechanics of Anisotropic Plates and Shells," Lecture 4 at Instituto de Aeronautica e Espaco (Institute for Aeronautics and Space)-CTA, São Jose does Campos-SP, Brazil, May 9, 1991.

250. "Recent Advances on the Modeling of Laminated Composite Structures," *Seminar* at Universidade de São Paulo (University of São Paulo), Department of Civil Engineering, São Paulo, Brazil, May 10, 1991.

251. "Accurate Determination of Stresses in Arall$^{tm}$ Laminates," (with D.H. Robbins, Jr. and J.L. Teply), *International Aerospace Congress* 1991, May 12-16, Melbourne, Australia.

252. "Nonlinear Probabilistic FEM for Composite Shells," (with S.P. Engelstad), *ASCE Engineering Mechanics Specialty Conference*, May 19-22, 1991, Columbus, OH.

253. "Computational Models for the Stress Analysis of Woven Composite Structures," *Seminar*, Computational Mechanics Branch, NASA Langley Research Center, Hampton, VA, May 24, 1991.

254. "Probabilistic Micromechanics for Metal Matrix Composites," (with S.P. Engelstad and D.A. Hopkins), 1991 ASME Applied Mechanics and Biomechanics Summer Conference, June 17-19, 1991, Columbus, Ohio; appeared in *Mechanics of Composites at Elevated and Cryogenic Temperatures*, S.N. Singhal, W.F. Jones, and C.T. Herakovich (eds.), AMD-Vol. 118, ASME, New York, 1991, pp. 181-193.

255. "On Solution Methods for Nonlinear Equations," *Seminar Series in Engineering Mechanics*, Ohio State University, Columbus, OH, June 20, 1991.

256. "Analysis of Laminated Composite Plates Using First- and Second-Order Moderate Rotation Theories," (with E. Sacco), *International Conference on Industrial and Applied Mathematics*, (ICIAM 91), July 8-12, 1991, Washington, D.C.

257. "Axisymmetric Flows Through a Sudden Enlargement with Heat Transfer Using Consistent Penalty FEM," (with G. Subhas Babu *et al.) Seventh Int. Conf. on Numerical Methods in Thermal Problems*, Stanford University, Stanford, CA, July 8-12, 1991.

258. "Numerical Simulation of Fluid Flow and Heat Transfer During Forming Processes," (with M. P. Reddy), *Seventh Int. Conf. on Numerical Methods in Thermal Problems*, Stanford University, CA, July 8-12, 1991.

259. "Nonlinear Probabilistic Finite Element Modeling of Composite Shells," (with S. P. Engelstad), *First U. S. National Congress on Computational Mechanics*, Chicago, IL, July 21-24, 1991.

260. "A Critical Evaluation of Plate and Shell Elements with Shear and Membrane Constraints," (with R. Averill), *First U. S. National Congress on Computational Mechanics*, Chicago, IL, July 21-24, 1991.

261. "A Study of Local and Strain Fields in Composites," (with J. L. Teply), *First U. S. National Congress on Computational Mechanics*, Chicago, IL, July 21-24, 1991.

262. "A Layer-Wise Plate Bending Finite Element for Composite Laminates," (with D. H. Robbins, Jr.), *First U. S. National Congress on Computational Mechanics*, Chicago, IL, July 21-24, 1991.

263. "On Three-Dimensional Elasticity Solutions of Laminated Composite Plates," (with M. Savoia), *First International Conference on Computational Structures Technology*, Heriot-Watt University, Edinburgh, U.K., August 20-22, 1991.

264. "Element-by-Element Methods for the Solution of Incompressible, Three-Dimensional Flows," (with M. P. Reddy), *Second North American-Soviet Workshop on Computational Aerodynamics*, Montreal Canada, Sept. 3-5, 1991.

265. "A Probabilistic Postbuckling Analysis of Composite Shells," (with S. P. Engelstad), *First Int. Conf. on Computational Stochastic Mechanics*, Corfu, Greece, Sept. 17-19, 1991; *Computational Stochastic Mechanics*, P. D. Spanos and C. A. Brebbia (eds.), Elsevier, pp. 839-850, 1991.

266. "On Refined Theories of Laminated Composite Plates," *Seminar*, Technical University of Athens, Greece, Sept. 19, 1991.

267. "A Layer-Wise Plate Bending Finite Element for Composite Laminates," (with D. H. Robbins), *Twenty-Second Midwestern Mechanics Conference*, University of Missouri-Rolla, Rolla, MO, Oct. 6-9, 1991.

268. "Stability of Thick Composite Laminates Using the Layer-Wise Theory," (with J. L. Teply), *Sixth Technical Conference on Composite Materials*, American Society for Composites, Albany, NY, Oct. 7-9, 1991.

269. "A Penalty FEM and EBE Solution Methods for Incompressible Three-Dimensional Flows," *Seminar*, McDonnell-Douglas Aircraft Co., St. Louis, MO, Oct. 7, 1991.

270. Accurate Prediction of Stresses and Failures in Thick Composite Laminates," (with D. H. Robbins, Jr. and Y. S. N. Reddy) *Second USSR- U. S. Symposium on Mechanics of Composite Materials*, Albany, NY, Oct. 10-11, 1991.

271. "A Layer-Wise Laminate Theory for the Simulation of Imbedded Actuators and Local Failures," (with D. H. Robbins and Y. S. N. Reddy), *IUTAM Symposium on Local Mechanics Concepts for Composite Material Systems*, Blacksburg, VA, Oct. 27-31, 1991.

272. "Modeling of Thick Composite Laminates Using Multiple Assumed Displacement Fields," *Oscar S. Wyatt, Jr. Chair Seminar*, Texas A&M University, College Station, TX, Nov. 11, 1991.

273. "FEM Analysis of Heat Transfer in a Developing Turbulent Pipe Flow -- A Comparative Study of Nine Models," (with M. S. Ravisankar, K. N. Seetharamu, P. A. Aswatha Narayana), *The Eleventh National Conference on Heat and Mass Transfer*, Madras, India, December 1991.

274. "On the Modeling of Delamination in Thick Composites," (with D. H. Robbins and A. V. Krishna Murty) in *Engineering Analysis Techniques for Composite Materials*, L. Schwer, J.N. Reddy and A. Mal (eds.), NDE-Vol. 10, American Society of Mechanical Engineers, New York, 1991.pp. 133-149.

275. "A 3-D Penalty Finite Element Model of Forming Processes," (with M. P. Reddy and H. U. Akay) in *Advances in Finite Element Analysis in Fluid Dynamics*, M. N. Dhaubhadel, M. S. Engelman, J.N. Reddy (eds.), FED-Vol. 123, American Society of Mechanical Engineers, New York, 1991 (Proc. of the Symposium held at ASME Winter Annual Meeting, Atlanta, GA, Dec. 4-6, 1991), pp. 61-76.

276. "Numerical Simulation of Solidification of Aluminum Alloy Castings," (with G. S. Reddy and W. J. Mascarendhas), in *Advances in Finite Element Analysis in Fluid Dynamics*, M. N. Dhaubhadel, M. S. Engelman, J.N. Reddy (eds.), FED-Vol. 123, American Society of Mechanical Engineers, New York, 1991 (Proc. of the Symposium held at ASME Winter Annual Meeting, Atlanta, GA, Dec. 4-6, 1991), pp. 39-46.

277. "A Finite Element Simulation of Mold Filling Processes," (with M. P. Reddy) in *Advances in Finite Deformation Problems in Materials Processing and Structures*, N. Chandra and J.N. Reddy (eds.), AMD-Vol. 125, American Society of Mechanical Engineers, New York, 1991 (Proc. of the Symposium held at ASME\ Winter Annual Meeting, Atlanta, GA, Dec. 4-6, 1991), pp. 65-74.

278. "Modeling of Laminated Composite Plates and Shells Using a Layer-Wise Shell Theory," *Asian Pacific Conference on Computational Mechanics*, University of Hong Kong, Hong Kong, Dec. 11-13, 1991; also appeared in *Computational Mechanics*, Vol. 2, Y. K. Cheung, J. H. Law and A. Y. T. Leung (eds.), A. A. Balkena, Netherlands, 1991, pp. 1031-1036.

279. "Computational Models of Inelasticity in Composite Laminates," (with S. P. Engelstad and R. T. Arenburg), *COMPLAS III: Third Int. Conference on Computational Plasticity Fundamentals and Applications*, Barcelona, Spain, April 6-10, 1992.

280. "On the Application of Incremental Theory of Plasticity with Endochronic Hardening Rule," (with S.P. Engelstad and S.K. Jain), *COMPLAS III: Third Int. Conference on Computational Plasticity Fundamentals and Applications*, Barcelona, Spain, April 6-10, 1992.

281. "Global/Local Analysis of Laminated Composite Plates Using Variable Kinematic Elements," (with D.H. Robbins, Jr.), *AIAA/ASME/ASCE/AHS/ASC 33rd Structures, Structural Dynamics, and Materials (SDM) Conference*, April 13-15, 1992, Dallas, Texas.

282. "Recent Developments in the Kinematic Modeling of Laminated Composite Plates and Shells," *Sixteenth South Eastern Conference on Theoretical and Applied Mechanics*,, University of Tennessee Space Institute, Nashville, April 16, 1992.

283. "Variable Kinematic Models and Mesh Superposition Techniques for the Analysis of Composite Laminates," *Seminar*, Lockheed Aeronautical Systems Company, Marietta, Georgia, April 22, 1992.

284. "Modeling of Thick Composite Laminates Using Multiple Assumed Displacement Fields," *Structural Mechanics Seminar*, Georgia Tech, April 23, 1992.

285. "Consistent Definition of Unit Cell for Nonlinear Analysis of Fibrous Composites," (with J. L. Teply) *1992 ASME Applied Mechanics, Materials and Aerospace Summer Meeting,* April 28-May 1, 1992, Scottsdale, Arizona.

286. "Nonlinear Analysis of Composite Structures by the Finite Element and Boundary Element Methods," (with F. Kokkinos), *Third National Congress on Mechanics*, June 25-27, 1992, Athens, Greece.

287. "Failure Prediction in Composite Laminates According to the Layerwise Plate Theory," (with Y. S. N. Reddy), *First World Congress of Nonlinear Analysts*, August 19-26, 1992, Tampa, Florida.

288. "Analysis of Composite Laminates Using Variable Kinematic Finite Elements," (with D. H. Robbins, Jr.), *Proceedings of the 7th Brazilian Symposium on Piping and Pressure Vessels (SIBRAT),* C. A. C. Selke and C. S. Baecellos (eds.), University of Santa Catarina, Florianopolis, Brazil, pp. 47-68, 1992.

289. "A Global-Local Computational Procedure for the Analysis of Thick Composite Laminates," *TAM Seminar*, Department of Theoretical and Applied Mechanics, Cornell University, Ithaca, October 14, 1992.

290. "Analysis of Thick Composite Laminates Using Variable Kinematic Finite Elements," *Seventh Technical Conference on Composite Materials*, American Society for Composites, October 14-17, 1992, Pennsylvania State University, State College, PA.

291. "A Global-Local Computational Procedure Based on Layerwise Theory of Composite Laminates," *TICOM Seminar*, University of Texas at Austin, October 22, 1992.

292. "An Adaptive, Multilevel Numerical Scheme for the Solution of the Navier-Stokes Equations," (with R. M. Fithen) the ASME Winter Annual Meeting, Anaheim, CA, November 9-13, 1992. Appeared in *Adaptive, Multilevel and Hierarchical Computational Strategies,* AMD-Vol. 157, A. K. Noor (ed.), ASME, New York, pp. 275-292, 1992.

293. "Geometrically Nonlinear Analysis of Laminated Composite Shells Using a Macro-Micro Cumulative Damage Model," (with R. C. Averill) the ASME Winter Annual Meeting, Anaheim, CA, November 9-13, 1992. *Damage Mechanics in Composites,* AMD-Vol. 150 and AD-Vol. 32, D.H. Allen and D.C. Lagoudas (eds.), ASME, New York, pp. 255-273, 1992.

294. "A Macro-Micro Mechanics Procedure for Geometrically Nonlinear Analysis of Laminated Composite Shells with Cumulative Damage," (with R.C. Averill) *Symposium on Damage Mechanics*, at the ASME Winter Annual Meeting, Anaheim, CA, November 9-13, 1992.

295. "The Finite Element Method in Engineering Science," *Seminar*, Department of Mechanical Engineering, Indian Institute of Science, Bangalore, India, December 4, 1992.

296. "On the Modeling of Composite Laminates: Intuition to Generality and Theory to Practice," *the Neelakantam Memorial Lecture* at the Annual Convention of the Aeronautical Society of India, December 11, 1992, Bangalore, India.

297. "Global-Local Hierarchical Modeling of Composite Laminates Using Variable Kinematic Finite Elements and Mesh Superposition," (with D.H. Robbins, Jr.), *Proceedings of the IMACS International Symposium on Mathematical Modelling and Scientific Computing*, S.K. Dey and E.J. Kansa (eds.), Bangalore, India, pp. 209-228, 1992.

298. "A Layerwise Laminate Theory and Global-Local Computational Schemes," *Seminar*, Sandia National Laboratory, Albuquerque, NM, February 1, 1993.

299. "A Study of the Effect of Embedded Piezoelectric Layers in Composite Cylinders," (with J. A. Mitchell) *SPIE's 1993 North American Conference on Smart Structures and Materials,* Albuquerque, New Mexico, February 1-4, 1993.

300. "On the Modeling of Actuators in Laminated Composite Structures," (with D. H. Robbins, Jr.) *SPIE's 1993 North American Conference on Smart Structures and Materials,* Albuquerque, New Mexico, February 1-4, 1993.

301. "A Hierarchical Computational Procedure for Accurate Modeling of Local Effects in Composite Laminates," *AFOSR/NA Seminar*, Air Force Office of Scientific Research, Bolling AFB, February 12, 1993.

302. "Global-Local Computational Procedures Based on Variable Kinematic Finite Elements and Mesh Superposition Techniques," *Seminar*, Dept. of Civil Engineering, University of Minnesota, March 5, 1993.

303. "A Simultaneous Multiple Model Approach for Laminated Composite Structures," *Joint Seminar* by the Center for Mechanics of Composites, Texas A & M University, College Station, Texas, April 6, 1993.

304. "The Finite Element Method in Engineering Science," *Seminar*, Department of Civil Engineering, Texas Tech University, Lubbock, April 13, 1993.

305. "Free Vibration Analysis of Laminated Plates Using a Layer-Wise Theory," (with A. Nosier and R. K. Kapania), *AIAA/ASME/ASCE/AHS/ASC 34th Structures, Structural Dynamics, and Materials ( SDM) Conference*, April 1993, La Jolla, CA, Paper No. AIAA-93-1320-CP.

306. "Thermomechanical Postbuckling Analysis of Laminated Composite Shells," (with R. C. Averill), *AIAA/ASME/ASCE/AHS/ASC 34th Structures, Structural Dynamics and Materials (SDM) Conference*, La Jolla, CA, April 1993.

307. "On a Hierarchical Computational Model for the Analysis of Composite Laminates," *Seminar*, University of Bologna, Bologna, May 22, 1993.

308. "Stability of Laminated Cylindrical Shells According to the Layerwise Shell Theory," *Seminar*, University of Rome II, May 28, 1993.

309. "Mechanics of Composite Laminates and Associated Computational Models," a series of lectures presented at University of Naples, Naples, Italy, May 30-June 2, 1993.

310. "A Simultaneous Multiple Model Approach for Accurate Modeling of Composite Laminates," *Seminar*, University of Rome II, June 3, 1993.

311. "Buckling and Postbuckling Behavior of Eccentrically Stiffened Laminated Cylinders under Axial Extension," (with M. Savoia) *Seventh Italian Convention on Computational Mechanics,* Trieste, Italy, June 1-3, 1993.

312. "Through-Thickness Effects Thermomechanical Postbuckling of Laminated Structures," (with R. C. Averill), *MEET'N'93: ASME-AMD, ASCE-EMD, and SES Conference*, June 6-9, Charlottesville, VA 1993.
313. "Postbuckling Analysis of Composite Shells Using Probabilistic Finite Elements," (with S. P. Engelstad), *MEET'N'93: ASME-AMD, ASCE-EMD, and SES Conference*, June 6-9, Charlottesville, VA 1993.
314. "Application of Finite Element Method to Composite Materials," (with J. L. Teply), *MEET'N'93: ASME-AMD, ASCE-EMD, and SES Conference*, June 6-9, Charlottesville, VA 1993.
315. "Analysis of Discretely Stiffened Laminated Cylindrical Shells," (with S. Kassegne), *MEET'N'93: ASME-AMD, ASCE-EMD, and SES Conference*, June 6-9, Charlottesville, VA 1993.
316. "A Novel Computational Procedure for the Analysis of Thick Composite Laminates," (with D. H. Robbins, Jr.), *MEET'N'93: ASME-AMD, ASCE-EMD, and SES Conference*, June 6-9, Charlottesville, VA 1993. Appeared in *Mechanics of Thick Composites*, Y. D. S. Rajapakse (ed.), AMD-Vol. 162, American Society of Mechanical Engineers, New York, pp. 51-66, 1993
317. "Structural Response of Composite Laminates with Piezoelectric Layers," (with J. A. Mitchell), *MEET'N'93: ASME-AMD, ASCE-EMD, and SES Conference*, June 6-9, Charlottesville, VA 1993.
318. "Buckling and Postbuckling of Eccentrically Laminated Cylinders," (with M. Savoia), *MEET'N'93: ASME-AMD, ASCE-EMD, and SES Conference*, June 6-9, Charlottesville, VA 1993.Appeared in *Mechanics of Composite Materials-Nonlinear Effects,* M.W. Hyer (ed.), AMD-Vol. 159, American Society of Mechanical Engineers, New York, pp. 127-142, 1993.
319. "Finite Element Analysis of Viscous Incompressible Flows Using Primitive Variables," *Proceedings of the 9th ADINA Conference*, MIT, Cambridge, MA, 23-25 June, 1993.
320. "On Hierarchical Finite Elements and Mesh Superposition Techniques," *Seminar*, L.G. Mouchel & Partners Ltd., Consulting Engineers, Weybridge, Surrey, U. K., June 29, 1993.
321. "A Computational Model for Composite Laminates," *Research Colloquium*, Department of Civil Engineering, University College of Swansea, Swansea, Wales, U. K., July 1, 1993.
322. "A Global-Local Computational Procedure for Composite Laminates," *Seminar*, British Aerospace, Warton, U. K., July 2, 1993.
323. "Refined Theories of Laminated Plates and Shells," *Seminar*, Department of Mathematical Applications, Zaragoza University, Zaragoza, Spain, July 8, 1993.
324. "Theory and Analysis of Laminated Plates and Shells," *Seminar*, Department of Mathematical Applications, Zaragoza University, Zaragoza, Spain, July 8, 1993.
325. "Computational Fluid Dynamics-An Overview," *Seminar*, Department of Mathematical Applications, Zaragoza University, Zaragoza, Spain, July 9, 1993.
326. "Finite Element Analysis of Convective Heat Transfer," *Seminar*, Department of Mathematical Applications, Zaragoza University, Zaragoza, Spain, July 9, 1993.
327. "Hierarchical Plate Elements and Mesh Superposition for Determination of Local Stress Fields in Composite Laminates," (with D. H. Robbins), *Second U. S. National Congress of Computational Mechanics,* Hyatt Regency Hotel, Washington, DC , August 16-18, 1993.
328. "Homogenization Techniques Using the Finite Element Method," (with J. L. Teply), *Second U. S. National Congress of Computational Mechanics*, Hyatt Regency Hotel, Washington, D. C., August 16-18, 1993.
329. "Free Vibration and Impact Response of Laminated Composites Using a Layer-Wise Theory," (with A. Nosier and R. K. Kapania), *Army Symposium on Solid Mechanics 1993*, Plymouth, MA, August 17-19, 1993.

330. "An Accurate Prediction of Failures in Composite Laminates Using a Layerwise Theory," (with Y. S. N. Reddy) *Ninth International Conference on Composite Materials (IICM-9),* Madrid, Spain, 12-16 July 1993.

331. "Global-Local Computational Procedures for the Analysis of Composite Laminates," *Seminar*, Department of Engineering Science & Mechanics, Penn State University, State College, PA, December 8, 1993.

332. "Variable Kinematic Finite Elements and Mesh Superposition Method for the Analysis of Composite Laminates," *Graduate College Seminar on Modeling and Discretization of Continua*, University of Stuttgart, Stuttgart, Germany, December 16, 1993.

333. "Postbuckling Behavior of Stiffened Cylindrical Shells According to the Layerwise Theory," (with M. Savoia), *ASCE Space `94,* Albuquerque, NM, February 17-19, 1994.

334. "An Accurate Stress Analysis Procedure for Laminated Systems," *Seminar*, Intel Corporation, Phoenix, March 1, 1994.

335. "On Global Local Computational Models for Laminated Structures," *Aeronautical and Astronautical Engineering Seminars*, University of Illinois, Urbana, March 16, 1994.

336. "A New Strain Energy Release Rate Concept for Interfacial Cracks," (with A. V. Krishna Murty and H. K. Harikumar), *Fracture Mechanics,* Proceedings of the Indo-German Workshop held at the Indian Institute of Science, Bangalore, India, March 28-April 1, 1994.

337. "On a Practical Analysis Procedure for Laminated Composite Structures," *Seminar to Ford Finite Element User Group*, Ford Motor Company, Dearborn, Michigan, May 13, 1994.

338. "An Hierarchical Global-Local Computational Procedure for the Analysis of Laminated Composite Plates with Piezoelectric Layers," *Twelfth U.S. National Congress of Applied Mechanics,* University of Washington, Seattle, June 26-July 1, 1994.

339. "An Hierarchical Multi-Model Approach to the Analysis of Laminated Composite Structures," *Third World Congress on Computational Mechanics,* Chiba, Japan, August 1-5, 1994.

340. "Modeling of Composite Laminates with Piezoelectric Laminae." A *seminar* presented at the *Centre for Computational Mechanics,* National University of Singapore, August 4, 1994.

341. "Stiffness Reduction in Composite Laminates due to Transverse Matrix Crack Damage," (with G. N. Praveen), *IUTAM Symposium on Microstructure-Property Interactions in Composite Materials,* Aalborg, Denmark, August 23-25, 1994.

342. "Non-Darcy Natural Convection in a Porous Cavity with Constant Heat flux on One Vertical Wall," (with K. N. Seetharamu, B. V. K. Satya Sai, and P.A. Aswatha Narayana), *Tenth Int. Heat Transfer Conf.,* Brighton, UK, August, 1994.

343. "Recent Advances in Modeling of Composite Structures," *NISA Users' Conference,* Detroit, October 3-4, 1994.

344. "BEM and Penalty FEM Models for Viscous Incompressible Fluids," (with F. Kokkinos) *Society of Engineering Science 31st Annual Technical Meeting,* Texas A&M University, College Station, October 10-12, 1994.

345. "Global-Local Finite Element Modeling of Wave Propagation in Composite Laminates," (with G. Rengarajan) *Society of Engineering Science 31st Annual Technical Meeting,* Texas A&M University, College Station, Oct. 10-12, 1994.

346. "Stiffness reduction in Composite Laminates due to Transverse Matrix Cracks," (with G. N. Praveen) *Society of Engineering Science 31st Annual Technical Meeting,* Texas A&M University, College Station, Oct. 10-12, 1994.

347. "A Continuum Formulation for the Analysis of Laminates with Piezoelectric Lamina," (with J. A. Mitchell) *Society of Engineering Science 31st Annual Technical Meeting,* Texas A&M University, College Station, October 10-12, 1994.

348. "Thermal Postbuckling of Stiffened Multilayered Cylinders," (with M. Savoia), *Symposium on Buckling and Postbuckling of Composite Structures* session at the ASME Winter Annual Meeting, Chicago, November 6-11, 1994.
349. "Finite Element Analysis of Composite Materials," a course given at the Middle East technical University, Ankara, Turkey, December 5-9, 1994.

The following four seminars were presented in a course on "Mechanics of Composite Materials" in *Graduate College Seminar on Modeling and Discretization of Continua*, University of Stuttgart, Germany:

350. "Higher-Order Shear Deformation Theories," December 13, 1994.
351. "Analytical Solutions of Laminate Theories," December 14, 1994.
352. "Finite Element Models of Laminate Theories," December 15, 1994.
353. "Layerwise Theory and Finite Element Models," December 16, 1994.
354. "Analytical Solutions for the Response of Laminated Composites with Piezoelectric Laminae," (with J.A. Mitchell), *Finite Element Modeling of Active Systems* session at the 1995 North American Conference on Smart Structures and Materials, San Diego, February 16-March 3, 1995.
355. "Nonlinear Formulations of Laminated Plates with Piezoelectric Laminae," (with J. A. Mitchell), *Smart Materials and Structures* session at the ASCE/EMD Conference, Boulder, Colorado, May 21-24, 1995.
356. "Hierarchical Modeling of Laminated Composite Structures," *Seminar in Mechanics,* University of Paderborn, Paderborn, Germany, July 3, 1995.
357. "Variable Kinematic Models for Global-Local Analysis of Laminated Composite Structures," *Seminar,* Institute of Structural Mechanics, German Aerospace Research Establishment, Braunschweig, Germany, July 4, 1995.
358. "Computational Approaches for Nonlinear Analysis of Laminated Composite Structures," *SIAM International Conference,* Hamburg, Germany, July 6-8, 1995.
359. "Evaluation of the Shear Deformation Plate Theories of Composite Laminates," (with P. Bose), *Computational Methods for Composite Structures* session at the *International Conference on Computational Engineering Science,* Hawaii, 30 July-3 August, 1995.
360. "Recent Developments in the Modeling of Composite Structures," *Energy Technology Conference & Exhibition (ETCE),* Houston, Texas, January 28-February 2, 1996 (see *Composite Materials Design & Analysis,* Book V, Volume I, pp.1-36), ASME International.
361. "Hierarchical Global-Local Modeling of Composite Structures," *Seminar,* Center for Computational Mechanics, National University of Singapore, February 1996.
362. "Global-Local and Hierarchical Computational Procedures for Laminated Composite Structures," *Seminar,* Department of Mechanical and Production Engineering, Nanyang Technological University, Singapore, April 4, 1996.
363. "Refined Theories and Computational Procedures for the Modeling of Smart Composite Structures," *First International Conference on Composite Science and Technology,* Durban, South Africa, 18-20 June 1996. (see *Composites Science and Technology*, S. Adali and V. E. Verijenko (eds.), University of Natal, Durban, South Africa, pp. 421-429).
364. "Recent Advances in Numerical Modeling of Composites and Smart Structures," *Seventh Workshop on Composite Materials*, University of Zaragoza, Spain, 24 June 1996.
365. "A Computational Methodology for Global-Local Analysis of Composite Structures," *Mathematics of Finite Elements and Applications IX (MAFELAP 1996),* Brunel University, Uxbridge, U.K., 25-28 June 1996. Appeared in *The Mathematics of Finite Elements and Applications, Highlights 1996*, J. R. Whiteman (ed.), John Wiley, Chichester, UK, pp. 313-331, 1997.

366. "FEM Modeling of the Thermomechanical Response of a Composite Laminate with Shape Memory Alloy Layers," (with D. C. Lagoudas, *et al.*) *Second National Congress on Computational Mechanics,* Greek Association of Computational Mechanics, University of Patras, Patras, Greece, July 26-28, 1996.

367. "Variable Kinematic Models for Global-Local Analysis of Structures," *Seminar,* National Aerospace Laboratory, Bangalore, India, July 20, 1996.

368. "Developments in Global-Local Modeling of Composite Structures," *Seminar,* Reactor Design & Development Group, Bhabha Atomic Research Centre, Trombay, Mumbai, India, August 3, 1996.

369. "Finite Element Solutions for Some Problems Involving Smart Materials," (with G. Rengarajan) *Inelastic Behavior of Materials,* session at *33rd Annual Technical Meeting of the Society of Engineering Science,* October 20-23, 1996, Arizona State University, Tempe, AZ.

370. "Crystal Inelasticity of Shape Memory Alloy Single Crystals - A Micromechanics Model," (with G. Rengarajan) *Smart Structures and Materials,* session at *33rd Annual Technical Meeting of the Society of Engineering Science,* October 20-23, 1996, Arizona State University, Tempe, AZ.

371. "On Locking-Free Finite Elements," *TICAM Seminar,* Department of Aerospace Engineering and Engineering Mechanics, The University of Texas at Austin, November 7, 1996.

372. "Recent Developments and Future Directions in Computational Structural Dynamics," *Seminar* presented in the Center for Computational Mechanics, National University of Singapore, Dec 5, 1996.

373. "Numerical Modeling of Shape Memory Behavior Using a Continuum Constitutive Model," (with G. Rengarajan) *SPIE Far East and Pacific Symposium on* ***Smart Materials, Structures, and MEMS*****,** December 11-14, 1996, Indian Institute of Science, Bangalore, India.

374. "Quasicontinuum Analysis of Phase Transformations in Shape Memory Alloys," (with G. Rengarajan) *SPIE Far East and Pacific Symposium on* ***Smart Materials, Structures, and MEMS*****,** December 11-14, 1996, Indian Institute of Science, Bangalore, India.

375. "Locking-Free Finite Elements of Shear Deformation Beams and Circular Plates," *Advances in Computational Mechanics,* University of Texas, Austin, January 13-15, 1997.

376. "Interlaminar Stress Recovery Near Free Edge Using a Layerwise Element with Enhanced Strains," (with C. M. Dakshina Moorthy and J. A. Mitchell) *Energy Week '97,* Houston, January 28-30, 1997 (Proceedings of the *8th Annual International Energy Week Conference & Exhibition,* Houston, Texas, Book IV, Energy Engineering I, pp. 50-59).

377. "Global-Local Modeling of Composite Laminates Using Variable Kinematic Elements," *Seminar*, Polytechnic University (`Brooklyn Poly'), February 7, 1997.

378. "Hierarchical Modeling of Composite Laminates: Computational Procedures for Global-Local Analysis," *Seminar*, Mechanical Engineering and Materials Science Department, Rice University, February 24, 1997.

379. "Accurate Determination of Stresses and Failures in Composite Laminates," *Seminar*, Metallurgical and Materials Seminar, Metal Casting Technology Center, University of Alabama, Tuscaloosa, Alabama, March 13, 1997.

380. "Finite Element Analysis of Coupled Fluid Flow and Heat Transfer," *Seminar*, Thermal and Fluid Sciences, Texas A&M University, March 24, 1997.

381. "Global-Local Modeling of Laminated Plates Using Variable Kinematic Finite Elements and Mesh Superposition," *Seminar*, College of Engineering, Architecture, and Technology, Oklahoma State University, Stillwater, April 21, 1997.

382. "Thermomechanical Behavior of Functionally Graded Materials," *Seminar*, The Centre for Computational Mechanics, Mechanical and Production Engineering, National University of Singapore, June 3, 1997.

383. "Modeling Delamination Using a Layerwise Element with Enhanced Strains," (with C. M. Dakshina Moorthy) *McNU'97,* Northwestern University, Evanston, IL, 29 June-July 2, 1997.

384. "On the Nonlinear Transient Thermomechanical Response of Functionally Gradient Plates Subjected to Surface Heating," (with G. N. Praveen) *McNU'97,* Northwestern University, Evanston, IL, 29 June-July 2, 1997.

385. "Buckling of Circular Plates Based on Reddy Plate Theory," (with C.M. Wang and K.H. Lee) *ASME ASIA'97 Congress and Exhibition,* Singapore, September 30-October 2, 1997.

386. "Kinematic Models and Computational Procedures for the Analysis of Laminated Composite Structures," *Seminar*, Department of Mechanical Engineering and Applied Mechanics, University of Michigan, Ann Arbor, October 10, 1997.

387. "Hierarchical Computational Procedures for the Global-Local Analysis of Laminated Composite Structures," *Seminar*, Department of Mechanical Engineering, University of Delaware, Newark, October 30, 1997.

388. "On the Role of Microstructure in Modeling Inelastic Behavior of Shape Memory Alloys," (with G. Rengarajan) *IMECE'97* (1997 International Mechanical Engineering Congress & Exposition), Dallas, November 16-21, 1997.

389. "Nonlinear Transient Thermoelastic Analysis of Functionally Graded Ceramic-Metal Plates," (with G. N. Praveen) *IMECE'97* (1997 International Mechanical Engineering Congress & Exposition), Dallas, November 16-21, 1997.

390. "Thermoelastic Analysis of Functionally Graded Cylinders and Plates," (with G. N. Praveen) *12th Engineering Mechanics Conference*, San Diego, CA, May 17-20, 1998.

391. "On Locking-Free Finite Elements and Interdependent Interpolations," *Graduate College Seminar on Modeling and Discretization of Continua and Structures*, University of Stuttgart, Germany, June 4, 1998.

392. "Thermomechanical Analysis of Functionally Graded Materials," *Graduate College Seminar on Modeling and Discretization of Continua and Structures*, University of Stuttgart, Germany, June 8, 1998.

393. "A Micromechanical Study of Inelastic Behavior of Silicon," (with G. Rengarajan) *Thirteenth US National Congress of Applied Mechanics*, June 21-26, 1998, University of Florida, Gainesville, Florida.

394. "On Modeling of FGMs and Blown Films," *Graduate Seminar*, June 25, 1998, Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, Virginia.

The following six lectures were presented at the *NATO Advanced Study Institute on Mechanics of Composite Materials and Structures*, 12-24 July 1998, Tróia, Portugal:

395. "Mechanics of Composite Materials".

396. "Classical and Refined Shear Deformation Theories of Laminated Plates".

397. "Linear and Nonlinear Finite Element Analysis of Composite Laminates".

398. "Hierarchical Modeling of Laminated Composite Plates".

399. "On Laminated Composite Plates with Integrated Sensors and Actuators".

400. "Thermomechanical Analysis of Functionally Graded Plates".

401. "Nonlinear Thermomechanical Analysis of Functionally Graded Plates," *Seminar*, Bhabha Atomic Research Center (BARC), Trombay, India, August 3, 1998.

402. "On Timoshenko Beam Finite Elements," *Seminar*, Department of Mechanical Engineering, Indian Institute of Technology, Bombay, India, August 4, 1998.

403. "Recent Developments in Computational Solid Mechanics," *Seminar*, Defense Research and Development Laboratory (DRDL), Hyderabad, India, August 5, 1998.

404. An Introduction to the Finite Element Method," *Seminar*, Department of Mathematics, Bangalore University, Bangalore, India, August 10, 1998.

405. "A Nonlinear Thermomechanical Formulation of Through-Thickness Functionally Gradient Plates ," *Seminar*, Department of Mechanical Engineering, Indian Institute of Science, Bangalore, India, August 11, 1998.

406. "An Alternate Derivation of the Superconvergent Timoshenko Beam Finite Element," *Seminar*, Space Science and Technology Colloquia (138th Session), Indian Institute of Science, Bangalore, India, August 12, 1998.

407. "Global-local Analysis of Composite Plates," *Seminar*, U.S. Army TACOM (Tank Automotive Command), Detroit, MI, October 23, 1998.

408. "An Overview of Shear Deformation Theories and Their Relationships to the Classical Theory," *Symposium on Micromechanics and Laminate Analysis*, (in honor of Dr. Nicholas J. Pagano's 65th Birthday), **IMECE'98**, Anaheim, CA, Nov. 16-20, 1998.

409. "A Constitutive Model for Ferroelectric Ceramics," *Symposium on Phase Transformations and Active Composites*, **IMECE'98**, Anaheim, CA, Nov. 16-20, 1998.

410. "On the Derivation of Locking-Free Timoshenko Beam Finite Element," *Numerical Analysis Seminar*, Department of Mathematics, Texas A&M University, College Station, Dec. 9, 1998.

411. "On Alternative Formulations of the Locking-Free Superconvergent Timoshenko Beam Finite Element," *Seminar*, Institute for High Performance Computing, Singapore, January 15, 1999.

412. "Vibration Suppression of Magnetostrictive Beams and Plates," *Seminar*, Institute for High Performance Computing, and Faculty of Engineering at National University of Singapore, Singapore, January 25, 1999.

413. "On the Dynamic Behavior of the Locking-Free Superconvergent Timoshenko Beam Finite Element," *Seminar*, Department of Civil Engineering, University of California, Davis, February 25, 1999.

414. "A Procedure for the Recovery of Interlaminar Stresses," (with C. M. Dakshina Moorthy) invited paper presented at *3rd National Congress on Computational Mechanics*, Volos, Greece, 24-26 June, 1999.

The following four invited lectures were presented at the *Fifth SERC School on Advanced Geophysical Fluid Dynamics*, June 15-July 15, 1999, National Geophysical Research Institute, Hyderabad, India:

415. "An Introduction to the Finite Element Method," June 29, 1999.

416. "Finite Element Models of Flows of Viscous Incompressible Fluids," July 2, 1999.

417. "Vibration Suppression of Composite Laminates with Magnetostrictive Layers" (with J. I. Barbosa), invited paper presented at *International Conference on Smart Materials, Structures and Systems*, 7-10 July 1999, Indian Institute of Science, Bangalore, India.

418. "On the Penalty Function Formulation of Viscous and Viscoelastic Flows," *seminar* presented at CMMS, National Aerospace Laboratories, Bangalore, India, July 9, 1999.

The following two invited lectures were presented at the *Symposium on Mechanics of Composite Materials and Structures*, July 15, 1999, Departamento de Engenharia Civil and Departamento de Engenharia Mecânica, Faculdade de Ciências e Tecnologia da, Polo II-UC, Universidade de Coimbra, Portugal:

419. "Thermomechanical Analysis of Functionally Graded Plates," July 15, 1999.

420. "Analysis of Laminated Beams and Plates with Embedded Magnetostrictive Layers," July 15, 1999.

421. "Mindlin Plate Solutions of Functionally Graded Circular Plates," (with C. M. Wang) *Fifth U. S. National Congress on Computational Mechanics*, University of Colorado, Boulder, August 4-6, 1999.

422. "Nonlinear Finite Element Analysis of Functionally Graded Plates," *Fifth U. S. National Congress on Computational Mechanics*, University of Colorado, Boulder, August 4-6, 1999.

423. "A Hierarchical Iterative Procedure for the Analysis of Composite Laminates," *Fifth U. S. National Congress on Computational Mechanics* (with J.A. Mitchell), University of Colorado, Boulder, August 4-6, 1999.

424. "Relationships Between Classical and Shear Deformation Beam and Plate Theories," *Seminar*, Faculty of Mechanical Engineering, Electrical and Electronics, University of Guanajuato (Universidad de Guanajuato), Salamanca, Mexico, October 27, 1999.

425. "Nonlinear Thermomechanical Analysis of Functionally Graded Plates," *Fifth International Meeting of Mechanical Engineering*, Instituto Tecnologico de San Luis Potosi, Mexico, October 27-29, 1999.

426. "Nonlinear Thermomechanical Analysis of Through-Thickness Graded Plates," *Seminar*, Department of Mechanical Engineering, Tulane University, New Orleans, Nov 12, 1999.

427. "Development of Locking-Free Elements Using a Modified First-Order Shear Deformation Theory of Laminated Composite Beams and Plates," paper presented at the Symposium Honoring the 70th Birthdays of Profs. Charles W. Bert and Jack R. Vinson, *IMECE'99*, Nashville, November 15, 1999.

428. "The Penalty Function Method in the Numerical Simulation of Viscous Incompressible Fluids and Shear Deformable Plates," *Seminar*, Department of Computational Science, National University of Singapore, 6 January 2000.

429. "Relationships Between Classical and Shear Deformation Theories for the Development of Locking-Free Finite Elements," *Workshop on Recent Research Activities in Computational Mechanics*, Center for Advanced Computation in Engineering Sciences (ACES), National University of Singapore, 6 January 2000.

430. "Control of Composite Laminates Using Magnetostrictive Layers," *Seminar*, The Institute of High Performance Computing and Singapore-MIT Alliance (SMA), National University of Singapore, 12 January 2000.

431. "Exact Relationships Between Classical and Shear Deformation Plate Theories," *Structural Engineering Seminar Series*, Department of Civil Engineering, University of Illinois, Urbana-Champaign, 27 March 2000.

432. "Relationships Between Classical and Shear Deformation Beams and Plate Theories, with Application to the Development of Locking-Free Finite Elements," *Seminar*, School of Aerospace Engineering, Georgia Institute of Technology, Atlanta, GA, 18 April 2000.

433. "Finite Element Analysis of Film Blowing Process," *Finite Elements in Fluids* (with R. Mayavaram), University of Texas at Austin, May 1-5, 2000.

434. "Recent Advances in Shear Deformation Plate Solutions: Relationships to the Classical Plate Theory," *Seminar*, University of Zaragoza, Zaragoza, Spain, June 9, 2000.

435. "Vibration Control of Laminated Composite Plates and Adaptive Structures," *Seminar*, Technical University of Lisbon, Portugal, June 15, 2000.

436. "Relationships between the Solutions of Shear Deformation Plate Theories and the Classical Plate Theory," *Seminar*, Technical University of Lisbon, Portugal, June 15, 2000.

437. "Finite Element Analysis of Non-Isothermal Viscoelastic Fluid Using a Conformation Tensor Model" (with Achuth Rao), *Forum on Finite Element Applications in Fluid Dynamics* at the 2000 Fluids Engineering Summer Meeting, June 2000, Boston, MA.

438. "Modeling of Molecular Orientation and Phase Transition in Polymers During the Film Blowing Process" (with Achuth Rao), *ASME National Heat Transfer Conference*, August 2000, Pittsburgh, PA.
439. "Bending Solutions of the Levinson Plate Theory in Terms of the Classical Plate Theory" (with C. M. Wang and G. T. Lim), *15th Annual Technical Conference of the American Society of Composites*, September 24-27, 2000, Texas A&M University, College Station, TX.
440. "Reddy, J.N., "Advances in Computational Modeling of Composite Materials and Multiscale Computations," *Seminar*, Department of Mechanical Engineering, Aeronautical Engineering and Mechanics, Rensselaer Polytechnic Institute, October 17, 2000.
441. "Vibration Control of Laminated Composite Plates Using Magnetostrictive Layers," (with S. Krishnan) Proceedings of *Adaptive Structures and Material Systems,* IMECE 2000, November 5-10, Walt Disney Dolphin, Orlando, FL, 2000.
442. "Relationships between the Solutions of Shear Deformation Plate Theories and the Classical Plate Theory" *Workshop on Structural Mechanics,* December 5, 2000, National Taiwan University, Taipei, Taiwan.
443. "On Health-Monitoring of Composite Structures Using Embedded Smart Layers" *Workshop on Structural Mechanics,* December 5, 2000, National Taiwan University, Taipei, Taiwan.
444. "Analysis of Shear Deformation in Plate Structures," *Seminar*, National Institute for Aviation Research, Wichita State University, March 2, 2001.
445. "Recent Advances and Future Directions in Computational Modeling of Advanced Materials," *Seminar,* Mechanical and Aerospace Engineering Department, North Carolina State University, Raleigh, NC, April 2, 2001.
446. "Development of Locking-Free Beam Finite Elements," *Seminar,* Dipartimento di Meccanica, Strutture, Ambiente e Territorio, University of Cassino, Cassino, Italy, April 23, 2001.
447. "Thermomechanical Modeling of Functionally Graded Plates," *Seminar,* Dipartimento di Meccanica, Strutture, Ambiente e Territorio, University of Cassino, Cassino, Italy, April 24, 2001.
448. "Relationships Between Shear Deformation Theories and the Classical Theory and Their Use in the Development of Locking-Free Finite Elements," *Seminar,* Dipartimento di Meccanica, Strutture, Ambiente e Territorio (Department of Industrial Engineering), University of Cassino, Cassino, Italy, April 24, 2001.
449. "Modeling of Materials with Special Focus on Functionally Graded Plates and Smart Structures," *Seminar,* Department of Civil Engineering, University of Rome, Tor Vergata, Italy, Rome, Italy, April 26, 2001.
450. "On Shear Deformable Finite Elements," *Seminar,* Department of Mechanical Engineering, University of Zaragoza, Zaragoza, Spain, May 14, 2001.
451. "Relationships between Classical and Shear Deformable Plate Solutions," *Seminar,* Departmento de Ingeniería Mecánica, Universidad Carlos III de Madrid, Madrid, Spain, May 16, 2001.
452. "Vibration Control Of Laminated Composite Plates Using Shear Deformation Theories," *Symposium on Modeling, Testing and Damage Identification of Adaptive Composite Structures,* IDMEC/IST - Instituto Superior Téchnico, Technical University of Lisbon, P'olo I.S.T., Lisbon, Portugal, May 21, 2001.
453. "Canonical Forms Of The Bending Relationships between Various Shear Deformation Theories and The Classical Plate Theory," *Symposium on Modeling, Testing and Damage Identification of Adaptive Composite Structures,* IDMEC/IST - Instituto Superior Téchnico, Technical University of Lisbon, P'olo I.S.T., Lisbon, Portugal, May 21, 2001.

454. ``Vibration Suppression of Laminated Composite Plates Using Magnetostrictive Inserts," (with S. C. Pradhan, K. Y. Lam, T. Y. Ng, and J.N. Reddy) *First MIT Conference on Computational Mechanics*, MIT, Cambridge, MA, June 2001.

455. "Modeling of Adaptive Composite Structures using Layerwise Theory," (J. E. Semedo Garção, C. M. Mota Soares, C. A. Mota Soares and J.N. Reddy) *Computational Fluid and Solid Mechanics*, Ed. K. J. Bathe, Elsevier, Amsterdam, Vol. 1, pp. 471-472, 2001.

456. ``Recent Advances in Computational Modeling of Advanced Materials," (*seminar*) Hong Kong Institution of Engineers (HKIE), Civil Division, Hong Kong, June 21, 2001.

457. ``An Overview of Research in Modeling of Materials and Structures," *seminar*, Department of Civil Engineering, National University of Singapore, July 12, 2001.

458. ``Recent Developments in Smart Structures," *seminar*, Department of Civil Engineering, The National University of Singapore, Singapore, July 19, 2001.

459. ``Finite Element Modeling of Convective Heat Transfer with Particle Tracking," *seminar*, National Geophysical Research Institute (NGRI), Hyderabad, India, July 30, 2001.

460. ``Parallel Optimization in a Structural Mechanics Code Applied to the Problem of Fatigue in Metals: Part I, A Parallel 3D Meshless Code," (with P. Schembri and D. Crane*)*, *Sixth U.S. National Congress on Computational Mechanics Conference (USNCCM VI),* Hyatt Regency Dearborn, Dearborn, MI, August 1-3, 2001.

461. ``On Least Squares Finite Element Models of Boundary Value Problems with Applications to Plate Bending," (*seminar*), National University of Singapore, Singapore, January 10, 2002.

462. ``On Least-Squares Finite Element Formulations of Compressible Flows," (*seminar*), Institute for High Performance Computing, Singapore, January 12, 2002.

463. ``Vibration Suppression of Cross-Ply Laminated Plates with Magnetostrictive Layers," (with F. Rostam-Abadi and S. J. Lee*)*, *21st South Eastern Conference on Theoretical and Applied Mechanics (SECTAM XXI),* University of Central Florida, Orlando, FL, May 19-21, 2002.

464. "Modelos Multi-Lâmina para a Análise de Placas Laminadas Adaptativas," (J. E. Semedo Garção, C. M. Mota Soares, C. A. Mota Soares, J.N. Reddy) *Proc. V Congreso Métodos Numericos en la Ingenieria*, ed. J. M. Goicolea, C. A. Mota Soares, M. Pastor and G. Bugeda, SEMINI, España 2002.

465. "Modeling of Layerwise Piezolaminated Structures," (C. M. Mota Soares, C. A. Mota Soares, J. E. Semedo Garção and J.N. Reddy) *Smart Structures and Integrated Systems*, ed. By L. Porter Davies, SPIE, The International Society of Optical Engineering, Vol. 4701, paper n.º 17, 2002.

466. ``Laminated SMA Beam Finite Elements," (with S. Marfia and E. Sacco*)*, *Fifth World Congress on Computational Mechanics (WCCM V),* Vienna, Austria, July 7-12, 2002.

467. ``Modelling of Adaptive Structures Using Layerwise Finite Element Shell Model," (with J. E. Semendo Garcao, C. M. Mota Soares, C. A. Mota Soares, and J.N. Reddy*)*, *Fifth World Congress on Computational Mechanics (WCCM V),* Vienna, Austria, July 7-12, 2002.

468. J.E. Semedo Garção, C.M. Mota Soares, C.A. Mota Soares, J.N. Reddy, "Modelling of Adaptive Structures Using Layerwise Models," *Proc. Sixth International Conference on Computational Structures Technology*, Ed. B. H. V. Topping and Z. Bittner, Civil-Comp Pres, Stirling, Scotland, Paper 127, pp 1-17, 2002.

469. R. Garcia Lage, C.M. Mota Soares, C.A. Mota Soares, J.N. Reddy, "Modelling of Piezolaminated Plates Using Layerwise Mixed Finite Elements," *Proc. Sixth International Conference on Computational Structures Technology,* Ed. B. H. V. Topping and Z. Bittner, Civil-Comp Pres, Sterling, Scotland, Paper 127, pp 1-17, 2002.

470. R. Garcia Lage, C.M. Mota Soares, C.A. Mota Soares, J.N. Reddy, "Mixed Layerwise Finite Elements for the Analysis of Piezolaminated Plate Structures," *Proc. Ninth Annual International Conference on Composites Engineering,* ICCE/9, Ed. David Hui, College of Engineering, University of New Orleans, pp. 431-432, 2002.

471. ``Computational Mechanics: Present and Future," *DCISSE and CSAM Colloquium Series,* University of Arkansas at Littlerock, Littlerock, AR, September 27, 2002.

472. ``A Computational Framework for the Analysis of Engineering Problems," *Seminar* (with K.S. Surana), Wright-Patterson Air Force Base, Ohio, October 7, 2002.

473. ``Computational Models for Composite Materials," Lecture 1 in a One-Day Workshop on *Modeling of Advanced Materials and Structures*, Indian Institute of Science, Bangalore, December 9, 2002.

474. ``Theories and Analysis of Composite Plates," Lecture 2 in a One-Day Workshop on *Modeling of Advanced Materials and Structures*, Indian Institute of Science, Bangalore, December 9, 2002.

475. ``Analysis of Functionally Graded Plates and Laminates with Smart Material Layers," Lecture 3 in a One-Day Workshop on *Modeling of Advanced Materials and Structures*, Indian Institute of Science, Bangalore, December 9, 2002.

476. ``The *k*-Version of the Finite Element Method, A New Computational Technology," Lecture 4 in a One-Day Workshop on *Modeling of Advanced Materials and Structures*, Indian Institute of Science, Bangalore, December 9, 2002.

477. ``Computational Modeling of Advanced Materials and Structures," *C. S. Krishnamoorthy Memorial Lecture*, Indian Institute of Technology, Madras, December 10, 2002.

478. ``Future Directions in the Computational Modeling of Materials and Structures," *Nanyang Professor Lecture*, Nanyang Technological University, Singapore, December 23, 2002.

479. ``Least-Squares Finite Element Formulations of the Navier-Stokes Equations," *Seminar in Singapore-MIT Alliance (SMA) Program,* National University of Singapore, Singapore, March 13, 2003.

480. "Modelação de Estruturas Adaptativas utilizando Elementos Finitos Mistos Multilâmina," (R. Garcia Lage, C. M. Mota Soares, C. A. Mota Soares, and J.N. Reddy), *Proc. VII Congresso de Mecânica Aplicada e Computacional,* Ed. J. Infante Barbosa, Dep. Física, Universidade de Évora, Vol. II, pp. 597-606, 2003.

481. ``Mixed Plate Bending Elements Based on Least-Squares Formulation," *Seminar,* Institute for High Performance Computing, Singapore, March 14, 2003.

482. ``Modeling of FGM and Smart Plate Structures and a New Computational Methodology," *Workshop on Advanced Materials*, Rio de Janeiro, Brazil, June 9-13, 2003.

483. "Least Squares Finite Element Models of Laminated Composite Plates," *Seminar*, IDMEC/IST, Technical University of Lisbon, Portugal, June 20, 2003.

484. "A formulation for functionally graded smart plate structures," *Seminar*, IDMEC/IST, Technical University of Lisbon, Portugal, June 22, 2003.

485. ``Variationally Consistent Higher-Order Global Differentiability Finite Element Processes for Elastic Wave Propagation in Laminated Composites," (with K.S. Surana et al) *US National Congress of Computational Mechanics*, Albuquerque, NM, July 27-31, 2003.

486. ``A High-Order Space-Time Coupled Least-Squares Finite Element Formulation for Incompressible Fluid Flows," (with J. P. Pontaza) *US National Congress of Computational Mechanics*, Albuquerque, NM, July 27-31, 2003.

487. ``Pollution Free Finite Element Processes for Helmholtz Equation for any Wave Number," (with K.S. Surana et al) *US National Congress of Computational Mechanics*, Albuquerque, NM, July 27-31, 2003.

488. ``Computational Mechanics: Present and Future," *Seminar*, Mechanical Engineering Academy Seminar Series, Texas Tech University, Lubbock, Texas, October 3, 2003.

489. ``Numerical Simulations of Materials and Mechanics," *Seminar*, Mechanical Engineering Department Faculty Seminar Series, Texas A&M University, College Station, Texas, October 13, 2003.

490. ``Some Thoughts on Effective Technical Writing," Lecture presented in MEEN 689 Course on *Technical Writing* (taught by Ted Hartwig), Texas A&M University, College Station, Texas, November 3, 2003.

491. "Nonlinear Thermoelastic Analysis of Functionally Graded Plates," (with W. Aliaga) *Modeling and Design of Functionally Graded Materials* Symposium at International Mechanical Engineering Conference and Exhibition (IMECE), November 17, 2003.

492. "Mechanical modeling and experimental observation of surface damage phenomena of polymers," (with Lim, G.T., Sue, H.-J., Wong, M., Moyse A.), *Proceedings of the International Conference on Polyolefins*, Houston, pp. 577-584, 2003.

493. "Scratch damage phenomena of polyolefin materials," (with M. Wong, M., Lim, G.T., Rood, P.R., Moyse A., and Sue, H.-J.), *Proceedings of the TPOs in Automotives,* Netherlands, 2003.

494. "Mechanical modeling and surface characterization of scratch in polymers," (with G. T. Lim, H.-J. Sue, M. Wong, and A. Moyse), *Annual Technical Conference - ANTEC, Conference Proceedings*, Vol. 3, pp. 3618-3622, 2003.

495. "Mixed Layerwise Finite Element Model for the Free Vibration Analysis of Piezolaminated Plate Structures," (R. Garcia Lage, C. M. Mota Soares, C. A. Mota Soares, and J.N. Reddy) Proceedings ICCE/10 – *Tenth Annual International Conference on Composites/Nano Engineering*, ed. David Hui, University of New Orleans, New Orleans, pp. 375-376, 2003.

496. "Novel Computational Techniques for Numerical Simulation of Flow and Deformation," *Institute Lecture*, at National Institute of Technology (NIT), Warangal, India, January 1, 2004.

497. "Layerwise Mixed Finite Elements for the Analysis of Piezolaminated Plates," (R. M. Lage, C. M. Mota Soares, C. A. Mota Soares, and J.N. Reddy), *Proceedings of MDP-8*, Cairo University Conference on Mechanical Design and Production, Cairo, Egypt, January 4-6, 2004.

498. "Hierarchical Modeling of Damage in Composite Structures," (with D. H. Robbins, Jr. and F. Rostam-Abadi), *45th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics*, Palm Springs, CA, April 19-22, 2004.

499. "Assessment of Plastic Failure of Polymers due to Surface Scratches," (with G. T. Lim, H.-J. Sue, and J.N. Reddy,) *Annual Technical Conference, SPE,* Chicago, 2004 (pp. 4044-4048).

500. "A New Computational Methodology for Problems of Mechanics," *Seminar*, Mechanical Engineering Seminars, The Ohio State University, Columbus, May 7, 2004.

501. "On Least-Squares Based Finite Element Models for Problems of Mechanics," *Seminar*, Department of Mechanical Engineering, Indiana University-Purdue University at Indianapolis (IUPUI), Indianapolis, June 11, 2004.

502. "On K-version Finite Element Method for Problems of Engineering," *Seminar*, Department of Mechanical Engineering, Indiana University-Purdue University at Indianapolis (IUPUI), Indianapolis, June 11, 2004.

503. "Mechanics of Carbon Nanotube Based Composites with Molecular Dynamics and Mori-Tanaka Methods," (with V. U. Unnikrishnan and F. Rostam-Abadi), *International Conference on Scientific and Engineering Computation,* June 30th – July 2, 2004, Singapore.

504. "Mechanical and Thermal Buckling of Functionally Graded Ceramic-Metal Plates," (with R. A. Arciniega), *U.S.-South America Workshop on Mechanics and Advanced Materials in Research and Education*, Rio de Janeiro, Brazil, August 3-6, 2004.

505. "Mechanics of Carbon Nanotube Based Composites with Molecular Dynamics and Mori-Tanaka Methods," (with V. U. Unnikrishnan) *U.S.-South America Workshop on Mechanics and Advanced Materials in Research and Education*, Rio de Janeiro, Brazil, August 3-6, 2004.

506. "Vibration control of composite structures using smart material layers," Seminar, China Academy of Sciences, Railway Science and Technology & Research & Development Center, August 30, 2004.

507. "A least-squares based computational models of problems in mechanics," Seminar, China Academy of Sciences, Railway Science and Technology & Research & Development Center, August 31, 2004.

508. "Relationships Between The Classical And Shear Deformation Theories," *Seminar* 1, Institute of Auto-Body and Die Engineering, Jilin University, Nanling Campus, Changchun, China, September 2, 2004.

509. "A least-squares based finite element analysis of plate and shell structures," *Seminar* 2, Institute of Auto-Body and Die Engineering, Jilin University, Nanling Campus, Changchun, China, September 2, 2004.

510. "Computational modeling of advanced materials and structures," *Seminar* 3, Institute of Auto-Body and Die Engineering, Jilin University, Nanling Campus, Changchun, China, September 3, 2004.

511. "On least-squares finite element models of problems in fluid mechanics," *Seminar* 4, Institute of Auto-Body and Die Engineering, Jilin University, Nanling Campus, Changchun, China, September 3, 2004.

512. "Least-squares finite element formulations for shear-deformable plates and shells," (with J. P. Pontaza), *Sixth World Congress of Computational Mechanics*, Beijing, China, September 5-9, 2004.

513. "Vibration control of composite laminates using smart material layers," (with F. Rostam-Abadi), Sixth World Congress of Computational Mechanics, Beijing, China, September 5-9, 2004.

514. "On Least-Squares Finite Element Models of Problems in Solid Mechanics," *Seminar*, Department of Solid Mechanics, Royal Technical Institute (KTH), Stockholm, Sweden, October 4, 2004.

515. ``On Least-Squares Finite Element Models of Solid and Fluid Mechanics," *Seminar*, Lockheed Martin, Marietta, Georgia, October 19, 2004.

516. "On Least-Squares Finite Element Models of Problems in Solid Mechanics," *Seminar*, Department of Solid Mechanics, Royal Technical Institute (KTH), Stockholm, Sweden, October 4, 2004.

517. "Finite Element Models of Fluid and Solid Mechanics Problems Based on Least-Squares Variational Principles," *Seminar*, Department of Civil and Materials Engineering, University of Illinois at Chicago (UIC), Chicago, October 29, 2004.

518. "Computational Modeling of Materials and Structures," Invited lecture presented at the *US-Africa Workshop on Mechanics and Materials*, University of Cape Town, South Africa, January 24-28, 2005.

519. "A Semi-Analytical Finite Element Model for the Analysis of Laminated Axisymmetric Shells: Static and Free Vibrations," (H. Santos, C. M. Mota Soares, C. A. Mota Soares, and J.N. Reddy), *Proc. Fifth International Conference on Composite Science and Technology-ICCST/5*, Ed. A. Al Tamimi, H. El Kadi, T Ibrahim and N Qaddoumi, School of Engineering , American University of Sharjah, UAE, February 1-3,pp. 167-172, 2005.

520. "Computational Modeling of Smart and FGM Materials and Structures," *Seminar* in the Small Smart Systems Center, Department of Mechanical Engineering at University of Maryland, College Park, May 11, 2005.

521. "Computational Models for the Analysis of Materials and Structures," *Seminar* presented in Aerospace Engineering Department at the Indian Institute of Science, Bangalore, INDIA, May 30, 2005.

522. "Computational Engineering Science Degree Program," *Public Lecture* presented in the Faculty of Engineering at the National University of Singapore, Singapore, June 9, 2005.

523. H. Santos, C. M. Mota Soares, C. A. Mota Soares, and J.N. Reddy, "Modelo de Elementos Finitos Semi-Analítico para a Análise de Cascas Laminadas Axissimetricas," *Congreso de Métodos Numéricos em Ingeniería 2005*, Granada, 4 a 7 de Julio, España, 2005.

524. "The k-Version of Finite Element Method for Initial Value Problems: Mathematical and Computational Framework," (K.S. Surana, S. Allu, and J.N. Reddy), 8th *U.S. National Congress of Computational Mechanics*, University of Texas at Austin, Austin, Texas, July 25-27, 2005.

525. "On the Divergence-Free Constraint and Proper Velocity-Pressure Coupling for Least-Squares Formulations of Incompressible Flow," (J.P. Pontaza and J.N. Reddy), 8th *U.S. National Congress of Computational Mechanics*, University of Texas at Austin, Austin, Texas, July 25-27, 2005.

526. "Homogenization of an Adherent Cell Using Rule of Mixtures," (Ginu Unnikrishnan and J.N. Reddy), 8th *U.S. National Congress of Computational Mechanics*, University of Texas at Austin, Austin, Texas, July 25-27, 2005.

527. "Multiscale Analysis of Carbon Nanotube Reinforced High Density Polyethylene Composites," (V. Unnikrishnan and J.N. Reddy), 8th *U.S. National Congress of Computational Mechanics*, University of Texas at Austin, Austin, Texas, July 25-27, 2005.

528. "A Semi-Analytical Finite Element Model for The Analysis of Laminated Piezo-Electric 3D axisymmetric Cylindrical Shells," (H. Santos, C. M. Mota Soares, C. A. Mota Soares, and J.N. Reddy), Proc. *II European Conference on Adaptive Structures*, ECCOMAS-II, Lisbon, July 18-21, 2005, Ed. By C.A. Mota Soares et al, in CD-ROM, IDMEC/IST/ Instituto Superior Técnico.

529. "*h, p, k* Galerkin/Weak Form and Least Squares Finite Element Processes for 1-D and 2-D Helmholtz Equations," (K. Surana, P. Gupta, J.N. Reddy, and P. TenPas), 8th *U.S. National Congress of Computational Mechanics*, University of Texas at Austin, Austin, Texas, July 25-27, 2005.

530. "Computational Mechanics: The Third Scientific Methodology," Sixma-Xi Distinguished Scientist Lecture, Texas A&M University, Oct 26, 2005.

531. "Thermo-mechanical Analysis of Composite Under Combined Conduction Heating and Large Deflection Bending," (with J.Y. Ju, R. J. Morgan and J.N. Reddy), *Proc. of the ASME Materials Division*, Vol. 100, pp. 243-253, ASME International Mechanical Engineering Congress and Exposition, Nov 5-11, 2005, Orlando, FL.

532. "Computational Models of Materials and Structures," *Seminar* presented at Indian Institute of Technology, Madras, Chennai, India, Nov. 30, 2005.

533. "Least-squares Based Finite Element Models of Viscous Incompressible Flows," *Seminar* presented at the Ramaiah School of Advanced Studies, Bangalore, India, Dec. 2, 2005.

534. "Nonlinear Analysis of Composite and Functionally Graded Shell Structures," *Seminar* presented at the Indian Institute of Technology, Bangalore, India, Dec. 2, 2005.

535. "Linear and Nonlinear Analysis of Shells," Lecture delivered at the *Workshop on Computational Methods in Structural Mechanics and Fluid Flows* (COSMECFLOWS), Osmania University, Hyderabad, India, Dec 5, 2005.

536. "Least-squares Finite Element Formulations for Viscous Incompressible and Compressible Flows," Lecture delivered at the *Workshop on Computational Methods in Structural Mechanics and Fluid Flows* (COSMECFLOWS), Osmania University, Hyderabad, India, Dec 5, 2005.

537. "A Finite Deformation Shell Formulation for the Analysis of Composite and Functionally Graded Material Structures," **Invited Lecture** presented at *Symposium on Physics and Mechanics of Advanced Materials*, Jan 18-20, 2006, Singapore.

538. "Role of Computational Engineering Science in Modeling of Physical Phenomena," **Invited Lecture** presented at *Symposium on Engineering Science*, Apr 20, 2006, Singapore.

539. "A Consistent Finite Element Model for Nonlinear Analysis of Composite and Functionally Graded Shell Structures," **Opening Plenary Lecture** presented at ***I**nternational **C**onference on **C**omposite Materials and Nano-**S**tructures* (IC2MS-06), April 26-29, 2006, Shah Alam (Kaula Lumpur), Malaysia.

540. "A New Mathematical and Computational Framework for Finite Element Processes for BVP & IVP Based on *h, p, k*," Seminar presented at the Army Research Office, Research Triangle Park, NC, May 10, 2006.

541. "Nonlinear Analysis of Composite and FGM Shell Structures Using Tensor-Based Shell Elements," *III European Conference on Computational Mechanics, Solids, Structures and Coupled Problems in Engineering*, C.A. Mota Soares et al. (eds.), Lisbon, Portugal, June 5-8, 2006.

542. "Mixed Finite Elements based on Least-Squares Formulation for the Static Analysis of Laminated Composite Plates," (F. Moleiro, C. M. Mota Soares, C. A. Mota Soares, and J.N. Reddy), *III European Conference on Computational Mechanics, Solids, Structures and Coupled Problems in Engineering*, C.A. Mota Soares et al. (eds.), Lisbon, Portugal, June 5-8, 2006.

543. H. Santos, C.M. Mota Soares, C.A. Mota Soares, and J.N. Reddy, "A Finite Element Model for the Analysis of 3D Axisymmetric Laminated Shells with Embedded Piezoelectric Sensors and Actuators," *III European Conference on Computational Mechanics: Solids, Structures and Coupled Problems in Engineering*, C.A. Mota Soares et al. (eds.), Lisbon, Portugal, 5-8 June 2006.

544. F. Moleiro, C.M. Mota Soares, C.A. Mota Soares, J.N. Reddy, "Mixed least-squares finite element model for the static analysis of laminated composite plates", in C.A. Mota Soares et al., (Editors), *Proceedings of the III European Conference on Computational Mechanics: Solids, Structures and Coupled Problems in Engineering* (CD-ROM), Paper 1508, LNEC, Lisbon, Portugal, 5-8 June, 2006.

545. H. Santos, C. M. Mota Soares, C. A. Mota Soares, and J.N. Reddy, "A Three Dimensional Semi-Analytical Finite Element Model for the Analysis of Piezoelectric Shells of Revolution," *Proceedings of the Eight International Conference on Computational Structures Technology(CD-ROM),* Ed. B.H.V. Topping, G. Montero and R. Montenegro, Civil-Comp Press, Stirlingshire, Scotland, Paper 105, pp 1-18, 2006.

546. "Finite Element Simulations in Structures and Beyond," Lecture presented at Institution of Engineers Singapore (IES), IStructE Joint Committee (Singapore Division) on July 6, 2006.

547. "Nonlinear Analysis of Functionally Graded Shell Structures Using Tensor-Based Shell Element," Key Note Lecture, *5th International Conference on Mechanics and Materials in Design* ***(M2D'2006),*** Porto, Portugal, July 24-26, 2006.

548. "On Nonlinear Analysis of Composite and Functionally Graded Shell Structures," Invited Lecture, *Tenth East Asia Pacific Conference on Structural Engineering and Construction*, August 2-4, 2006, Bangkok, Thailand.

549. "Computational Models of Viscous Flows and Shell Structures," **Invited Lecture,** *International Conference on Enhancement and Promotion of Computational Methods in Engineering Science and Mechanics* (CMESM 2006), Changchun, China, Aug 10-12, 2006.

550. C. M. Mota Soares, H. Santos, C. A. Mota Soares, and J.N. Reddy, "A Semi-Analytical Finite Element Model for the Analysis of Piezoelectric Cylindrical Shells," *Proc. Smart Structures and Materials 2006: Modeling, Signal Processing, and Control*, Ed. By D.K. Lindner, Proc. SPIE, Vol. 6166, 61661 Q-1-8, 2006.

551. "A Tensor-Based Element for Nonlinear Analysis of Shell Structures," *Seminar,* Department of Mechanical and Materials Engineering at Univerisiti Kebangsaan Malaysia (UKM), August 28, 2006.

552. "Simulation-Based Computational Engineering Science," *Seminar,* Engineering Science Programme, National University of Singapore, August 25, 2006.

553. "Nonlinear Analysis of Shell Structures using Tensor-Based Shell Finite Element," *Seminar*, School of Civil and Environmental Engineering, Cornell University, Ithaca, Sept. 5, 2006.

554. F. Moleiro, C.M. Mota Soares, C.A. Mota Soares, J.N. Reddy, "A mixed finite element model based on least-squares formulation for the static analysis of laminated composite plates", in B.H.V. Topping, G. Montero, R. Montenegro, (Editors), *Proceedings of the Eighth International Conference on Computational Structures Technology*, Civil-Comp Press, Stirlingshire, UK, Paper 106, Las Palmas de Gran Canaria, Spain, 12-15 September, 2006.

555. J.N. Reddy, "Numerical Simulation-Based Engineering Science: The Third Scientific Methodology," **Public Lecture** presented on behalf of the National University of Singapore at Woodlands Public Library, September 23, 2006.

556. 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.

557. 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.

558. 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.

559. H. Santos, C.M. Mota Soares, C.A. Mota Soares, J.N. Reddy, "A Semi-Analytical Finite Element Model for the Analysis of Cylindrical Shells Made of Functionally Graded Materials," *Sixth International Conference on Composite Science and Technology,* Durban, South Africa, 22-24 January 2007.

560. J.N. Reddy, "On the k-Version Least-Squares Finite Element Models of Problems in Mechanics," *Graduate Aeronautics Engineering Seminar, California Institute of Technology*, Pasadena, CA, March 9, 2007.

561. J.N. Reddy, "The Finite Element Method in Structures and Beyond," SPDC ASME USB (Student Professional Development Conference), University of Simon Bolivar, Caracas, Venezuela, May 9-13, 2007.

562. J.N. Reddy, "Least-squares Based Finite Element Formulations for Newtonian and non-Newtonian Fluid Flows," (with V. Prabhakar) paper presented in *Computational Methodologies for Navier-Stokes and Turbulence* session, at *McMat 2007, ASME Applied Mechanics and Materials Conference*, June 3-7, 2007, University of Texas at Austin, Austin, Texas.

563. J.N. Reddy, "Coupled Blood Arterial Wall Analysis Using Fluid Biphasic 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.

564. Vinu U. Unnikrishnan, Ginu Unnikrishnan, J.N. Reddy, and C.T. Lim, "Mechanical Analysis of Polymeric Nanofibers Using Multiscale Methods," paper 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.

565. J.N. Reddy, "Nonlinear Analysis of Composite and FGM Shells using Tensor-Based Finite Elements," (with R. A. Arciniega) *The Fifth International Conference on Nonlinear Mechanics (ICNM-V)*, June 11-14, 2007, Shanghai University, Shanghai, China.

566. J.N. Reddy, "Locking-Free Nonlinear Shell Finite Element," *Seminar*, Department of Aerospace Engineering and Engineering Mechanics, Tongji University, Shanghai, China, June 13, 2007.

567. J.N. Reddy, "Engineering Science: Educating Engineer-Scientists," **Invited Lecture** presented on the occasion of the appointment of *Consultant Professor* at South China University of Technology, Guangzhou, June 14, 2007.

568. J.N. Reddy, "Role of Engineering Science in Education with Special Focus on Modeling of Nanosystems," **Invited Lecture** presented in *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.

569. J.N. Reddy, "Continuum Modelling of the Cell," invited lecture (with G.U. Unnikrishnan) presented at *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.

570. H. Santos, C. M. Mota Soares, C. A. Mota Soares, and J.N. Reddy, "Development of A Semi-Analytical Model For the Analysis of Axisymmetric Shells Made of Functionally Graded Materials," *Proceedings of the 15th Annual International Conference on Composites/Nano Engineering*, Haikou, Hainan, China, July 15-21, 2007.

571. J.N. Reddy, "A New Mathematical and Computational Framework for BVP and IVP," **Key Note Lecture** (with K.S. Surana and A. Romkes), *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.

572. R. A. Arciniega and J.N. Reddy, "Thermomechanical Modeling of Functionally Graded Shells," in *Computational Solid Mechanics: Recent Advances* at the 9th US National Congress on Computational Mechanics, San Francisco, CA, July 22-26, 2007.

573. Wookjin Na and J.N. Reddy, "Multiscale Damage Analysis of Beam Bending Using Layerwise Theory," in *Computational Solid Mechanics: Recent Advances* at the 9th US National Congress on Computational Mechanics, San Francisco, CA, July 22-26, 2007.

574. A. Romkes, Tyler Stone, K.S. Surana, and J.N. Reddy, "A Priori Error Estimation for *hpk* FE Analyses," *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, July 22-26, 2007.

575. S. Allu, K.S. Surana, and J.N. Reddy, "Computations of Viscous Compressible Flows in *h, p, k* Framework," 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.

576. A. Dumbre, R. Romkes, K.S. Surana, and J.N. Reddy, "A Mathematical Model and Computational Approach for Fluid- Solid Interaction," 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.

577. S. Basaran, A. Romkes, K.S. Surana, and J.N. Reddy, "*h, p, k* Computational Framework for Solid Continuum using Eulerian Description," (with) 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.

578. S. Allu, K.S. Surana, and J.N. Reddy, "A New Computational Framework for Numerical Solutions of Polymer Flows for High Deborah Numbers," 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.

579. R. Maduri, K.S. Surana, and J.N. Reddy, "Higher Order Global Differentiability Local Approximations for Triangular Elements," (with) 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.

580. F. Moleiro, C.M. Mota Soares, C.A. Mota Soares, J.N. Reddy, "New developments on mixed least-squares finite element models for laminated composite plates: static and free vibration analysis", *Proceedings of the 9th US National Congress on Computational Mechanics* (CD-ROM), Paper 131, San Francisco, California, EUA, 22-26 July, 2007.

581. J.N. Reddy, "A General Introduction to the Finite Element Method," lecture presented in the *Pre-International Conference Workshop on Advanced Finite Element Method and Computational Techniques* (ASFCT-2007), Manipal Institute of Technology, Manipal, India, August 29, 2007.

582. J.N. Reddy, "Least Squares Finite Element Models of Bars, Beams, Plates and Shells," lecture presented in the *Pre-International Conference Workshop on Advanced Finite Element Method and Computational Techniques* (ASFCT-2007), Manipal Institute of Technology, Manipal, India, August 29, 2007.

583. J.N. Reddy, "Tensor-Based Shell Element and Modeling of Biological Cells," *Plenary Lecture***,** the *International Conference on Recent Developments in Structural Engineering (RDSE-2007)*, Manipal Institute of Technology, Manipal, India, 30 August – 1 September, 2007.

584. J.N. Reddy, "On Least-Squares Finite Element Models of Problems in Mechanics," *Mechanical Engineering Seminar*, Department of Mechanical Engineering, University of Wyoming, Laramie, September 24, 2007.

585. 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.

586. J.N. Reddy, "A Shell Finite Element for the Nonlinear Analysis of Composite and Functionally Graded Structures," *seminar*, Department of Mechanical and Aerospace Engineering, University of Alabama, Tuscaloosa, October 4, 2007.

587. J.N. Reddy, "A Tensor-Based Shell Element and Modeling of Biological Cells," *Seminar*, School of Mechanical Engineering, Purdue University, W. Lafayette, Nov. 15, 2007.

588. J.N. Reddy, "A Shell Finite Element for the Nonlinear Analysis of Composite and Functionally Graded Structures," *seminar*, Mechanics and Life Prediction Branch, NASA Glenn Research Center, Cleveland, Ohio, November 16, 2007.

589. J.N. Reddy, "Least-Squares Finite Element Models of Problems in Fluid and Solid Mechanics," *seminar*, Turbomachinery and Propulsion Division, NASA Glenn Research Center, Cleveland, Ohio, November 16, 2007.

590. J. Ju, R. J. Morgan, T. S. Creasy, J. Jeon , and J.N. Reddy, "Development of a Multifunctional Evaporative Surface Cooling System to Minimize Infrared Detection," in a session on Transport Properties of Micro-Structured Media and Composite Materials, the *44th Annual Technical Meeting of the Society of Engineering Science*, Texas A&M University, College Station, October 2007.

591. J.N. Reddy, "A Shell Finite Element for the Nonlinear Analysis of Composite and Functionally Graded Structures," *Seminar*, Department of Mechanical Engineering, Erciyes University, Kayseri, Turkey, October 17, 2007.

592. J.N. Reddy, "On Least-Squares Finite Element Models of Problems in Mechanics," *Seminar*, Department of Mechanical Engineering, Erciyes University, Kayseri, Turkey, Oct 18, 2007.

593. J.N. Reddy, "Mechanical Engineering Education at Texas A&M University," *Seminar*, Department of Mechanical Engineering, Erciyes University, Kayseri, Turkey, Oct 18, 2007.

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648. J.N. Reddy, "Theories and Computational Models for the Analysis of Composite Materials and Structures," *Seminar* presented in the Mechanical Engineering Program at Texas A&M University, Qatar, March 17, 2010.

649. J.N. Reddy, "Mechanics Modelling of Shell Structures and Biological Cells," *Seminar* presented in the Biomedical Engineering Department at Florida International University, Miami, Florida, on April 2, 2010.

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*Colloquium: Advances in Computational Science, Engineering, and Mathematics*, January 19-20, 2012, University of Texas at Austin, Austin.

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689. J.N. Reddy, "Numerical Simulations of Problems in Science and Engineering Using the Finite Element Method," *Lecture on 125th Birth Anniversary of Ramanujam*, Department of Mathematics, National Institute of Technology, Warangal, India, 22 December 2012.
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693. **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.
694. J.N. Reddy, "Refined Theories and Computational Models of Composite Beams, Plates, and Shells," **Plenary Lecture**, *the 17th International Conference on Composite Structures* (*ICCS/17*)*,* at the University of Porto, Porto, Portugal, 17-21 June 2013.
695. J.N. Reddy, "On Nonlocal Elasticity and Peridynamics with Applications to Beams and Plates," **Plenary Lecture**, *6th ECCOMAS Thematic Conference on Smart Structures and Materials* (*SMART2013*), 24-26 June 2013, Politecnico di Torino, Torino, Italy.
696. **J.N. Reddy** and A. R. Srinivasa, "On Microstructural Length Scales and Discrete Peridynamics for Beams and Plates," *Opening Talk* (Keynote Lecture) presented in a session on *nano systems* at the *7th International Conference on Advanced Computational Engineering and Experimenting* (ACEX2013 ), 1-4 July 2013, Madrid, Spain.
697. Greg Payette, V. Vallala, and **J.N. Reddy**, "Higher-Order Spectral/hp Finite Element Technology for Large Deformation Analysis of Shell Structures," **Plenary Lecture** presented at the *2nd International Conference on Advances in Computational Modeling and Simulation,* 17-19 July 2013, Kunming, China.
698. **J.N. Reddy** and A. R. Srinivasa, "On Rotation Gradient Dependent Elasticity and Specialization to Beams and Plates with Moderate Rotation," **Plenary Lecture** presented at the *4th Canadian Conference on Nonlinear Solid Mechanics* (*CanCNSM2013*), 23-26 July 2013, Montreal, Canada.

699. J.N. Reddy "Incorporation of Material Length Scales in Structural Theories of Beams and Plates," **Plenary Lecture,** *International Conference on Science and Technology of Heterogeneous Materials and Structures (ICSTHMS),* Wuhan University, Wuhan, China, 11-13 October 2013.
700. J.N. Reddy, "Computational Mechanics: The Third Pillar of Engineering and Technology," **Keynote Lecture**, *Computational Mechanics Division Meeting* of the Japan Society of Mechanical Engineers, 1-3 November 2013.
701. Ginu U. Unnikrishnan, Vinu U. Unnikrishnan, and J. N. Reddy, "Fluid Flow Patterns within Porous Scaffolds: Influence of Porosity and Permeability," *3rd International Conference on Computational and Mathematical Biomedical Engineering* - CMBE2013, 16-18 December 2013, Hong Kong.
702. **J.N. Reddy** and A. R. Srinivasa, "On Nonlocal Gradient Elasticity Models with Application to Beams and Plates," **Keynote Lecture,** *International Conference on Computer Aided Engineering,* Indian Institute of Technology Madras, Chennai, India, 19-21 December 2013.
703. J.N. Reddy, "Least-Squares Finite Element Models of Flows of Viscous Incompressible Fluids," *Seminar*, Homi Bhabha National Institute, Bombay, India, 31 December 2013.
704. J.N. Reddy, "Material Length Scales and Discrete Peridynamics in Structural Theories of Beams and Plates," *Seminar*, Homi Bhabha National Institute, Bombay, India, 31 December 2013.
705. J. N. Reddy, "Recent Developments in Beam and Plate Theories (with focus on nonlocal elasticity)," a series of 5 lectures in a *one-day workshop* at Malaviya National Institute of Technology, Jaipur, Rajasthan, India, Jan. 4, 2014:
    - Classical and shear deformation (including the third-order) beam theories
    - Classical, first-order, and the third-order plate theories
    - Functionally graded beams and plates using classical and shear deformation theories
    - Eringen's nonlocal theory and modified couple stress theory and their use in the development of beam and plate theories
    - Gradient elasticity theory and its application to beams and plates

706. J.N. Reddy, "Nonlocal Material Models and Their Inclusion in Structural Theories," *Seminar*, Indian Institute of Technology, Hyderabad, January 15, 2014.
707. J.N. Reddy, "Computational Modeling and Simulation using the Finite Element Method," *Seminar*, Bharat Heavy Electricals Ltd. (BHEL), Hyderabad, January 18, 2014.
708. J.N. Reddy, "Nonlocal Material Models and Their Inclusion in Structural Theories," *Seminar*, Bharat Heavy Electricals Ltd. (BHEL), Hyderabad, January 18, 2014.
709. J.N. Reddy, "The Role of Computational Mechanics in Addressing Materials Challenges," **Keynote Lecture**, *Materials Science and Engineering Symposium 2014*, Qatar University, Doha, Qatar, 18 February 2014.
710. J.N. Reddy, "Computational Modeling of Complex Systems using The Finite Element Method," *Seminar*, Department of Mechanical Engineering, Texas Tech University, Lubbock, March 3, 2014.
711. J.N. Reddy, "Computational Modeling of Complex Engineering Systems," *Keynote Lecture and Chief Guest at the Second International Conference on Innovation in Automation and Mechatronics Engineering 2014*, GH Patel College of Engineering and Technology, Vallabh Vidyanagar, Gujarat, INDIA, March 7-8, 2014.
712. J.N. Reddy, "Structural Theories and Finite Element Models for the Analysis of Laminated Composite Structures," *Seminar*, Embraer, São José dos Campos, Brazil, 11 April 2014.
713. J.N. Reddy, "Nonlocal and Gradient Elasticity in Structural Theories of Beams and Plates," **Plenary Lecture,** *First International Conference on Mechanics of Composites*, State University of New York at Stony Brook, Long Island, June 8-12, 2014.
714. J.N. Reddy, "Computational Mechanics: Past, Present, and Future," Lecture presented on Boeing Educational Network (broadcast to over 5,000 people worldwide), July 10, 2014, Ed Wells Partnership, Seattle, Washington.

715. J.N. Reddy "Non-classical Structural Theories of Beams and Plates with Nonlocal and Strain Gradient Effects," **Distinguished Lecture,** Hong Kong Society of Theoretical and Applied Mechanics (HKSTAM), City University of Hong Kong, July 17, 2014.
716. J.N. Reddy, "Oscillations of a Beam in an Inviscid Fluid Medium (Fluid-Solid Interaction)," *Seminar*, Department of Mechatronics and Mechanical Systems, University of Sao Paulo (USP), August 27, 2014.
717. J.N. Reddy, "Nonlinear Theories of FGM Beams and Plates with Nonlocal and Strain Gradient Effects," **Keynote Lecture**, *13th International Symposium on Multiscale, Multifunctional and Functionally Graded Materials* (*MM&FGM)*, October 19-22, 2014; Taua Resort, SP, Brazil.
718. R. Gunes, K. Arslan, M. K. Apalak, and J.N. Reddy, ``Numerical Investigations on the Ballistic Performance of Honeycomb Sandwich Structures Reinforced by Functionally Graded Plates," *13th International Symposium on Multiscale, Multifunctional and Functionally Graded Materials* (*MM&FGM)*, October 19-22, 2014; Taua Resort, SP, Brazil.
719. R.A. Salas, E.C.N. Silva, and J.N. Reddy, "Laminated Piezocomposite Structures (LAPS) Designed for Topology Optimization Considering Simultaneously Harmonic and Transient Responses," *13th International Symposium on Multiscale, Multifunctional and Functionally Graded Materials* (*MM&FGM)*, October 19-22, 2014; Taua Resort, SP, Brazil.
720. J.N. Reddy, "Nonlinear theories of FGM beams and plates with nonlocal and strain gradient effects," **Key Note Speaker**, *Multiscale, Multifunctional and Functionally Graded Materials 2014 (MM&FGM2014),* October 19-22, 2014; Taua Resort, SP, Brazil (http://mmfgm2014.org).
721. J.N. Reddy, "Computational Modeling of Shells and Viscous Fluids," *Recent Trends and & Challenges in Civil Engineering* (RTCCE-2014), **Chief Guest and Plenary Speaker**, December 12-14, 2014, Motilal Nehru National Institute of Technology (MNNIT), Allahabad, INDIA.
722. J.N. Reddy, "Nonlocal and Gradient Elasticity in Structural Mechanics," *International Conference on Multifunctional Materials and Structures* and Applications (ICMMSA-2014), **Chief Guest and Plenary Speaker**, December 22-24, 2014, Motilal Nehru National Institute of Technology (MNNIT), Allahabad, INDIA.
723. J.N. Reddy, "Large Deformation Analysis of Composite and Functionally Graded Shells," **Chief Guest** and **Plenary Speaker,** *Sixth International Conference on Theoretical, Applied, Computational, and Experimental Mechanics* (ICTACEM 2014), Dec. 29-31, 2014, IIT Kharagpur, India.
724. J.N. Reddy, **Chief Guest and Key Note Speaker**, *International Conference on Vibration Problems* (ICOVP-2015), 18-20 February 2015, Department of Mathematics-Kakatiya University, Warangal, India.
725. J.N. Reddy, "A spectral/hp continuum shell element for large deformation analysis of composite structures," Distinguished Lecture presented at University of Auckland, 17 March 2015.
726. J.N. Reddy, "On an unconventional computational framework & nonlocal and strain gradient structural theories," Distinguished Lecture presented at University of Auckland, 17 March 2015.
727. J.N. Reddy, "A shell finite element for large deformation analysis of composite and functionally graded structures," *Seminar*, Aerospace Engineering Department, University of Michigan, 7 April 2015.
728. J.N. Reddy, "On Nonlocal and Strain Gradient Theories in Computational Structural Mechanics," **Keynote Lecture**, *Symposium: Computer-Aided Engineering and Multidisciplinary Design Optimization: Recent Advances, Technology, and Future*, The University of Michigan, Ann Arbor, April 17, 2015.
729. J.N. Reddy, "A robust continuum shell element for large deformation analysis of composite structures," *Seminar*, Mechanical Engineering Department, McGill University, 13 April 2015.

730. J.N. Reddy, "Incorporation of nonlocal and strain gradient effects in structural theories," *Seminar*, Oak Ridge National Laboratory, Oak Ridge, Tennessee, 13 May 2015.
731. J.N. Reddy, "Advances in Finite Element Models of Engineering Science Problems," **Keynote Speaker**, *International Symposium on Engineering Science*, Engineering Science Program, National University of Singapore, 19-20 May 2015.
732. J.N. Reddy, "On a robust shell element for large deformation analysis of composite and functionally graded shells," *Seminar*, Department of Civil and Environmental Engineering, Northwestern University, 27 May 2015.
733. J.N. Reddy, **Opening Plenary Speaker**, "Modeling of functionally graded smart beams and plates with geometric nonlinearity and gradient elasticity effects" *7th ECCOMAS Thematic Conference on Smart Structures and Materials,* University of the Azores, Ponta Delgada, Azores, Portugal, June 3-6, 2015.
734. J.N. Reddy, "An Overview of Nonlocal and Strain Gradient Effects in Structural Theories," *Chair of Excellence Seminar,* Escuela Politecnica Superior, Universidad Carlos III de Madrid, June 9, 2015.
735. J.N. Reddy, "A locking-free shell element with thickness stretch for large deformation analysis of composite and functionally graded shells**,"** *Seminar*, the Archimedes III Research Program at the Technological Educational Institute of Athens, Greece, 25 June 2015.
736. J.N. Reddy, "On nonlocal and strain gradient effects in structural theories**,"** *Seminar*, the Archimedes III Research Program at the Technological Educational Institute of Athens, Greece, 26 June 2015.
737. J.N. Reddy, "Some Advice and Remarks on Teaching and Research," *Faculty Semnar* Department of Mechatronics and Mechanical Systems, University of Sao Paulo (USP), July 31, 2015.
738. J.N. Reddy, "A Robust Shell Element for Large Deformation Analysis of Composite and Functionally Graded Shells**," Opening Keynote Lecture,** *International Conference on Advances in Applied and Computational Mechanics*, Wyndham Grand Izmir Ozdilek, Izmir, Turkey, 5-7, 2015.
739. J.N. Reddy, "Large deformation analysis of laminated composite and functionally graded structures: recent developments," **Plenary Lecture**, *International Conference on Composite Science and Technology* (ICCST/10), 2-4 September 2015, Lisbon, Portugal.
740. J.N. Reddy, "Large Deformation Analysis of Composite and Functionally Graded Shells: Recent Developments," *Seminar*, Department of Civil and Environmental Engineering, Johns Hopkins University, 24 Sept. 2015.
741. J.N. Reddy, "On Least-Squares Finite Element Models of Problems in Mechanics," *Seminar*, Department of Civil and Environmental Engineering, Rice University, 30 Oct. 2015.
742. J.N. Reddy, "On Nonlocal and Strain Gradient Effects in Continuum Theories of Structures," *Seminar*, Department of Mechanical Engineering, Texas Tech University, 9 Nov. 2015.
743. J.N. Reddy, "Recent Developments in Shell Finite Elements with Applications to Laminated Composite and Functionally Graded Structures," **Plenary Lecture**, *XXXVI Ibero-Latin American Congress of Computational Methods in Engineering* (CILAMCE 2015 Conference), 22-25 November 2015, Pontifical Catholic University of Rio de Janeiro, Rio de Janeiro, BRAZIL.
744. Ruben Andres Salas, ECN Silva, and J.N. Reddy, "Laminated piezocomposite structures (LAPS) for Topology Optimization considering the transient response," *XXXVI Ibero-Latin American Congress of Computational Methods in Engineering* (CILAMCE 2015 Conference), 22-25 November 2015, Pontifical Catholic University of Rio de Janeiro, Rio de Janeiro, BRAZIL.
745. J.N. Reddy, "Recent developments in large deformation analysis of composite and functionally graded shells," **Plenary Lecture**, *International Conference on Computer Aided Engineering* 2015, 10-12 December 2015, GITAM University, Hyderabad, INDIA.

746. J.N. Reddy, "On Non-Local and Non-Classical Continuum Mechanics," *Conference on Current Trends in Non-Classical Continuum Mechanics,* National Institute of Technology, GOA, INDIA, 14-15 December 2015.
747. J.N. Reddy, "On Shell Finite Elemnts and Non-Classical Structural Theories of Beams and Plates,"*Professor P. L. Bhatnagar Memorial Lecture*, Annual Meeting of the Indian Society of Theoretical and Applied Mechanics (2015), Malaviya National Institute of Technology, Jaipur, INDIA, 16-19 December 2015.
748. J.N. Reddy, "Some Advice and Remarks On Teaching and Research," *Faculty Semnar*, Department of Civil Engineering and Architecture, City University of Hong Kong, China, 28 December 2015.
749. J.N. Reddy, "On Nonliear Finite Element Analysis", *Graduate Seminar*, 31 December 2015, South China University of Technology, Wuhan, Guangzhou, China.
750. J.N. Reddy, A.R. Srinivasa, and P. Khodabakhshi, "On Recent Developments in Nonlocal and Strain Gradient Theories in Structural Mechanics," **Key Note Lecture,** East Asia-Pacific Conference on Structural Engineering and Construction (EASEC), 6-8 January, 2016, Ho Chi Minh City, Vietnam.
751. J.N. Reddy, "Numerical Simulations with Applications to Solids, Fluids, and Biological Systems," *Faculty of Applied Science & Engineering Distinguished Lecture*, University of Toronto, 16 January 2016.
752. J.N. Reddy, "Computational Mechanics: The Third Scientific Methodology," *Distinguished Mechanical Engineering Seminar*, University of Houston, Texas, 11 February, 2016.
753. J.N. Reddy, "The Finite Element Method: Past, Present, and Future," Plenary Lecture, *International Workshop on Computational Methods with Applications to Oil and Gas (IWCMOG),* Texas A&M University at Qatar, 28-29 Feb 2016, Doha, Qatar.
754. J.N. Reddy, "On Non-Local and Non-Classical Continuum Mechanics Theories," *Simpson Distinguished Visiting Professor Lecture,* Northwestern University, 13 April 2016.
755. J.N. Reddy, "Recent Developments in Nonlinear Analysis of Composite and FGM Structures," **Keynote Lecture**, *Innovation and Development of Structures & Structural Modal Properties Measurement and Applications 2016 (IDS&STRUMO2016),* Chongqing University, Chongqing, CHINA, 15-16 May 2016.
756. J.N. Reddy, "On Non-Local and Non-Classical Continuum Mechanics Theories and Applications," **Opening Key Note Lecture**, *11th HSTAM International Congress on Mechanics*, Athens, Greece, 27-30 May 2016.
757. J.N. Reddy, "On Numerical Simulations of Physical Phenomena and Nonlocal and Strain Gradient Theories," **S**eminar presented at the Department of Engineering Science, Rolls-Royce University Technology Centre for Solid Mechanics, University of Oxford, Oxford, England, June 9, 2016.
758. J.N. Reddy, "On Nonlocal and Strain Gradient Models in Structural Mechanics," Opening Plenary Lecture presented at the *10th International Conference on Advanced Computational Engineering and Experimenting* (ACE-X 2016), Split, Croatia, 3-6 July 2016.
759. J.N. Reddy, "Numerical simulations of engineering science problems using the finite element method," *Inaugural Alumni Talks*, Osmania University College of Engineering, Hyderabad, India, 28 July 2016.
760. J.N. Reddy, "On Non-Local and Strain Gradient Theories in Structural Mechanics: An Overview," *The Prager Medal Lecture*, Society of Engineering Science 53rd Annual Technical Meeting, 4-5 October 2016.
761. J.N. Reddy, "Computational Modeling and Simulations: Biological Cells, Composite Shells, and Fluid Flows," **Opening Pleanary Lecture**, *International Conference on Advances in Materials and Manufacturing* (ICAMM-2016), 8-10 December, 2016, College of Engineering, Osmania University, Hyderabad, India.
762. J.N. Reddy, "Numerical Simulations: the Third Pillar of Scientific Inquiry," *Seminar*, Indian Institute of Technology, Hyderabad, India, 15 February 2017.

763. J.N. Reddy, "Invent, Create, and Make: My Personal Retrospective," **Invited talk** at (stuent organized event) *TECHNEX17*, 24-27 February 2017, Indian Institute of Technology-BHU, Varanasi, India.
764. J.N. Reddy, "Journey through Mechanics Research and Education: A Personal Retrospective," *ICES/USACM Workshop on Advances in Computational Science and Engineering* (honoring 80th birthday of Prof. J. Tinsley Oden), University of Texas at Austin, 19-21 March 2017.
765. J.N. Reddy, "Mathematical Models and Numerical Simulations of Problems in Mechanics," **Plenary Lecture**, *8th Mechanical and Mechatronics International Engineering Congress and the 4th Materials, Energy and Environment Congress* -CIMM-2017, Universidades Nacional de Colombia, Medellin, Colombia, 25-28 March, 2017.
766. J.N. Reddy, "On a Robust Shell Finite Element and Non-Local and Non-Classical Continuum Mechanics Theories," *Talbot Distinguished Lecture*, Department of Mechanical Science, University of Illinois, Urbana-Champaign, 4 April 2017.
767. J.N. Reddy, "Non-local and non-classical continuum mechanics," *Seminar*, Department of Mechanical Engineering, University of Maryland, College Park, 20 April 2017.
768. J.N. Reddy, "On non-local and strain gradient models in structural mechanics," *Seminar*, Technical Data Analysis, Washington, DC, 21 April 2017.
769. J.N. Reddy, "On least-squares finite element models and non-local mechanics," *Frontiers of Geosciences Seminar*, Los Alamos National Laboratory, Los Alamos, New Mexico, 5 June 2017.
770. J.N. Reddy, "On a robust shell element and least squares finite element models of fluid flows," *Seminar*, Department of Mechanical Engineering, Carleton University, Ottawa, Canada, 26 June 2017.
771. J.N. Reddy, "Numerical simulations: the third pillar of scientific discovery and investigation," **Opening Plenary Lecture**, *XI Colombian Congress of Numerical Methods 2017,* the Industrial University of Santander, Colombia, 16 - 18 August 2017.
772. J.N. Reddy, "Recent developments in shell finite elements and non-local theories for composite structures," **Key Note Lecture** presented at *XXIII AIMETA* (Association of Italian Mechanics, Theory and Applications), Grand Hotel, Salerno, Italy, 4-7 Sept. 2017.
773. J.N. Reddy, "On non-local and non-classical continuum mechanics theories: an overview," School of Civil E ngineering, Beijing Jiaotong University, Beijing, China, 8 October 2017.
774. Miguel Gutierrez Rivera and J.N. Reddy, "Robust shell finite elements based on seven- and twelve-parameter shell theories," **Key Note Lecture** presented at *EASEC15 Conference*, Xi'an, China, 12 October 2017.
775. J.N. Reddy, "On non-local and non-classical continuum mechanics theories and applications," **Opening Plenary Lecture**, *Annual Technical Meeting of the American Society of Composites*, Purdue University, W. Lafayette, October 23-25, 2017.
776. J.N. Reddy, "Computational mechanics: the third pillar of scientific inquiry in science and engineering," **Key Note Lecture**, *International Conference on Nonlinear Differential Equations- Theory, Modeling and Computations,* Research Institute, SRM University, Chennai, India, 8-9 December 2017.
777. J.N. Reddy, "Numerical simulations: from biological cells to composite shells," *Seminar*, Mahindra, Mahindra Research Valley, Chennai, India, 15 December 2017.
778. J.N. Reddy, "Numerical simulations: the third pillar of modeling," *Expert Lecture* presented at Indian Institute of Technology, Bhubaneswar, Orissa, India, 21 Dece,ber 2017.
779. J.N. Reddy, "Non-local Mechanics of Materials and Structures," **Opening Plenary Lecture**, *International Conference on Composite Materials an Structures* - ICCMS 2017, 27-29 Dec 2017, Indian Institute of Technology, Hyderabad, India.
780. P. Khodabakhshi, A. R. Srinivasa, and J.N. Reddy, "On the Simulation of Tearing and Fracture or brittle materials using a Novel Graph Based FEA approach," Key Note Lecture (by Srinivasa), *International Conference on Composite Materials an Structures* - ICCMS 2017, 27-29 Dec 2017, Indian Institute of Technology, Hyderabad, India.

781. J.N. Reddy, "Innovations in shell finite elements and non-local effects in structures," **Opening Plenary Lecture** presented at *2nd International Conference on Innovations in Structural Engineering*, Osmania University College of Engineering, Hyderabad, India, 29-31 Dec. 2017.
782. J.N. Reddy, "Computational mechanics: from biological cells to composite shells," *Distinguished Lecture*, Florida Atlantic University, Boca Raton, Florida, 5 February 2018.
783. J.N. Reddy, "Computational mechanics: the third pillar of scientific discovery and investigation," *Seminar*, Department of Aerospace Engineering and Mechanics, The University of Alabama, Tuscaloosa, 19 February 2018.
784. J.N. Reddy, "Computational mechanics: the third pillar of scientific discovery and investigation," *Seminar,* Department of Mechanical Engineering, The Mississippi State University, Mssissippi State, 20 February 2018.
785. J.N. Reddy, "An Overview of Nonlocal Continuum Models," Seminar, Department of Architecture and Civil Engineering, City University of Hong Kong, Hong Kong, 2 March 2018.
786. J.N. Reddy, "Non-Local And Non-Classical Continuum Models," Seminar, Department of Engineering Mechanics, School of Civil Engineering and Transportation, State Key Laboratory of Subtropical Building Science, South China University of Technology, Guangzhou, China, 5 March 2018.
787. J.N. Reddy, "7- and 12-Parameter Shell Elements for Large Deformation Analysis of Composite Structures," University Lecture, Department of Mechanics and Aerospace Engineering, Southern University of Science and Technology, Shenzhen, China, 9 March 2018.
788. J.N. Reddy, "The finite element method: the third pillar of scientific discovery and investigation," **Plenary Lecture**, MechanIST , Technical University of Lisbon, Portugal March 13-16, 2018.
789. J.N. Reddy, "Non-Local And Non-Classical Continuum Models and Computational Approaches," Seminar, Research Center for Gas Innovation, Escola Politécnica da Universidade de São Paulo, Brazil, 9 May 2018.
790. J.N. Reddy, "On Least-Squares Finite Element Models of Flows Of Viscous Fluids," Seminar, Research Center for Gas Innovation, Escola Politécnica da Universidade de São Paulo, Brazil, 10 May 2018.
791. J.N. Reddy, "On Nonlocal and Non-Classical Mechanics Theories and Computational Approaches," **Mechanical Engineering Distinguished Lecture Series**, Department of Mechanical Engineering, University of British Colombia, Vancouver, Canada, 26 May 2018.
792. Mohsen Nowruzpour and J.N. Reddy, "A Nonlocal Derivative-free Model Using Discrete Cauchy-Born Rule for Analysis of Defects," session on Peridynamics – Modeling, Theory, and Applications, *18th U.S. National Congress for Theoretical and Applied Mechanics*, Northwestern University, Chicago, 4-8 June 2018.
793. J.N. Reddy, "A Journey Through Composite Materials and Structures: A Personal Retrospective," **Opening Plenary Lecture**, *First International Conference on Mechanics of Advanced Materials and Structures*, University of Torino, Torino, Italy, 18-20 June 2018.
794. Namhee Kim and J.N. Reddy, "Least-Squares Finite Element Analysis of Flows of Generalized Fluids," *First International Conference on Mechanics of Advanced Materials and Structures*, University of Torino, Torino, Italy, 18-20 June 2018.
795. K.S. Surana, R. Anusuri, D. Mysore, and J.N. Reddy, "Thermodynamically consistent beam theories in the context of classical and non-classical continuum mechanics," *First International Conference on Mechanics of Advanced Materials and Structures*, University of Torino, Torino, Italy, 18-20 June 2018.
796. K.S. Surana, D. Mysore, and J.N. Reddy, "Consistent thermoviscoelastic beam theories without memory in context of classical and non-classical continuum mechanics," *First International Conference on Mechanics of Advanced Materials and Structures*, University of Torino, Torino, Italy, 18-20 June 2018.

797. K.S. Surana, D. Mysore, and J.N. Reddy, "Thermoviscoelastic beam theories with memory in the context of classical and non-classical continuum mechanics," *First International Conference on Mechanics of Advanced Materials and Structures*, University of Torino, Torino, Italy, 18-20 June 2018.
798. J.N. Reddy, "Spectral/hp Shell Finite Elements for Large Deformation Analysis of Composite Structures," **Seminar,** Department of Mechanics of Materials and Constructions, Vrije Universitait Brussel, Brussels, Belgium, 26 June 2018.
799. J.N. Reddy, "On Nonlocal Mechanics: Mathematical Models and Computational Approaches," **Guest Lecture,** Aerospace Structures and Materials, Technical University of Delft, The Netherlands, 28 June 2018.
800. J.N. Reddy, "On Stress and Strain Gradient and Micropolar Theories," **Plenary Lecture**, *12th International Conference on Advanced Computational Engineering and Experimenting* (ACE-X 2018), Amsterdam, The Netherlands, 1-4 July 2018.
801. J.N. Reddy, "On nonlocal theories: mathematical models and computational approaches," *Key Note Lecture* in Session on Novel Mathematical Models and Computational Methods at the *13th World Congress in Computational Mechanics* (WCCM 2018), New York City, 22-27 July 2018.
802. Archana Arbind, J N Reddy, and A R Srinivasa, "A higher-order theory for open and closed curved rods and tubes using a novel curvilinear cylindrical coordinate system," Session on Novel Mathematical Models and Computational Methods at the *13th World Congress in Computational Mechanics* (WCCM 2018), New York City, 22-27 July 2018.

# POST-DOCTORAL FELLOWS AND GRADUATE STUDENTS

## POST-DOCTORAL FELLOWS AND RESEARCHERS ADVISED

1. Elio Socco, University of Rome II, Rome, Italy (1985,1988).
2. Fraternali, University of Salermo, Salermo, Italy (1987).
3. Marco Savoia, University of Bologna,Bologna, Italy (1990, 1993).
4. Anil Tayal, University of Delhi, New Delhi, India (1990).
5. G.S. Reddy, National Defense Metallurgical Laboratory, Hyderabad, India (1990).
6. K. Krishna Kumar, Indian Institute of Technology, Madras (February-December, 1994).
7. A.F. Palmerio, Brazilian Air Force, Brazil (Spring 1994).
8. Emilio Larrodè, University of Zaragoza, Zaragoza, Spain (Spring 1997).
9. Kohji Suzuki, Department of Engineering, University of Tokto, Tokyo, Japan (June 1998-May 1999).
10. Joaquim Barbosa, Instituto de Engenharia Mecânica (Institute of Mechanical Engineering) Technical University of Lisbon, Lisbon, PORTUGAL (Spring 1999).
11. Zhen-Qiang Cheng, University of Science and Technology of China, China (March 1999-March 2004).
12. Siddhartha Mukherjee, Indian Institute of Technology, Madras, India (June 1999-August 2001).
13. Eugènio S. Gacão, Instituto de Engenharia Mecânica (Institute of Mechanical Engineering) Technical University of Lisbon, Lisbon, PORTUGAL (January - July 2000).
14. Elio Sacco, Department of Mechanics, Structures and Environment, University of Cassino, Cassino, Italy (July-August 2001).
15. Manas Chandra Ray, Department of Mechanical Engineering, Indian Institute of Technology, Kharagpur, INDIA (May - July 2002 and Sept. 2003-May 2004).
16. Juan P. Pontaza, Department of Mechanical Engineering, Texas A&M University (January 2003-2006).
17. Roman A. Arciniega, Department of Mechanical Engineering, Texas A&M University (January 2005-2006).
18. Recep Günes, Department of Mechanical Engineering, Erciyes University, Kayseri Turkey (Sep 2007-Aug 2008).
19. Vinu U. Unnikrishnan, Department of Mechanical Engineering, Texas A&M University (August 2007-2012).
20. Ginu U. Unnikrishnan, Department of Mechanical Engineering, Texas A&M University (May 2008-2010).
21. Roman Arciniega, Department of Mechanical Engineering, Texas A&M University (August 2008-2009).
22. Jose Viriato Santo, Technical University of Lisbon, Portugal (Mar-Aug 2009).
23. Yiping Liu, Department of Mechanics, South China University of Technology, Guanzhou, China (Sep. 2008-August 2010).
24. Anirudh Shukla, Department of Aerospace Engineering, Technical University of Delft, The Netherlands (Sep-Dec 2011).
25. Jianfeng Wen, School of Mechanical and Power Engineering, East China University of Science and Technology (ECUST), Shanghai, China (September 1, 2011 to August 31, 2012.
26. Manas Chandra Ray, Department of Mechanical Engineering, Indian Institute of Technology, Kharagpur, India (July-Aug, 2012).
27. Recep Ekici, Department of Mechanical Engineering, Erciyes University, Kayseri, Turkey (Sep 2012-May 2013).
28. Mustafa Yildirim, Department of Mechanical Engineering, Erciyes University, Kayseri, Turkey (Oct 2012-May 2013).
29. Ginu U. Unnikrishnan, Department of Mechanical Engineering, Boston University (Jan-August 2013).

30. Bozkurt Burak Özhan, Department of Mechanical Engineering, Celal Bayar University, Manisa, Turkey 45140 (Jul 2013-Oct 2013).
31. Gultekin Sinir, Department of Civil Engineering, Celal Bayar University, Manisa, Turkey 45143 (12 Aug 2013- 11 Aug 2014).
32. Jani Romanoff, Department of Solid Mechanics, Aalto University, P.O. Box 15300, 00076 Aalto, Finland (Sep 2013-Dec 2013).
33. Kari Santaoja, Department of Applied Mechanics, Aalto University, P.O. Box 14300 FI-00076, Finland (2 Jan – 15 Feb., 2015).
34. Saikat Sarkar, Department of Civil Engineering, Indian Institute of Science, Bangalore, India (15 April 2015 – 14 Mar 2017).
35. Bozkurt Burak Özhan, Department of Mechanical Engineering, Celal Bayar University, Manisa, Turkey 45140 (June 2015-June 2016).
36. Jani Romanoff, Department of Solid Mechanics, Aalto University, P.O. Box 15300, 00076 Aalto, Finland (Sep 2015-Oct 2015).
37. Bruno Reinaldo Goncalves, Department of Applied Mechanics, Aalto University, Aalto Finland (Sep-Oct, 2015)
38. Anssi Karttunen, Department of Solid Mechanics, Aalto University, P.O. Box 15300, 00076 Aalto, Finland (Jan 2016-July 2016).
39. Bruno Reinaldo Goncalves, Department of Applied Mechanics, Aalto University, Aalto Finland (Jun-July, 2016)
40. Michele Bacciocchi, School of Engineering and Architecture, University of Bologna, 40136 Bologna, Italy (1 Sep 2016-28 Feb 2017).
41. Huijuan Guo, Department of Engineering Mechanics in Tsinghua University, Beijing, China (1 Oct. 2016-30 Sep. 2017).
42. Anssi Karttunen, Department of Solid Mechanics, Aalto University, P.O. Box 15300, 00076 Aalto, Finland (Sept 2017-Aug 2019).
43. Zhujiang (Jason) Wang, Texas A&M University, College Station (Sept. 2016-Aug. 2018).
44. Archana Arbind, Texas A&M University, College Station (Sept. 2017-Aug. 2019).
45. Abhay Bambole, Department of Structural Engineering, Veermata Jijabai Technological Institute (VJTI), Matunga, Mumbai, India (Nov. 2017-Jan. 2018).

**DOCTORAL STUDENTS ADVISED** (an asterisk indicates that the person is employed by an academic institution)

1. Robert Belie, "Fracture Prediction in Plane Elasto-Plastic Problems by the Finite Element Method," School of Aerospace, Mechanical, and Nuclear Engineering, University of Oklahoma, Norman, OK, 1978.
2. John D. Warburton, "The Use of the Finite Element Method in Meteorological Modeling,"(co-advised by S. Sasaki) Department of Meterology, University of Oklahoma, Norman, OK, 1979.
3. Akio Satake, "Numerical Analysis of Certain Constrained Optimization Problems in Nonlinear Mechanics," School of Aerospace, Mechanical and Nuclear Engineering, University of Oklahoma, Norman, OK, 1980.
4. Wei-Chang Chao, "Geometrically Nonlinear Analysis of Layered Composite Plates and Shells," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, VA, 1983.
5. N.S. Putcha, "A Mixed Shear Flexible Finite Element for Geometrically Nonlinear Analysis of Laminated Plates," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, VA, l984.
6. K. Chandrashekhara*, "Geometric and Material Nonlinear Analysis of Laminated Composite Plates and Shells," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, VA, 1985.

7. C.F. Liu*, "Geometrically Nonlinear Analysis of Composite Laminates Using a Refined Shear Deformation Shell Theory," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, VA, 1985.
8. Paul R. Heyliger*, "A Mixed Computational Algorithm Based on Updated Lagrangian Formulation for Plane Elastic Contact Problems," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, VA, June 1986.
9. Ahmed A. Khdeir*, "Analytical Solutions for the Statics and Dynamics of Rectangular Laminated Composite Plates Using Shear Deformation Theories," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, VA, October 1986.
10. David Rourk, "Geometric and Material Nonlinear Effects in Elastic-Plastic and Failure Analyses of Anisotropic Laminated Structures," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, VA, December, 1986.
11. C.L. Liao*, "An Incremental Total Lagrangian Formulation for General Shell-Type Structures," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, June 1987.
12. Ajay K. Pandey, "A Nonlinear Computational Model for the Strength and Failure of Composite Plates and Shells," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, June 1987.
13. Samit Roy*, "A Finite Element Analysis of Adhesively Bonded Joints Including Geometric Nonlinearity, Non-Linear Viscoelasticity, Moisture Diffusion and Failure," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, November 1987.
14. Ariovaldo F. Palmerio*, "On a Moderate Rotation Theory for Anisotropic Shells," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, September 1988.
15. Robert T. Arenburg, "Analysis of Metal Matrix Composite Structures Using a Micromechanical Constitutive Theory," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, December 1988.
16. Pey M. Wung, "Large Deformation Analysis of Laminated Composite Structures by a Continuum-Based Shell Element with Transverse Deformation," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, VA, June 1989.
17. Ever J. Barbero*, "On a Generalized Laminate Theory with Application to Bending, Vibration, and Delamination Buckling in Composite Laminates," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, VA, September 1989.
18. Ashgar Nosier*, "A Study of Damped and Undamped Vibration and Stability Problems of Laminated Plates and Shells According to Various Shear Deformation Theories," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, VA, Dec. 1990.
19. Mahendar P. Reddy, "Numerical Simulation of Three-Dimensional Casting, Extrusion, and Forming Processes," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, VA, Dec. 1990.
20. Stephen P. Engelstad, "Nonlinear Probabilistic Finite Element Modelling of Composite Shells," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, VA, Dec. 1990.
21. Ronald C. Averill*, "Nonlinear Analysis of Laminated Composite Shells Using a Micromechanics-Based Progressive Damage Model," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, VA, June 1992.

22. Y.S.N. Reddy, "Numerical Simulation of Damage and Progressive Failures in Composite Laminates Using the Layerwise Plate Theory," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, August 1992.
23. S.K. Kassegne*, "Layerwise Theory for Discretely Stiffened Laminated Cylindrical Shells," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, December 1992.
24. Ching Yi Tsai, "Modeling of Chemical Vapor Infiltration Process," (co-advisor with S. Desu), Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, June 1993.
25. Robert M. Fithen*, "Adaptive Finite Element Simulation of Incompressible Viscous Flow," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, August 1993.
26. Donald H. Robbins, Jr., "Hierarchical Modeling of Laminated Composite Plates Using Variable Kinematic Finite Elements and Mesh Superposition," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, November 1993.
27. F. T. Kokkinos*, "Three-Dimensional Layerwise Modeling of Layered Media with Boundary Integral Equations," Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, December 1995.
28. C. M. Dakshina Moorthy, "Modeling Laminates Using a Layerwise Finite Element with Enhanced Strains for Interlaminar Stress Recovery and Delamination Characteristics," Department of Mechanical Engineering, Texas A&M University, April 1997.
29. John A. Mitchell, "A High Performance Iterative Solution Procedure for Solving Problems in Structural Mechanics Using the Finite Element Method," Department of Mechanical Engineering, Texas A&M University, May 1997.
30. Hussein Allaboun, "Growth and Coalescence of Bubbles During Late Stages of Polymer Foaming Processes," (co-advised with W. Flumerfelt) Department of Chemical Engineering, Texas A&M University, April 1998.
31. Govind Rengarajan, "On the Inelastic Behavior of Crystalline Solids," Department of Mechanical Engineering, Texas A&M University, September 1998.
32. Achuth Rao, "Study of Molecular Orientation and Phase Transition in Polymers During the Film Blowing Process," Department of Mechanical Engineering, Texas A&M University, September 1998.
33. Grama N. Praveen, "Modeling Inelasticity in Materials with Application to Superplasticity," Department of Mechanical Engineering, Texas A&M University, February 1999.
34. Philip Schembri, "A 3D Meshless Computational Procedure for Nonlinear Analysis of Structures," Department of Mechanical Engineering, Texas A&M University, September 2002.
35. Juan P. Pontaza, "Least-Squares Variational Principles and the Finite Element Method: Theory, Formulations, and Models for Solids and Fluid Mechanics" Department of Mechanical Engineering, Texas A&M University, December 2003.
36. Seung Joon Lee, "Nonlinear Analysis of Composite Laminated Plate and Shell Structures with Smart Material Laminae," Department of Civil Engineering, Texas A&M University, January 2004.
37. Ravisankar S. Mayavaram, "Modeling and Simulation of Film Blowing Process," Department of Mechanical Engineering, Texas A&M University, November 2004.
38. Goy Teck Lim, "Scratch Behavior of Polymers," Department of Mechanical Engineering, Texas A&M University, June 2005.
39. Roman A. Arciniega*, "On Tensor-Based Finite Elements Model for the Analysis of Shell Structures," Department of Mechanical Engineering, Texas A&M University, October 2005.
40. Ravi S. Karedla, "Modeling of Crack Tip High Inertia Zone in Dynamic Brittle Fracture," Department of Mechanical Engineering, Texas A&M University, May 2006.
41. Wilson Aliaga, "Analysis of Smart Functionally Graded Plates," Department of Mechanical Engineering, Texas A&M University, May 2006.

42. Vivek Prabhakar, "Least Squares Based Finite Element Formulations and Their Applications in Fluid Mechanics," Department of Mechanical Engineering, Texas A&M University, December 2006.
43. Yetzirah Urthaler, "On Simple and Accurate Finite Element Models for Nonlinear Bending Analysis of Beams and Plates," Department of Mechanical Engineering, Texas A&M University, December 2006.
44. Vinu U. Unnikrishnan, "Multiscale Analysis of Nanocomposite and Nanofibrous Structures," Department of Civil Engineering, Texas A&M University, August 2007.
45. Wook Jin Na, "Damage Analysis of Laminated Composite Beams under Bending Loads using the Layerwise Theory," Department of Mechanical Engineering, Texas A&M University, November 2007.
46. Ginu Unnikrishnan, "Computational Modelling of Biological Cells and Soft Tissues," Department of Mechanical Engineering, Texas A&M University, May 2008.
47. James Steuber*, "A Model for Nonlinear Electrokinetics in Electric Field Guided Assembly of Colloids, " Department of Mechanical Engineering, Texas A&M University, October 2009.
48. Rakesh Ranjan, "*hp*-Spectral Element Methods in Structural Mechanics and Computational Fluid Dynamics," Department of Mechanical Engineering, Texas A&M University, November 2009.
49. Greg Payette, "Spectral/*hp* Finite Element Models for Fluids and Structures," Department of Mechanical Engineering, Texas A&M University, Spring 2012.
50. Pritha Ghosh, "Model Development and Simulation of the Response of Shape Memory Polymers," Department of Mechanical Engineering, Texas A&M University, College Station, August 2012 (co-advised with Arun Srinivasa).
51. Venkat V. Vallala, "Higher-Order Spectral/hp Finite Element Technology for Structures and Fluid Flows," Department of Mechanical Engineering, Texas A&M University, College Station, August 2013.
52. Feifei Cheng, "Multi-scale Computational Modeling of Multiphase Composites with Damage," Department of Mechanical Engineering, Texas A&M University, College Station, December 2013.
53. Ashwin Rao, "Structural Thermomechanical Models for Shape Memory Alloy (SMA) Components," Department of Mechanical Engineering, Texas A&M University, College Station, May 2014 (co-advised with Arun Srinivasa).
54. Ozgu Ozsoy, "Investigation of Interfaces under Mechanical and Thermal Loading Using a Cohesive Zone Model," Department of Mechanical Engineering, Texas A&M University, College Station, May 2014.
55. Arash Sabz, "Nondestructive Level III Damage Evaluation and System Identification in Structures Based on the Rate of Total Energy," Department of Civil Engineering, Texas A&M University, April 2015.
56. Helnaz Soltani, "Fluid-Structure Interaction with Application to Structural Vibration and Blood Flow in Arteries," Department of Mechanical Engineering, Texas A&M University, May 2015.
57. Wooram Kim, "Improved Time Integration Algorithms for the Analysis of Structural Dynamics," Department of Mechanical Engineering, Texas A&M University, May 2016.
58. Miguel Gutierrez Rivera, "A Comparison Between 7- and 12-Parameter Shell Finite Elements for Large Deformation Analysis," Department of Mechanical Engineering, Texas A&M University, Dec 2016.
59. Michael Powell, "Internal Polar Continuum Theories for Solid and Fluent Continua," Department of Civil Engineering, Texas A&M University, Dec 2016.
60. Nasra Al Maskari, "Bioinspired Material Design: Modeling and Optimization of Nacre-like Materials," Department of Mechanical Engineering, Texas A&M University, Dec 2016 (co-advised with Dan McAdams).

61. Jinseok Kim, ``A Non-local Third-order Theory of Functionally Graded Plates under Electromechanical Coupling Effect," Department of Mechanical Engineering, Texas A&M University, May 2017.
62. Archana Arbind, "Finite Element Analysis of Structures Using a General Higher-Order Plate and One-Dimensional Theories for Classical and Cosserat ContinuumHaving Constrained Microrotation," Department of Mechanical Engineering, Texas A&M University, May 2017.
63. Parisa Khodabakhshi, "A Non-Local Approach for Damage Prediction in Structures" Department of Civil Engineering, Texas A&M University, defended May 2018.
64. Namhee Kim, "Spectral/HP Least-Squares Finite Element Analysis Of Isothermal And Non-Isothermal Flows Of Generalized Newtonian Fluids," Department of Mechanical Engineering, Texas A&M University, defended Febraury 2018.

### DOCTORAL STUDENTS CO-ADVISED (OUTSIDE THE USA)

65. J. Eugénio Semendo Garção*, "Modeling of Adaptive Structures" (co-advised with Drs. C. A. Mota Soares and C. M. Mota Soares), Universidade Técnica de Lisboa Instituto Superior Técnico (Technical University of Lisbon), October 2004.
66. Henrique Santos*, "A Semi-Analytical Finite Element for Analysis of Shells of Revolution" (co-advised with Drs. C.A. Mota Soares and C.M. Mota Soares), Universidade Técnica de Lisboa Instituto Superior Técnico (Technical University of Lisbon), Portugal, October 2008.
67. Filipa Andreia de Matos Moleiro*, "Mixed Least-Squares Finite Element Models for Analysis of Multilayered Composite Plates" (co-advised with Drs. C. A. Mota Soares and C. M. Mota Soares), Universidade Técnica de Lisboa Instituto Superior Técnico (Technical University of Lisbon), Portugal, February 2009.
68. Ramin Aghababaei*, "Modeling Slip Gradients and Internal Stresses in Crystalline Microstructures with Distributed Defects," (co-advised with Shailendra Joshi), National University of Singapore, August 2012.
69. Abhilash Nair*, "Discrete Micromechanics of Random Fibrous Architectures," (co-advised with Shailendra Joshi), National University of Singapore, December 2012.
70. Seyed Hamid Reza Mirkhani*, "Crystal Plasticity Modeling and Simulation of Nanotwinned Metals" (co-advised with Shailendra Joshi), National University of Singapore, Spring 2013.
71. Kiran Chandra Sahu*, "Active Control of Sound Transmission through Sandwich Panels" (co-advised with Dr. Tuhkuri Jukka), Aalto University, Aalto, Finland, to be completed in December 2015.

### M.S. STUDENTS ADVISED

1. C. S. Tsay, "Bending, Stability, and Vibration of Thin Rectangular Plates by Stationary Finite Element Models" University of Oklahoma, Norman, OK, 1977.
2. V. D. Murty, "Solution of Integral Equations by the Finite Element Method," University of Oklahoma, Norman, OK, 1977.
3. R. Gera, "An Accurate Finite-Difference Analysis of Bending of Thin Rectangular Elastic Plates," University of Oklahoma, Norman, OK, 1977.
4. I. R. Singh, "Large Deflection and Large Amplitude Free Vibrations of Beams and Circular Plates by the Finite Element Method," University of Oklahoma, Norman, OK, 1978.
5. F. Irani, "Higher Order Conventional and Mixed Finite Elements Including Shear Deformation and Rotatory Inertia for Dynamic Analysis of Beams," University of Oklahoma, Norman, OK, 1978.
6. D. R. Mamidi, "A Penalty Finite-Element Model for the Numerical Solution of Free Convection Heat Transfer in Rectangular Enclosures," University of Oklahoma, Norman, OK, 1979.
7. Y. S. Hsu, "Thermal Stress Analysis of Composite Plates and Shells by the Finite Element Method," University of Oklahoma, Norman, OK, 1980.

8. C. L. Huang, "Large Deflection Bending and Vibrations of Thick Annular Plates with Variable Thickness," University of Oklahoma, Norman, OK, 1980.
9. W. C. Chao, "Finite-Element Analysis of Laminated Composite (Ordinary and Bimodular-Material) Plates," University of Oklahoma, Norman, OK, 1980.
10. J. D. Mook, "Large Deflection Transient Response of Layered Composite Plates," Virginia Polytechnic Institute and State University, Blacksburg, VA, 1982.
11. N. D. Phan, "Exact and Finite-Element Analysis of Laminated Plates Using a Higher-Order Theory," Virginia Polytechnic Institute and State University, Blacksburg, VA, l984.
12. V. A. Padhye, "A Penalty-Finite Element Model for Axisymmetric Flows of Viscoelastic Fluids," by Virginia Polytechnic Institute and State University, Blacksburg, VA, November 1986.
13. Q. Gu, "Nonlinear Analysis of Free-Edge Effects in Symmetric Laminates Under Axial Loading," Virginia Polytechnic Institute and State University, February 1987.
14. Ravinder Bhumbla, "A Study of Vibrations in Rotating Laminated Composite Plates Accounting for Shear Deformation and Rotary Inertia," Virginia Polytechnic Institute and State University, Blacksburg, VA, April 1989.
15. Didier Turlier, "Numerical Stress Intensity Factor Determination of Notched Laminated Specimens," (co-advised with Don H. Morris), Virginia Polytechnic Institute and State University, Blacksburg, VA, April 1989
16. Jayashree Moorthy, "Dynamic Stability of Composite Laminated Plates," Virginia Polytechnic Institute and State University, Blacksburg, VA, June 1989.
17. M. P. Reddy, "Finite Element Analysis of Coupled Heat Transfer and Fluid Flow of Non-Newtonian, Incompressible Fluids in Three-Dimensional Enclosures," Virginia Polytechnic Institute and State University, June 1989.
18. R. C. Averill, "On the Behavior of Shear Deformable Plate Elements," Virginia Polytechnic Institute and State University, August 1989.
19. John A. Mitchell, "The Effects of Embedded Piezoelectric Layers in Composite Cylinders and Applications," Virginia Polytechnic Institute and State University, July 1992.
20. "Stiffness Reduction and Stress Transfer in Composite Laminates with Transverse Matrix Cracks," by G. N. Praveen, Texas A&M University, September 1994.
21. P. Bose, "A Critical Evaluation of Various Higher-Order Plate Theories," Virginia Polytechnic Institute and State University, December 1995.
22. C.-D. Chin, "A Parametric Study of Thermomechanical Behavior of Functionally Gradient Materials," Texas A&M University, October 1996.
23. Sivasubramaniam Krishnan, "Vibration Suppression of Laminated Composite Plates Using Embedded Smart Material Layers," Texas A&M University, July 2000.
24. Nikhil C. Murgude, "Geometric Nonlinear Analysis of Microbeams Under Electrostatic Loading," Texas A&M University, December 2001.
25. Praveen Gupta, "Buckling and Vibration of Orthotropic Plates with an Internal Hinge," Texas A&M University, December 2001.
26. Raghavendra K. Shenoy, "Analysis of Three-Dimensional Frames Using Shear-Locking-Free Beam Elements Based on the Third-Order Shear Deformation Theory," Texas A&M University, December 2001.
27. Nauman M. Sheikh, "The Formulation and Computer Implementation of Element-Free Galerkin Method for Euler-Bernoulli Beam Theory," Texas A&M University, December 2001.
28. Rahul Joshi, "An Implementation of the Extended Finite Element Method (XFEM) for a Linear Elastic Domain with Fracture," (co-advised with T. Strouboulis), Texas A&M University, May 2004.
29. David Matthew McCutcheon, "Machine Augmented Composite Materials for Damping Purposes," (co-advised by Terry Creasy), Texas A&M University, December 2004.
30. Brent D. Pickle, "Evaluation of Stress in BMI-Carbon Fiber Laminate to Determine the Onset of Microcracking," (co-advised with Roger Morgan), December 2004.

31. Anmol Agrawal, "Hingeless Flow Control over an Airfoil via Distributed Actuation," (co-advised by Othon Rediniotis), Texas A&M University, August 2005.
32. Gregory P. Payette, "Mathematical Modeling of Evaporative Cooling of Moisture Bearing Epoxy Composite Plates," (co-advised with Roger Morgan), Texas A&M University, March 2006.
33. Ryan Petrus, "Dynamics Analysis of Fluid Conveying Pipes," Texas A&M University, May 2006.
34. Wooram Kim, "Unconventional Finite Element Models for Nonlinear Analysis of Beams and Plates," May 22, 2007.
35. Britt Pratt, "Least Squares Finite Element and Meshless Methods in Heat Transfer," Texas A&M University, March 2008.
36. Feifei Cheng, "A Study on Continuum-Based Computational Models of Living Cell," Texas A&M University, Oct. 2008.
37. Venkat Vallala, "Alternative Least-Squares Finite Element Models of Navier-Stokes Equations for Power-Law Fluids," Texas A&M University, May 2009.
38. Ameeta Raut, "Linear and Nonlinear Finite Element Analysis of Beams Using Least-Squares Finite Element Model," Texas A&M University, May 2009.
39. Nellie Rajarova, "An Assessment of Alternative Finite Element Models Problems in Heat Transfer and Fluid Mechanics," Texas A&M University, May 2009.
40. Dhatri Gaddamanugu, "Finite Element Modeling and Molecular Dynamic Simulation of Carbon Nanotubes/Polymer Composites," Texas A&M University, May 2009.
41. Jayavel Arumugam, "Ionic Polymer-Metal Composite Beams, Thermodynamical Modeling and Simulation,"(co-advised with Arun Srinivasa), Texas A&M University, August 2012.
42. Archana Arbind, "Nonlinear Analysis of Conventional and Microstructure Dependent Functionally Graded Beam under Thermo-Mechanical Loads," Texas A&M University, August 2012.
43. Sukanya Doshi, "Study of Thermo-mechanical Coupling in Functionally Graded Metal-Ceramic Composites," (co-advised with Anastasia Muliana), Texas A&M University, Dec 2012.
44. Patrick Mahaffey, "Bending, Vibration and Buckling Response of Modified Euler-Bernoulli and Timoshenko Beam Theories Accounting for the von Kármán Geometric Nonlinearity," Texas A&M University, August 2013.
45. Sandeep Pidaparti, "A Computational Study on the Leakage of Supercritical Carbon Dioxide Through Labyrinth Seals," (co-advised with Dr. Devesh Ranjan), Texas A&M University, Dec 2013.
46. Sravani Nuti, "Dynamic Simulations of Elastic Rods for Medical Applications," (co-advised with Dr. Annie Ruimi, TAMU-Q), Texas A&M University, Dec. 2014. Received the *2014-2015 Outstanding Engineering Master's Graduate Student Award* from College of Engineering at TAMU, November 2014.

**GRADUATE STUDENTS CURRENTLY ADVISED**

**Dissertations in Progress (Titles are tentative):**

1. Mohsen Nowruzpour, "On nonlocal continuum mechanics models and applications to beams and plates," Fall 2018.
2. Shahla Zamani Mehrian, (coadvised with Alan Fried), Spring 2019
3. PraneethNampally,"Nonlinear finite element analysis of lattice core sandwich structures", Spring 2020
4. Ho Yong Shin, "A fluid-solid nonlinear formulation with applications to biological systesms," Fall 2020.

## SPECIAL STUDENTS ADVISED

1. Steven Ulrick, Jr., "Finite Element Analysis Validation Techniques," (MS No-Thesis Option Project Report), Texas A&M University, College Station, April 1995.
2. Robert Pandorf, "Construction and Finite Element Analysis of Laminated Plate Structures," (Konstruktiver Entwurf), Texas A&M University, December 1995.
3. Payal Pawliwal, "Finite Element Analysis of Functionally Graded Beams Using the Third Order Shear Deformation Theory," (MS Non-Thesis Option Project Report), Texas A&M University, College Station, May 2004.
4. Ruchir Patwa, "Analysis of Single-Walled Carbon Nanotubes Using Structural Mechanics Approach," (MS Non-Thesis Option Project Report), Texas A&M University, College Station, May 2004.
5. Karthik Aruru, "Exact Solutions for Bucking of Timoshenko Columns" (MS Non-Thesis Option Project Report) Texas A&M University, College Station, October 2004.