

Ramana V. Grandhi

Distinguished Professor

Date of Initial Appointment: September 1, 1984 (21 years of service)

Education

Institution	Field of Study	Degree/Date
Virginia Polytechnic Institute and State University	Engineering Mechanics	Ph.D., 1984
Indian Institute of Technology Regional Engineering College	Mechanical Engineering Mechanical Engineering	M. Tech., 1980 B. Tech., 1978

Professional Experience

Position	Institution	Dates
Professor	Wright State University, Mech. & Mat. Eng.	09/93-Present
Associate Professor	Wright State University, Mech. & Mat. Eng.	09/89-08/93
Assistant Professor	Wright State University, Mech. & Mat. Eng.	09/84-08/89
Researcher	NASA/Lewis Research Center, WPAFB, OH	12/95-12-96

Principal Publications (Last 5 Years)

1. Choi, J.H., Penmetsa, R.C., Grandhi, R.V., "Shape Optimization of the Cavitator for a Supercavitating Torpedo," Journal of the International Society for Structural and Multidisciplinary Optimization 29(2), February 2005, pp.159-167.
2. Bae, H., Grandhi, R.V., and Canfield, R.A., "Successive Matrix Inversion (SMI) Method for Reanalysis of Engineering Structural Systems," AIAA Journal, Vol. 42, No. 8, August 2004, pp. 1529-1535.
3. Hoffman, R.M., Kinzel, G.L., and Grandhi, R.V., "Nonlinear Elastic-plastic Analysis using the Modified Finite Quasi-Prism Element," Journal of Finite Elements in Analysis and Design, Vol. 40, No. 4, 2004, pp. 449-460.
4. Pettit, C.L. and Grandhi, R.V., "Preliminary Weight Optimization of a Wing Structure for Gust Response and Aileron Effectiveness Reliability," AIAA Journal of Aircraft, Vol. 40, No. 6, 2003, pp. 1185-1191.
5. Penmetsa, R. and Grandhi, R.V., "Uncertainty Propagation Using Possibility Theory and Function Approximations," International Journal of Mechanics Based Design of Structures and Machines, Vol. 31, No. 2, 2003, pp. 257-279.
6. Bae, H., Grandhi, R.V., and Canfield, R.A., "Uncertainty Quantification of Structural Response Using Evidence Theory," AIAA Journal, Vol. 41, No. 10, 2003, pp. 2062-2068.
7. Zhao, G., Wang, G., and Grandhi, R.V., "Die Cavity Design of Near Flashless Forging Process Using FEM-Based Backward Simulation," Journal of Materials Processing Technology, Vol. 121, 2002, pp. 173-181.
8. Penmetsa, R., and Grandhi, R. V., "Structural System Reliability Quantification Using Multi-Point Function Approximations," AIAA Journal, Vol. 40, No. 12, December 2002, pp. 2526-2531.
9. Shin, Y. S. and Grandhi, R.V., "A Global Structural Optimization Technique Using an Interval Method," Journal of Structural and Multidisciplinary Optimization, Vol. 22, No.5, December 2001, pp. 351-363.
10. Aryasomayajula, S., Wang, H., Grandhi, R. V., and Eastep, F.E., "Multidisciplinary Design of Vehicle Structures with Improved Roll Maneuverability in Transonic Regime," AIAA Journal of Aircraft, Vol. 38, No. 4, July-August, 2001, pp. 664-671.
11. Gu, Y., Zhao, G., Kang, Z., and Grandhi, R. V., "Buckling Design Optimization of Complex Built-Up Structures with Shape and Size Variables," Journal of Structural Optimization, Vol. 19, No. 3, 2000, pp. 183-191.
12. Xu, S., and Grandhi, R. V., "Multipoint Approximation Development: Thermal Structural Optimization Case Study," International Journal for Numerical Methods in Engineering, Vol.48, 2000, pp.1151-1164..
13. Bae H., Grandhi R. V., and Canfield R. A., "Trust Region Reliability-Based Design Optimization with Mixed-Type Uncertain Variables," 46th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, Austin, TX, April 2005.
14. Grandhi, R.V., and Repalle, J., "Robust Forging Process Design under Uncertainties," International Seminar on Metal forming, Casting, and Heat Treatment, Indian Institute of Science, Bangalore, India, 21-22 September 2003, 30 pages.
15. Beachkofski, B.K. and Grandhi, R.V., "Probabilistic System Reliability for a Turbine Engine Airfoil," GT2004-53381, Proceedings of IGTI '04, ASME Turbo Expo 2004, Vienna Austria, 2004.

16. Grandhi, R.V., "Uncertainty Quantification in Airframe Design," Proceedings of the RTO Applied Vehicle Technology Panel Symposium on "Reduction of Military Vehicle Acquisition Time and Cost through Advanced Modeling and Virtual Product Simulation," Paris, France, April 2002.
17. Penmetsa, R. C., and Grandhi, R. V., "Uncertainty Analysis of Large-Scale Structures Using High Fidelity Models," First MIT Conference on Computational Fluid and Solid Mechanics, Paper # 316, June 2001.
18. Penmetsa, R. C., and Grandhi, R. V., "System Reliability Prediction for a Design Environment: Use of Multi-point Approximation," 8th AIAA/NASA/USAF/ISSMO Symposium on Multidisciplinary Analysis and Optimization, Long Beach, CA, September 2000, AIAA-2000-4759.

Professional Memberships

1) Fellow, American Society of Mechanical Engineers (ASME). 2) Fellow, American Institute of Aeronautics and Astronautics (AIAA). 3) Member, American Society of Engineering Education (ASEE). 4) Member of Phi Kappa Phi. 5) Member of Pi Tau Sigma. 6) Member of Tau Beta Pi.

Honors and Awards (Since Joining WSU)

1) AIAA Fellow inducted 2005. 2) The Solberg Award, American Society of Naval Engineers, 2004. 3) The University Professor Title, Wright State University, 2004-2009 and 1998-2003. 3) Outstanding Engineering Educator Award, Ohio Society of Professional Engineers, 2004. 4) The Distinguished Professor Title, Wright State University, 2001-2006 and 1996-2001. 5) Outstanding Technical Contribution, AIAA Dayton-Cincinnati Section, 1998. 6) The Distinguished Service Award, AIAA Multidisciplinary Design Optimization Technical Committee, 1998. 7) Caterpillar Continuous Quality Improvement (CQI) Award, Caterpillar, Inc., 1996. 8) Outstanding Engineers and Scientists Award, Engineering and Science Foundation of Dayton and the Affiliate Societies Council, 1994. 9) The Brage Golding Distinguished Research Professor Title, Wright State University, 1992-1995. 10) The Excellence in Research Award, College of Engineering and Computer Science, 1990. 11) The UP & COMERS Award, Price Waterhouse and the Muse Machine, 1990. 12) The DOW Outstanding Faculty Award, American Society of Engineering Education (ASEE), 1989. 13) The Ralph R. Teetor Educational Award, Society of Automotive Engineers (SAE), 1987. 14) Outstanding Young Man of America, 1987. 15) Best Paper Awards at the Annual Symposium on Aerospace Science and Technology, AIAA Dayton-Cincinnati Section, 1986, 1987, 1996, 1999, 2000, 2003.

Institutional and Professional Service (Last 5 years)

Department Committees: Design Committee, 1990-Present; Faculty Search Committee, 2000.

College Committees: Director, Ph.D. in Engineering Program, 2002-Present; Faculty Development Committee, 2003-2005; Graduate Recruiting Committee, 2001-2002; Ph.D. Steering Committee Chairman, 1998-2004; ITRI Director Search Committee, 2000 - 2001; Dean, College of E & CS review, 2000 - 2001; Faculty Development Committee, 2000 - 2002; Ph.D. Admissions Committee Chairman, 1996 - Present.

University Committees: Committee on Selection of Dean of Engineering and Computer Science, 2004-2005; Faculty Participant in Integrative Graduate Education and Research Traineeship (IGERT) Program, 2004-2005; Faculty Senate, 2001 - 2003; Graduate Enrollment Management, 2001- 2002; International Studies Advisory Committee, 2000 - 2002; University Faculty Affairs Committee, 2000 - 2001; Graduate Council, 1998 - 2000

Other Professional Service: Key Speaker and Panel Member, International Seminar on Metal Forming, Casing, and Heat Treatment, September 2003, Bangalore, India; Poster Sessions Chair and Executive Committee Member of International Air & Space Symposium and Exposition, The Next 100 Years, July 2003, Dayton, Ohio; Session Chair, 44th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, April 2003, Norfolk VA; Session Chair and Panel Member, 9th AIAA/ISSMO Multidisciplinary Analysis and Optimization Symposium, September 2002, Atlanta, GA; Session Organizer and Chair, 6th USNCCM Mechanics Conference, August 2001, Detroit, MI.; Session Chair, 4th ISSMO World Congress of Structural and Multidisciplinary Optimization, June 2001, Dalian, China.; Session Chair, NUMIFORM-01, June 2001, Toyohashi, Japan.; Session Chair or Organizer for 14 conferences in the last five years; Served on 10 Conference Committees in the last five years; Editorial Board, *International Journal of Reliability and Safety*, 2005 - present; Associate Editor, *Journal of Structural and Multidisciplinary Optimization*, 1999 - present; Advisory Editor, *International Journal of Design Optimization*, 1998-2000; Editorial Board, *Journal for Finite Elements in Analysis and Design*, 1999 - present.

Professional Development Activities (Last 5 years)

Organizer, NASRAN 5-Day Short Course, June 2000 and April 2005, Dayton, OH.