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EDUCATION

Institution	Year	Degree	Major Field
University of Florida	1999	Ph.D.	Engineering Mechanics
Clemson University	1993	M.S.	Mechanical Engineering
Anna University, Madras, India	1991	B.E.	Mechanical Engineering

Title of Dissertation

Modeling, Analysis and Optimization of Cylindrical Stiffened Panels for Reusable Launch Vehicle Structures. Advisor: Dr. Raphael T. Haftka

PROFESSIONAL EXPERIENCE

Associate Professor, Dept. of Aerospace Engineering, San Diego State University (SDSU), (August 2007 to present). *Aerospace Structures, Composite Materials, Structural Optimization, Reliability based Design.*

Assistant Professor, Dept. of Aerospace Engineering, San Diego State University (SDSU), (August 2002 to July 2007). *Aerospace Structures, Composite Materials, Structural Optimization, Reliability based Design.*

Research Engineer, AeroChem Corporation, Gainesville, FL (March 2001 to August 2002). *Structural Mechanics, Design Optimization, Biomaterials, and Biomimetics.*

Visiting Assistant Professor, Dept of Aerospace Engineering, Mechanics and Engineering Science, University of Florida, Gainesville, FL, (March 2001 to August 2002), *Structural Mechanics, Design Optimization, Thermal Structures and Composite Materials.*

Postdoctoral Research Associate, University of Florida, Gainesville, FL, (March 2000 to February 2001). *Structural Mechanics, Design Optimization, Biomaterials, Biomimetics, and Thermal Structures.*

Visiting Researcher, NASA Langley Research Center, Hampton, VA (January 2000 to February 2000). *Structural Analysis, Design Optimization, Composite Structures, Reusable Launch Vehicle Design.*

Graduate Research Assistant, University of Florida, Gainesville, FL (January 1995 to December 1999), *Structural Analysis and Optimization, Approximation and Surrogate Modelings for Design Optimization, Reusable Launch Vehicle Design.*

Summer Intern, Ford Research Labs, Dearborn, MI, (May-August, 1997). *Design Optimization, Response Surface Methodology, Design of Engine Inlet Manifolds.*

Graduate Teaching and Research Assistant, Clemson University, Clemson, SC, (May 1993 to April 1994), *Fabrication and testing of composite specimens, Creep testing, taught FORTRAN programming to freshman engineering students.*

Research Assistant, Clemson University, Clemson, SC, (January 1992 to April 1993), *Experimental heat transfer, natural convection flows in vented enclosures.*

AWARDS & HONORS

Award for Outstanding Contribution to Aerospace Education, AIAA San Diego Section Award, 2009.

Summer Faculty Fellowship, U.S. Air Force Air Vehicles Directorate Summer Faculty Program, 2008.

Most Influential Faculty Award, Department of Aerospace Engineering, San Diego State University. Nominated by Joshua A. Rivera outstanding graduating senior from department for 2005-2006.

Outstanding International Student Academic Achievement Award, College of Engineering, University of Florida, April 1997.

COURSES TAUGHT

Course Name	Term	Institution
Introduction to FORTRAN Programming Statics (<i>EM 200</i>)	F93, S94. S04, F04, S05, F05, Su06	Clemson Univ. SDSU
Mechanics of Materials (<i>EGM 3520</i>)	S02	Univ. of Florida
Aerospace Structural Dynamics (<i>AE410</i>)	F06, F07, F08	SDSU
Aerospace Structural Analysis (<i>AE 310</i>)	S03, S04, S05, S 06, S07, S08	SDSU
Finite Element Methods (<i>ME 610, EM 510</i>)	F03, F05, S07, F09	SDSU
Theory of Elasticity (<i>EM 621</i>)	F02, F03, F04, S06, S08, F09	SDSU
Theory of Elastic Stability (<i>EM 724</i>)	F 04, F06, F08	SDSU
Engr. Design: Analytical Methods (<i>ME 614</i>)	S03, S05	SDSU
Structural Optimization (<i>EM 600</i>)	S03, S05, F07	SDSU

S – Spring semester, F – Fall semester, Su – Summer semester

PUBLICATIONS

Articles in Refereed Journals

- JP 1. Marhadi, K. S., Venkataraman, S., and Pai, S.S., Quantifying uncertainty in statistical distribution of small sample data using Bayesian inference of unbounded Johnson distribution. *International Journal of Reliability and Safety* (in review).
- JP 2. Marhadi, K.S., Venkataraman, S., and Wong, S., Load redistribution mechanism in damage tolerant and redundant truss structure. *Journal of Structural and Multidisciplinary Optimization* (in review).
- JP 3. Marhadi K. S., and Venkataraman, S., Comparison of Quantitative and Qualitative Information Provided by Different Structural Load Path Definitions. *International Journal for Simulation and Multidisciplinary Design Optimization* (Accepted for publication, 16 Sep 2009).
- JP 4. Marhadi, K. and Venkataraman, S., Surrogate Measures to Optimize Structures for Robust and Predictable Progressive Failure, *Structural & Multidisciplinary Optimization*, Vol. 39, No. 4, pp. 245-261, 2009.
- JP 5. Salas, P.A., Benson, D. J., Venkataraman, S., and Loikkanen, M., Numerical Implementation of Polymer Viscoplastic Equations for High Strain-Rate Composite Models, *J. Aerosp. Engrg.* 22(3), pp. 304-309, 2009.
- JP 6. Salas, P., and Venkataraman, S., "Optimization of Laminates for Predictable Failure in the Presence Model Parameter Uncertainties and Variability," *Structural & Multidisciplinary Optimization*, Vol. 37, No 6, 2009, p 541-555.
- JP 7. Salas, P. and Venkataraman, S., Controlling failure using structural fuses for predictable progressive failure of composite laminates," *Structural & Multidisciplinary Optimization*, Vol. 34, No 6, 2007, p 473-489.
- JP 8. Venkataraman, S., and Salas, P., Optimization of Composite Laminates for Robust and Predictable Progressive Failure Response," *AIAA Journal*, Vol. 45, No. 5, 2007, p 1113-1125.
- JP 9. Venkataraman S., "Reliability optimization using probabilistic sufficiency factor and correction response surface," *Engineering Optimization*, Vol. 38, No. 6, 2006, pp. 671-685.
- JP 10. Venkataraman S. and Haftka R. T., "Structural Optimization: What has Moore's Law Done for Us?" *Structural & Multidisciplinary Optimization*, Vol. 28, No. 6, pp 375-387, 2004.
- JP 11. Zhu, H., Sankar, B. V., Haftka, R. T., Venkataraman, S., Blosser, M. L., "Optimization of Functionally Graded Metallic Foam Insulation under Transient Heat Transfer Conditions," *Structural & Multidisciplinary Optimization*, Vol. 28, No. 5, November, pp 349-355, 2004.
- JP 12. Venkataraman, S., Zhu, H., Haftka, R. T., Sankar, B. V. and Blosser, M., "Optimum Design of a Functionally Graded Metallic Foam Thermal Insulation," *AIAA Journal*, Vol. 42, No. 11, pp 2355-2363, 2004.
- JP 13. Zhu, H., Sankar, B. V., Haftka, R. T., Venkataraman, S., and Blosser, M., Minimum Mass Design of Insulation Made of Functionally Graded Material," *Journal of Spacecraft and Rockets*, Vol. 40, No. 2, 2004, pp. 467-469

- JP 14. Venkataraman, S., and Sankar, B.V., "Analysis of Sandwich Beams with a Functionally Graded Core," *AIAA Journal*, Vol. 41, No. 12, 2003, pp. 2501-2505.
- JP 15. Qu, X., Venkataraman, S., Haftka, R. T. and Johnson, T. F., "Reliability, Weight, and Cost Tradeoffs in the Design of Composite Laminates for Cryogenic Environments," *AIAA Journal*, Vol. 41, No. 10, 2003, pp. 2029-2036.
- JP 16. Huang J., Venkataraman S., Haftka R.T. and Rapoff A.J., "Optimization of Axisymmetric Distribution of Elastic Modulus Around a Hole for Increased Strength," *Structural & Multidisciplinary Optimization*, Vol. 26, pp 1-12, 2003.
- JP 17. Rapoff, A. J., Johnson, W. and Venkataraman, "Transverse Plane Shear Test Fixture for Total Knee Systems," *Experimental Techniques*. Vol. 27, Iss. 3, pp. 37-39, 2003.
- JP 18. Venkataraman, S., Lamberti, L., Haftka, R. T., and Johnson, T. F., "Challenges in comparing numerical solutions for optimum weights of stiffened shells," *Journal of Spacecraft and Rockets*, Vol. 40 (2), pp. 183-192, 2003.
- JP 19. Venkataraman, S., Haftka, R.T., and Rapoff, A.J.," Structural Optimization Using Biological Variables to Understand How Bones Design Holes," *Structural & Multidisciplinary Optimization*, Vol. 25, pp. 19-34, 2003.
- JP 20. Lamberti, L., Venkataraman, S., Haftka, R. T., and Johnson, T. F., "Preliminary Design Optimization of Stiffened Panels Using Approximate Analysis Models," *International Journal of Numerical Methods in Engineering*, Vol. 57, pp. 1351-1380, 2003.
- JP 21. Venkataraman, Haftka, R. T., and Johnson, T. F., "Maximal Errors due to Use of Equivalent Properties for Sublaminates," *AIAA Journal*, Vol. 39, No. 2, Feb. 2001.

Articles in Conference Proceedings

- CP 1. Marhadi K.S. and Venkataraman, S., Comparison of Load Path Definitions in 2-D Continuum Structures. Proceedings of the 50th AIAA/ ASME/ ASCE/ AHS/ ASC Structures, Structural Dynamics and Materials Conference, Palm Springs, California, May 4-7, 2009.
- CP 2. Venkataraman, S., Marhadi, K. S., and Haney, M., Investigating Alternate Load Paths and Damage Tolerance of Structures Optimized for Multiple Load Cases. Proceedings of the 50th AIAA/ ASME/ ASCE/ AHS/ ASC Structures, Structural Dynamics and Materials Conference, Palm Springs, California, May 4-7, 2009.
- CP 3. Marhadi, K., Venkataraman, S. and Pai, S. S., "Quantifying Uncertainty in Statistical Distribution of Small Sample Data Using Bayesian Inference of Unbounded Johnson Distribution," Proceedings of the 49th AIAA/ ASME/ ASCE/ AHS/ ASC Structures, Structural Dynamics and Materials Conference, Schaumburg, Illinois, April 2008.
- CP 4. Sirimamilla R. R., Venkataraman, S. and Pai, S. S., "Incorporating Data Uncertainty in Reliability Based Design Optimization Using Inverse Reliability Measures," Proceedings of the 49th AIAA/ ASME/ ASCE/ AHS/ ASC Structures, Structural Dynamics and Materials Conference, Schaumburg, Illinois, April 2008.
- CP 5. Marhadi, K. and Venkataraman, S., "Characteristics of Designs and Load Paths in Structures Optimized for Robust Damage Tolerance," AIAA-2008-1795. Proceedings of the 49th AIAA/ ASME/ ASCE/ AHS/ ASC Structures, Structural Dynamics and Materials Conference, Schaumburg, Illinois, April 2008..
- CP 6. Venkataraman, S. and R. Haftka, R.T., Teaching Undergraduate Aerospace Structural Analysis – Preparing Students For Future Workforce, AIAA-2008-2183, . Proceedings of the 49th AIAA/ ASME/ ASCE/ AHS/ ASC Structures, Structural Dynamics and Materials Conference, Schaumburg, Illinois, April 2008.
- CP 7. Wesley, R., and Venkataraman, S., "Progressive Sampling for Response Surface Fitting Using Method of Dividing Rectangles (DIRECT)," Proceedings of the 48th AIAA/ ASME/ ASCE/ AHS/ ASC Structures, Structural Dynamics and Materials Conference, Waikiki, Hawaii, April 2007.
- CP 8. Venkataraman, S., Mahadevan, S., Strack, W. C., Nagpal. V., and Pai, S. S., "Calculating Confidence Intervals for Reliability to Quantify Effect of Distribution Parameter Uncertainty," Proceedings of the 48th AIAA/ ASME/ ASCE/ AHS/ ASC Structures, Structural Dynamics and Materials Conference, Waikiki, Hawaii, April 2007.

- CP 9. Venkataraman, S., Strack, W. C., Nagpal, V., and Pai, S. S., "Incorporating Distribution Parameter Uncertainty in Reliability Calculation," *Proceedings of the Annual Reliability & Maintainability Symposium 2007*, Orlando, Florida, January 22-25, 2007.
- CP 10. Salas, P., and Venkataraman, S., "Incorporating Model Uncertainties and Variability in Optimization of Laminates for Predictable Failure," AIAA-2006-7040, *Proceedings of the 11th AIAA/ ISSMO Multidisciplinary Analysis and Optimization Conference*, Portsmouth, Virginia, September 2006.
- CP 11. Marhadi, K. and Venkataraman, S., Effect of Competing Failures and Load Redistributions on Progressive Failure Predictability in Truss Structures," AIAA-2006-7101, *Proceedings of the 11th AIAA/ ISSMO Multidisciplinary Analysis and Optimization Conference*, Portsmouth, Virginia, September 2006.
- CP 12. Venkataraman, S. and Salas, P., "Optimum Design of Structural Fuses for Tailoring Robust and Predictable Progressive Failure," *submitted to 47th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Newport, Rhode Island, April 2006.
- CP 13. Venkataraman, S. and Salas, P., "Optimization of Performance and Failure Predictability in Composite Laminates Undergoing Progressive Failure," AIAA-2005-2225 *Proceedings of the 46th AIAA/ ASME/ ASCE/ AHS/ ASC Structures, Structural Dynamics, and Materials Conference*, Austin, Texas, April 2005.
- CP 14. S. Venkataraman, "Reliability Optimization of Structures Using Probabilistic Sufficiency Factor and Correction Response Surface, *AIAA Paper 2004-2033, Proceedings of the 45th AIAA/ ASME/ ASCE/ AHS/ ASC Structures, Structural Dynamics, and Materials Conference*, Palm Springs, California, April 2004.
- CP 15. S. Venkataraman, and B. Sankar, "Elasticity Analysis and Optimization of a Functionally Graded Plate with Hole," *AIAA Paper 2003-1466, Proceedings of the 44th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Norfolk Virginia, April 2003.
- CP 16. W. Wang and A. Kurdila, and Venkataraman, S., "Shape Optimization of Electrodes for Piezoelectric Actuators – Static Analysis," AIAA Paper 2003-1806, *Proceedings of the 44th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Norfolk, Virginia, April 2003.
- CP 17. Zhu, H., Sankar B. V., Venkataraman, S., and Haftka, R. T., "Optimization of a Functionally Graded Metallic Foam Insulation Under Transient Heat Transfer Conditions," *AIAA Paper 2003-1531, Proceedings of 44th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Norfolk, Virginia, April 2003.
- CP 18. Venkataraman S. and Haftka R. T., "Structural Optimization: What has Moore's Law Done for Us?," *Proceedings of the 43rd AIAA/ASME ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference*, Denver, Colorado, April, 2002.
- CP 19. B. Sankar, N. Apetre and S. Venkataraman , Indentation of a Sandwich Beam with Functionally Graded Core, *AIAA Paper 2002-1683, Proceedings of the 43rd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Denver Colorado, April 2002, 11 pages.
- CP 20. S. Buskirk, S. Venkataraman, P. Ifju and A. Rapoff, "Functionally Graded Biomimetic Plate with Hole," *AIAA Paper 2002-1330, Proceedings of the 43rd AIAA/ ASME/ ASCE/ AHS/ ASC Structures, Structural Dynamics, and Materials Conference*, Denver Colorado, 2002.
- CP 21. J. Huang, S. Venkataraman, A. Rapoff and R. Haftka, , "Optimization Design of Inhomogeneous Isotropic Plates with Holes by Mimicking Bones," *AIAA Paper 2002-1236, Proceedings of the 43rd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Denver Colorado, April, 2002.
- CP 22. Zhu, H, Sankar, B. V., Haftka R. T., and Venkataraman, S. "Minimum Mass Design of Insulation Made of Functionally Graded Material," *AIAA Paper 2002-1425 Proceedings of 43rd AIAA/ ASME/ ASCE/ AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Denver Colorado, April, 2002.
- CP 23. Grosset, L., Venkataraman, S., and Haftka, R. T., "Probability-based genetic algorithm for composite laminate optimization," *Proceedings of the 43rd AIAA/ASME ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference*, Denver, Colorado, April, 2002.
- CP 24. Venkataraman, S., Zhu, Z., Sankar, B. V., and Haftka, R. T., "Optimum Design of a Functionally Graded Metallic Foam Thermal Insulation," *Proceedings of the American Society of Composites-16th Annual Technical Conference*, September, 2001, Blacksburg, VA.

- CP 25. Venkataraman, S., Haftka, R. T., and Rapoff, A. J., "Structural Optimization Using Biological Variables to Understand How Bones Design Holes," *Proceedings of the Fourth World Congress of Structural and Multidisciplinary Optimization, WCSMO-4-189*, Dalian, China, June 4-8, 2001.
- CP 26. Venkataraman, S., and Sankar, B. V., "Analysis of Sandwich Beams with a Functionally Graded Core," AIAA Paper 2001-1281, *Proceedings of the 42nd AIAA/ASME ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference*, Seattle, WA, Apr. 16-19, 2001.
- CP 27. Qu, X., Venkataraman, S., Haftka, R. T., and Johnson, T. F., "Reliability, Weight, and Cost Tradeoffs in the Design of Composite Laminates for Cryogenic Environments," AIAA Paper 2001-1327, *Proceedings of the 42nd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Seattle, WA, Apr. 16-19, 2001.
- CP 28. Qu, X., Venkataraman, S., Haftka, R. T., and Johnson, T. F., "Reliability based Optimization of Composite Laminates for Cryogenic Environments," AIAA Paper 2000-4760, *Proceedings of 8th AIAA/USAF/NASA/ISSMO Symposium on Multidisciplinary Analysis and Optimization*, Long Beach, CA, Sept. 6-8, 2000.
- CP 29. Qu, X., Venkataraman, S., Haftka, R. T., and Johnson, T. F., "Response Surface Options for Reliability based Optimization of Composite Laminates" *Proceedings of the 8th ASCE Special Conference on Probabilistic Mechanics and Structural Reliability*, June 2000.
- CP 30. Lamberti, L., Venkataraman, S., and Haftka, R. T., "Comparison of Preliminary Designs of Stiffened Panels Optimized Using PANDA2 for Reusable Launch Vehicle Propellant Tanks," AIAA Paper 2000-1657, *Proceedings of 41st AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Atlanta, GA, Apr. 3-6, 2000.
- CP 31. Venkataraman, S., and Haftka, R.T., "Optimization of Composite Panels - a review," *Proceedings of the American Society of Composites- 14th Annual Technical Conference*, Fairborn, OH, pp. 479-488, 1999.
- CP 32. Venkataraman, S., Haftka, R. T. and Johnson, T. F., "Design of Shell Structures for Buckling Using Correction Response Surface Approximations," AIAA Paper 98-4855, *Proceedings of the 7th AIAA/USAF/NASA/ISSMO Symposium on Multidisciplinary Analysis and Optimization (Part. 2)*, St. Louis, MO, September, 1998, pp. 10-31.
- CP 33. Venkataraman, S., Haftka, R. T. and Johnson, T. F., "Use of Equivalent Laminate Properties in the Optimization of Stiffened Composite Panels," *Proceedings of the 12th Annual Technical Conference, American Society of Composites*, Dearborn, Michigan, pp. 12-22, 1997.
- CP 34. Venkataraman, S., and Haftka, R. T., "Integration of Finite Element Analysis and Panel Design Program," AIAA Paper 97-1052. *Proceedings of the 38th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Kissimmee, FL, April 7-10, 1997.

Published Abstracts

1. Rapoff AJ, Rinaldi RG, Johnson WM, Venkataraman S, Daegling DJ. Heterogeneous anisotropic elastic properties in a Macaca fascicularis mandible. *Proceedings of the 72nd Annual Meeting of the American Association of Physical Anthropologists*, Tempe, Arizona, 23-26 April 2003.
2. Daegling DJ, Marinescu R, Venkataraman S, Rapoff AJ. Effects of structural heterogeneity and anisotropy on finite element model predictions for a mandible of Macaca fascicularis. *Proceedings of the 72nd Annual Meeting of the American Association of Physical Anthropologists*, Tempe, Arizona, 23-26 April 2003. (published in the *American Journal of Physical Anthropology*: 83-83, Suppl. 36.)
3. Rapoff AJ, Fontanel O, Venkataraman S. Heterogeneous orthotropic elasticity about a nutrient foramen via microindentation. *Proceedings of the ASME Summer Bioengineering Conference*, Sonesta Beach, FL, 25-29 June 2003. (published in the *American Journal of Physical Anthropology*: 174-175, Suppl. 36)
4. Venkataraman, S., Zu, H., Haftka, R. T. and Sankar, B.V., Optimum Design of functionally graded metallic foam insulation for reentry vehicle thermal protection systems, *Proceedings of the Ninth International Conference on Composites in Engineering*, San Diego, California, July 2002.
5. Venkataraman, S., and Haftka, R.T., "Response Surfaces for Predicting Load Redistribution in Multi-level Structural Optimizations," *Proceedings of the 20th International Congress of the International Union of Theoretical and Applied Mechanics (IUTAM)*, Chicago, Illinois, August 27 – September 2, 2000.

6. Venkataraman, S., Haftka, R. T., Roux, W. and Harrison, P., "Comparison of NASTRAN and PANDA2 for the Optimization of Stiffened Panels," *Proceedings of the Second International Conference on Composites in Engineering*, New Orleans, Louisiana, August 1995.

Funded Research Grants

Undergraduate Student Scholarships for Participation in Interdisciplinary Computational Science and Engineering Research, NSF Directorate for Education and Human Resources, Aug 2009-July 2014.

Reliability Estimation and Optimization with Statistical Uncertainty, NASA SBIR 2004 Phase-II proposal in collaboration with N&R Engineering, (Dec 2005-Dec2007).

Calculating confidence bounds for probability of failure using statistical data obtained from limited testing, NASA Glenn Research Center (through N& R Engineering), (Jun 2005 – Aug 2005).

Structural Health Monitoring of Deployed Space Structures, Grant-in-Aid Award, SDSU Foundation, Jan 2005- July 2006.

Optimization for Predictable and Robust Failure, Research, Scholarship and Creative Activity Award, SDSU Foundation, Jan - June 2006.

Load redistribution in multi-level coordination in optimization of complex aerospace structures, Northrop Grumman Corporation, Oct 2004- Oct 2005.

Damage Identification in Large Periodic Lattice Structures Having Local and Global Imperfections- undergraduate student research grants, Sponsor: California Space Grant Consortium, Oct 2004 – Sep 2005,

Modeling, Analysis and Optimization of High Emissivity Coatings, Space Micro Inc, San Diego, CA, June 2004

Development of Design Optimization Methods for Large Scale Structures, Northrop Grumman Corporation, Oct 2003- Oct 2004.

Development of Multi-Fidelity Analysis and High-Accuracy Surrogate Models for Reliability-Based Optimization, Proposal for Research, Scholarship and Creative Activity Award 2003. January – June 2004,

Structural Design for Performance and Predictability via Optimization of Failure Sequences, Research, Scholarship, and Creative Activity (RSCA) Award, 2002-2003, San Diego State University.

Structural Design for Performance and Predictability via Optimization of Failure Sequences, Faculty Grant-In-Aid Award, 2002-2003, San Diego State University Foundation.

Design for stress concentrations near holes via biomimetics, Principal Investigator, (CO-PI's: R. T. Haftka and A. J. Rapoff, University of Florida), Phase-II Small Business Innovation Research (SBIR) grant funded by NASA, AeroChem Corporation, January 2001 to January 2003.

Biomimetics Based Design of Damage Tolerant Airframe Panels, Principal Investigator (CO-PI's R. T. Haftka and A. J. Rapoff), University of Florida, Phase-I Small Business Innovation Research (SBIR) grant funded by NASA, AeroChem Corporation, Jan 2000 to June 2000.

Combined Thermal and Structural Optimization of Functionally Graded Tile, Co-Principal Investigator, (Co-PI's R. T. Haftka and B. V. Sankar, University of Florida) funded by the Thermal Structures and Metals Branch, NASA Langley Research Center, March 2001 to Dec. 2001, University of Florida.

Undergraduate Students Mentored/Mentoring:

Peter Seyforth;	<i>BS Mechanical Engineering – May 2004 2007, (Design Engineer, Vangaurd Composites).</i>
Eduardo Velazquez;	<i>BS Aerospace Engineering 2005, recipient of Aerospace Engineering Speer Scholarship, 2004)- (currently enrolled as doctoral student at UCSD)</i>
Joshua Rivera;	<i>BS Aerospace Engineering 2006, recipient of Aerospace Engineering Speer Scholarship, 2004) (currently enrolled for a master's degree at SDSU)</i>
Roya Yazandifar;	<i>BS Civil Engineering 2006 (currently enrolled for a master's degree at SDSU, and working as an Structural Engineer at CalTrans)</i>
Cecilia Larossa	<i>BS Aerospace Engineering - anticipated in May 2007 (recipient of SAMPE scholarship, Aerospace Engineering Speer Scholarship, ARCS Scholarship, NASA Summer Research Internship, NASA Langley Research Center, 2006)..</i>
Eric Lundgren;	<i>BS Mechanical Engineering – anticipated graduation May 2007, (recipient of NASA Summer Research Internships at NASA Langley Research Center, 2005 & 2006).</i>

Graduate Students Mentored/Mentoring:

- Pablo Salas *MS Aerospace Engineering 2005 (Recipient of runner-up award in the CSU wide Student Research paper Contest, 2006. Currently enrolled as doctoral student in the SDSU-UCSD Joint Doctoral Program)*
- Kun Marhadi *PhD. in Computational Science (graduation anticipated 2008-2009) (currently doctoral student in the SDSU- Claremont College Joint Doctoral Program in computational science)*
- Himaja Jani *MS Aerospace Engineering, August 2006 (Reliability and Failure Analysis Engineer, Qualcomm)*
- Guy Watanabe *MS Aerospace Engineering –May 2007 (Design engineer with Northrop Grumman)*
- Rafay Navaid *MS Aerospace Engineering –anticipated graduation in Dec 2008 (Test Engineer with Goodrich Aerostructures)*
- Raghuram Sirimamilla: *MS Aerospace Engineering anticipated graduation May 2008.*

Professional Society Memberships

- Member of American Institute of Aeronautics and Astronautics (since 1997)
- Member of American Society of Mechanical Engineers (since 2000)
- Member of American Society for Composites (since 1997)
- Member, Intl. Society of Structural & Multidisciplinary Optimization (since 2000)
- Member, Society for Advancement of Materials and Process Engineering (since 2002)