

Dr. Ronald F. Gibson

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Principal Areas of Interest:

Research and education in the areas of applied mechanics, mechanics of composite materials and structures, characterization of composite materials, composite materials for noise and vibration control, design and manufacturing of composite structures, mechanics of MEMS and nanocomposites.

Education:

- 1975 Ph.D., Mechanics, University of Minnesota, Minneapolis, Minnesota
Dissertation: "Elastic and Dissipative Properties of Fiber Reinforced Composite Materials in Flexural Vibration". Advisor: Dr. Robert Plunkett
- 1971 M.S., Mechanical Engineering, University of Tennessee, Knoxville, Tennessee
Thesis: "Design and Testing of a Crash Recorder for Automotive Vehicles".
Advisor: Dr. Frank Speckhart
- 1965 B.S., Mechanical Engineering, University of Florida, Gainesville, Florida

Professional Experience:

- 2008-present Distinguished Research Professor, Dept. of Mechanical Engineering,
University of Nevada, Reno
- 1989-2008 Professor of Mechanical Engineering, Adjunct Professor of Materials
Science and Engineering, Director of Advanced Composites Research
Laboratory, Wayne State University.
- 2004-2005 Professor and Interim Chair, Mechanical Engineering Dept., Wayne State
University
- 2001 Visiting Professor of Aeronautics and Astronautics, Stanford University
(on sabbatical leave from Wayne State University)

- 1996 Interim Associate Dean for Research, College of Engineering, Wayne State University
- 1984-1989 Professor of Mechanical Engineering, University of Idaho.
- 1987-1988 Visiting Professor, Composite Materials and Structures Center and Department of Metallurgy, Mechanics and Materials Science, Michigan State University (on sabbatical leave from University of Idaho).
- 1984-1985 Consulting Engineer, Martin Marietta Energy Systems, Oak Ridge, Tenn.
- 1981-1984 Associate Professor of Mechanical Engineering, University of Idaho.
- 1981 Summer Fellow, NASA Langley Research Center, Structures and Dynamics Division.
- 1980-1981 Visiting Associate Professor, Center for Advanced Composites, Department of Engineering Sciences, University of Florida (on leave from University of Idaho).
- 1978-1980 Associate Professor of Engineering Science and Mechanical Engineering, University of Idaho.
- 1975-1978 Assistant Professor of Engineering Science and Mechanics, Iowa State University.
- 1972-1975 Graduate Research and Teaching Assistant, Aerospace Engineering and Mechanics, University of Minnesota.
- 1972-1984 Consulting Engineer, Union Carbide Corp., Nuclear Division, Oak Ridge, Tennessee.
- 1965-1972 Development Engineer, Union Carbide Corporation, Nuclear Division, Oak Ridge, Tennessee.

Honors and Awards:

- 2005 Elected Fellow, American Society for Composites
- 2002 Distinguished Faculty Fellowship Award, Wayne State University
- 2001 Elected Vice President of American Society for Composites, 2002-2003, automatically promoted to President for 2004-2005

- 1998 Best Academic Paper Award at 1998 ESD/SAE Advanced Composites Conference, Detroit, Michigan.
- 1996 Outstanding Graduate Faculty Mentor Award, Wayne State University.
- 1996 Tau Beta Pi Eminent Engineer Award.
- 1994 Elected Fellow, American Society of Mechanical Engineers.
- 1993-1996 Charles DeVlieg Professorship in Mechanical Engineering, Wayne State University.
- 1987 College of Engineering Outstanding Faculty Award, University of Idaho.
- 1985 Alumni Award for Faculty Excellence, University of Idaho.
- 1979 Hetenyi Award of Society for Experimental Mechanics for Best Research Paper of the Year, "Measurement of Creep in Rotating Viscoelastic Disks" *Experimental Mechanics*, 19(10), 378-383, 1979.

Professional Society Activities:

- American Society of Mechanical Engineers (1966-present)
 - Fellow since 1994
 - Chairman, Materials Characterization Committee in Noise Control and Acoustics Division (1995-1999)
 - Member, Composites Committees in Applied Mechanics Division and Materials Division, Fastening and Joining Committee in Design Engineering Division
- American Society for Composites (1986-present)
 - Fellow since 2005
 - President (2004-2005)
 - Vice President (2002-2003)
 - Membership Secretary (1996-1998)
 - Recording Secretary (1998-1999)
 - Chairman of Scholarship Committee (1998-2001)
 - Co-Chairman of 1997 Annual Technical Conference, Dearborn, MI
 - Co-Chairman of 1998 Japan-U.S. Composites Conference, Baltimore, MD
- Society for Experimental Mechanics (1973-present)
 - Composite Materials Committee, Secretary (1978-1980), Vice-Chairman (1980-1983), Chairman (1983-1985)
- American Society for Engineering Education (1976-present)
- American Institute for Aeronautics and Astronautics (1982-present)
- Society for the Advancement of Materials and Process Engineering (1982-present)
 - Vice Chair, SAMPE Michigan (Great Lakes) Chapter, 2006-2008
 - Technical Co-Chair 2008 International SAMPE Technical Conf., Memphis, TN

Vice Chair and Membership Secretary, SAMPE Sierra Chapter, 2009-present

Courses Taught:

- University of Nevada, Reno (2008-present)
 - Composite Materials
 - Advanced Composite Materials

- Wayne State University (1989-2008)
 - Statics and Mechanics of Materials (Developed new integrated course)
 - Mechanics of Composite Materials (Developed new course)
 - Advanced Mechanics of Composite Materials (Developed new course)
 - Elementary Mechanics of Materials
 - Mechanical Systems and Test Planning Laboratory

- University of Idaho (1978-1989)
 - Mechanics of Composite Materials (Developed new course - both videotaped and microwaved for off-campus students)
 - Mechanical Vibrations (Videotaped for off-campus students)
 - Advanced Vibration Analysis (Developed new course - videotaped for off-campus students)
 - Experimental Vibration Analysis (Developed new laboratory with equipment grants and donations)
 - Continuum Mechanics (Videotaped for off-campus students)
 - Advanced Mechanics of Materials (Videotaped for off-campus students)
 - Mechanics of Materials
 - Engineering Statistics
 - EIT Review of Mechanics of Materials (Videotaped for off-campus students)
 - Correspondence Course in Mechanics of Materials (Developed self-paced study guide)
 - Experimental Methods for Mechanical Engineering

- Michigan State University (1987-1988)
 - Mechanics of Composite Materials II (Team taught with C. Horgan)

- University of Florida (1980-1981)
 - Mechanics of Composite Materials

- Iowa State University (1975-1978)

Mechanics of Composite Materials
Mechanics of Materials
Mechanics of Materials Laboratory
Statics
Dynamics
Engineering Materials
Engineering Design
Statistical Design and Analysis of Engineering Experiments

- University of Minnesota (1972-1975)

Teaching assistant for Statics and Mechanics of Deformable Bodies

Committees Chaired:

Wayne State University (1989 – 2008)

Chair, Mechanical Engineering ABET EC-2000 Preparation Committee,
received Next General Review accreditation for 2000-2006
Chair, College of Engineering Research Committee
Chair, College of Engineering Math Liaison Committee
Director of Undergraduate Studies, Mechanical Engineering
Director of Graduate Studies, Mechanical Engineering
Director of Laboratory Studies, Mechanical Engineering

University of Idaho (1978-1989)

Chair, International Student Affairs Committee (University level)

Books or Chapters Authored or Edited:

S. M. Soni, R. F. Gibson and E. O. Ayorinde, Chapter on “Characterization of fatigue behavior of composite sandwich structures at sub-zero temperatures”, *Major Accomplishments in Composite Materials and Sandwich Structures: An Anthology of ONR Sponsored Research*, I. M. Daniel, E.E. Gdoutos and Y. D. S. Rajapakse, Editors, Springer, 2010.

R. Gibson, N. Gianaris, B. Lucht and S. Beckwith, Editors, *Proceedings of SAMPE Fall Technical Conference and Exhibition - Multifunctional Materials: Working Smarter Together*, Society for the Advancement of Material and Process Engineering, 2008

R. F. Gibson, *Principles of Composite Material Mechanics, Second Edition*, CRC Press, 2007.

R. F. Gibson, Chapter on “Micromechanics” in *Composites Engineering Handbook*, P. K. Mallick, Editor, Marcel Dekker, Inc., 1997.

R. F. Gibson and G. M. Newaz, Editors, *Proceedings of the American Society for Composites Twelfth Technical Conference*, Technomic Publishing Co., Lancaster, PA, 1997.

G. M. Newaz and R. F. Gibson, Editors, *Proceedings of the Eighth Japan-U.S. Conference on Composite Materials*, Technomic Publishing Co., Lancaster, PA, 1998.

R. F. Gibson, *Principles of Composite Material Mechanics*, McGraw-Hill, 1994.

R. F. Gibson, T. W. Chou and P. K. Raju, Editors, *Innovative Processing and Characterization of Composite Materials*, NCA Vol. 20/AMD Vol. 211, ASME, 1995.

P. K. Raju and R. F. Gibson, Editors, *Materials for Noise and Vibration Control*, NCA Vol. 18, ASME, 1994.

P. K. Raju and R. F. Gibson, Editors, *Dynamic Characterization of Advanced Materials*, NCA Vol. 16, ASME, 1993.

R. F. Gibson, Chapter VII: “Vibration Test Methods for Mechanical Property Characterization”, in *Manual on Experimental Methods of Mechanical Testing of Composites*, Society for Experimental Mechanics, First Edition 1989, Second Ed. 1998.

Refereed Journal Publications:

R. F. Gibson, “A review of recent research on mechanics of multifunctional materials and structures”, *Composite Structures*, under review.

R. F. Gibson, “A Mechanics of Materials/Fracture Mechanics Analysis of Core Shear Failure in Foam Core Composite Sandwich Beams”, *Journal of Sandwich Structures and Materials*, published OnlineFirst, Feb. 9, 2010.

L. Sun, R. F. Gibson, F. Gordaninejad and J. Suhr, “Energy Absorption Capability of Nanocomposites: A Review”, *Composites Science and Technology*, 69(14), 2392-2409, 2009.

S. D. Thoppul and R. F. Gibson, “Mechanical Characterization of Spot Friction Stir Welded Joints in Aluminum Alloys by Combined Experimental/Numerical Approaches-Part I: Micromechanical Studies”, *Materials Characterization*, 60(11), 1342-1351, 2009.

S. D. Thoppul and R. F. Gibson, “Mechanical Characterization of Spot Friction Stir Welded Joints in Aluminum Alloys by Combined Experimental/Numerical Approaches-

Part II: Macromechanical Studies”, *Materials Characterization*, 60(11), 1352-1360, 2009.

H. Khov, W. L. Li, and R. F. Gibson. “An accurate solution method for the static and dynamic deflections of orthotropic plates with general boundary conditions”, *Composite Structures*, 90, 474-481, 2009.

M. S. Harrar and R. F. Gibson, “Numerical Simulation of Modal Vibration Response of Wavy Carbon Nanotubes”, *Journal of Composite Materials*, 43(5), 501-515, 2009.

S. M. Soni, R. F. Gibson, and E. O. Ayorinde, “The Influence of Subzero Temperatures on Fatigue Behavior of Composite Sandwich Structures”, *Composites Science and Technology*, 69, 829-838, 2009.

S. D. Thoppul, J. Finegan and R. F. Gibson, “Mechanics of Mechanically Fastened Joints in Polymer Matrix Composite Structures – A Review”, *Composites Science and Technology*, 69(3-4), 301-329, 2009.

S. D. Thoppul, R. F. Gibson, and R. A. Ibrahim, “Phenomenological Modeling and Numerical Simulation of Relaxation in Bolted Composite Joints”, *Journal of Composite Materials*, 42(17), 1709-1729, 2008.

B. O. Baba and R. F. Gibson, “The Vibration Response of Composite Sandwich Beam with Delamination”, *Advanced Composite Letters*, 16(2), 71-80, 2007

R. F. Gibson, E. O. Ayorinde, and Y. F. Wen, “Vibrations of Carbon Nanotubes and their Composites: A Review”, *Composites Science and Technology*, 67(1), 1-28, 2007.

K. Shaska, R. A. Ibrahim and R. F. Gibson, “Influence of Excitation Amplitude on the Characteristics of Nonlinear Butyl Rubber Isolators”, *Nonlinear Dynamics*, 47, 83-104, 2007.

V. Anumandla and R. F. Gibson, “A Comprehensive Closed Form Micromechanics Model for Estimating the Elastic Modulus of Nanotube-Reinforced Composites”, *Composites Part A: Applied Science and Manufacturing*, 37(12), 2178-2185, 2006.

H. C. Wu, G. Fu, R. F. Gibson, A. Yan, K. Warnemuende, and V. Anumandla, “Durability of FRP Composite Bridge Deck Materials under Freeze-Thaw and Low Temperature Conditions”, *Journal of Bridge Engineering*, 11(4), 443-451, 2006.

N. Sharma, R. F. Gibson, and E. O. Ayorinde, “Fatigue of Foam and Honeycomb Core Composite Sandwich Structures: A Tutorial”, *Journal of Sandwich Structures and Materials*, 8(4), 263-319, 2006.

- B. Mu, H.C. Wu, A. Yan, K. Warnemuende, G. Fu, R. F. Gibson and D-W. Kim, “FEA of Complex Bridge System with FRP Composite Deck”, *Journal of Composites for Construction*, 10(1), 79-86, 2006.
- P. Jadhav, P. R. Mantena and R. F. Gibson, “Energy Absorption and Damage Evaluation of Grid-Stiffened Composite Panels under Transverse Loading”, *Composites Part B: Engineering*, 37, 191-199, 2006.
- R. F. Gibson, Z. Liu and N. Srinivasan, “Influence of Bending-extension Coupling on Modal Frequencies of Nonsymmetrically Laminated MEMS Microcantilevers”, *Journal of Microelectromechanical Systems*, 14(6), 1236-1243, 2005.
- R. F. Gibson, “Energy Absorption in Composite Grid Structures”, *Advanced Composite Materials (Japan)*, 14(2), 113-119, 2005.
- J. Lu, G. M. Newaz and R. F. Gibson, “Buckling Strength Analysis of Adhesively Bonded Aluminum Hat Sections”, *International Journal of Solids and Structures*, 42, 4947-4957, 2005.
- A. Jyoti, R. F. Gibson and G. M. Newaz, “Experimental Studies of Mode I Energy Release Rate in Adhesively Bonded Width Tapered Composite DCB Specimens”, *Composites Science and Technology*, 65, 9-18, 2005.
- J. Lu, G. M. Newaz and R. F. Gibson, “The Role of Adhesive in the Mechanical Response of Adhesively Bonded Aluminum Hat Sections under Axial Compression”, *International Journal of Solids and Structures*, 41, 4757-4767, 2004.
- C. Gan, R. F. Gibson and G. M. Newaz, “Analytical/Experimental Investigation of Energy Absorption in Grid-stiffened Composite Structures under Transverse Loading”, *Experimental Mechanics*, 44(2), 185-194, 2004.
- I. Finegan, G. Tibbetts and R. F. Gibson, “Modeling and Characterization of Damping in Carbon Nanofiber/polypropylene Composites”, *Composites Science and Technology*, 63, 1629-1635, 2003.
- Y. Chen and R. F. Gibson, “Analytical and Experimental Studies of Composite Isogrid Structures with Integral Passive Damping”, *Mechanics of Advanced Materials and Structures*, 10(2), 127-143, 2003.
- Z. Liu, R. F. Gibson and G. M. Newaz, “Improved Closed Form Analytical Models for the Mixed Mode Bending Test of Adhesively Bonded Joints,” *Journal of Adhesion*, 78, 245-268, 2002.

Z. Liu, R. F. Gibson and G. M. Newaz, "The Use of a Modified Mixed Mode Bending Test for Characterization of Mixed Mode Fracture Behavior of Adhesively Bonded Metal Joints," *Journal of Adhesion*, 78, 223-244, 2002.

R. F. Gibson, H. Zhao and Y. Chen, "Improvement of Vibration Damping Capacity and Fracture Toughness in Composite Laminates by the use of Polymeric Interleaves", *Journal of Engineering Materials and Technology*, 123(3), 309-314, 2001.

H. Guan and R. F. Gibson, "Micromechanical Models for Damping in Woven Fabric-Reinforced Polymer Matrix Composites", *Journal of Composite Materials*, 35(16), 1417-1434, 2001.

S. Gagneja, R. F. Gibson and E. O. Ayorinde, "Design of Test Specimens for Determination of Elastic Through-the-thickness Shear Properties of Thick Composites from Measured Modal Vibration Frequencies", *Composites Science and Technology*, 61(5), 679-687, 2001.

Yang, S., Gu, L., and Gibson, R. F., "Nondestructive Detection of Weak Joints in Adhesively Bonded Composite Structures", *Composite Structures*, 51, 63-71, 2001.

Z. Zheng, E. O. Ayorinde, and R. F. Gibson, "A Thick-Beam Library Solution Method for Vibration-Based Characterization of Thick Composite Plates", *Journal of Vibration and Acoustics*, 123(1), 76-83, 2001.

R. F. Gibson, "Modal Vibration Response Measurements for Characterization of Composite Materials and Structures", *Composites Science and Technology*, 60, 2769-2780, 2000.

I. C. Finegan and R. F. Gibson, "Analytical Modeling of Damping at Micromechanical Level in Polymer Composites Reinforced with Coated Fibers", *Composites Science and Technology*, 60, 1077-1084, 2000.

I. C. Finegan and R. F. Gibson, "Recent Research on Enhancement of Damping in Polymer Composites", *Composite Structures*, 44(2-3), 89-98, 1999.

F. Stoll, R. F. Gibson, W. Zhao and D. Bettinger, "Demonstration of a Dynamic Polymer Composite Connector", *Journal of Thermoplastic Composites*, 12, 143-153, 1999.

W. H. Chen and R. F. Gibson, "Property Determination for Nonuniform Composite Beams from Vibration Response Measurements and Galerkin's Method", *Journal of Applied Mechanics*, 65, 127-133, 1998.

I. Cartian and R. F. Gibson, "Improvement of Damping at the Micromechanical Level in Polymer Composite Materials by the use of Special Fiber Coatings", *Journal of Vibration and Acoustics*, 120, 623-627, 1998.

S. Yang, R. F. Gibson, L. Gu and W. H. Chen, "Modal Parameter Evaluation of Degraded Adhesively Bonded Composite Beams", *Composite Structures*, 43, 79-91, 1998.

S. Yang, R. F. Gibson, D. Li and R. L. Hecht, "Damping and Microstructure of Brake Rotor Materials", *International Journal of Materials & Product Technology*, 13(3-6), 155-166, 1998.

S. Yang and R. F. Gibson, "Brake Vibration and Noise: Reviews, Comments and Proposals", *International Journal of Materials & Product Technology*, 12(4-6), 496-513, 1997.

S. Yang, R. F. Gibson, G. M. Crosbie and R. L. Allor, "Dynamic Mechanical Properties of Ceramics and Ceramic Composites at Elevated Temperatures", *Journal of Engineering for Gas Turbines and Power*, 119 (1), 15-19, 1997.

S. Yang, R. F. Gibson, G. M. Crosbie and R. L. Allor, "Thermal Cycling Effects on Dynamic Mechanical Properties and Crystallographic Structures of Silicon Nitride Based Structural Ceramics", *Journal of Engineering for Gas Turbines and Power*, 119(2), 279-284, 1997.

R. H. Pant and R. F. Gibson, "Analysis and Testing of Dynamic Micromechanical Behavior of Composite Materials at Elevated Temperatures", *Journal of Engineering Materials and Technology*, 118, 554-560, 1996.

Y. F. Wen, R. F. Gibson and J. L. Sullivan, "Prediction of Momentary Transverse Creep Behavior of Thermoplastic Polymer Matrix Composites Using Micromechanical Models", *Journal of Composite Materials*, 31(21), 2124-2145, 1997.

S. Yang, R. F. Gibson and G. M. Crosbie, "Vibration Characteristics and Comparisons of Automotive Engine Valves Made From Conventional and Nonconventional Materials", *Journal of Sound and Vibration*, 191(5), 986-992, 1996.

S. Yang and R. F. Gibson, "Integration of Vibration Testing and Finite Element Analysis for Estimating Dynamic Mechanical Properties of Cantilever Beam Samples", *Experimental Techniques*, 20(6), 21-24, 1996.

S. Yang, R. F. Gibson, G. M. Crosbie and R. L. Allor, "Measurement of Dynamic Mechanical Properties of Advanced Ceramics and Ceramic Matrix Composites at Temperatures above 1000C", *Experimental Techniques*, 20(3), 20-23, 1996.

H. Zhao and R. F. Gibson, "Correlations Between Mode II Fracture Toughness and Nondestructive Damping Measurements in Laminated Composite Materials", *Materials Evaluation*, 54(10), 1154-1160, 1996.

- J. L. Sullivan, Y. F. Wen and R. F. Gibson, "Universal Aspects of Composite Viscoelastic Behavior", *Polymer Composites*, 16(1), 3-9, 1995.
- E. O. Ayorinde and R. F. Gibson, "Improved Method for In-Situ Elastic Constants of Isotropic and Orthotropic Composite Materials Using Plate Modal Data with Trimodal and Hexamodal Rayleigh Formulations", *Journal of Vibration and Acoustics*, 117, 1-7, 1995.
- E. O. Ayorinde and R. F. Gibson, "A Pre-College Primer Course in Composites Engineering", *Journal of Engineering Education*, 84(1), 91-94, 1995.
- S. Yang, R. F. Gibson, G. M. Crosbie and R. L. Allor, "Internal Damping of Silicon Nitride and Silicon Nitride Composites with Silicon Carbide Whiskers to 1100C", *Ceramic Transactions*, 46, 709-720, 1994.
- V. S. Rao, B. V. Sankar, C. T. Sun, R. F. Gibson and P. R. Mantena, "Analytical and Experimental Investigations of Prestressed Laminated Composite Beams with Constrained Viscoelastic Damping Layer", *Journal of Reinforced Plastics and Composites*, 13, 1023-1042, 1994.
- J. L. Sullivan, Y. F. Wen and R. F. Gibson, "On the Accurate Determination of the Viscoelastic Spectra", *Journal of Macromolecular Science - Physics*, B33(2), 229-242, 1994.
- S. J. Hwang and R. F. Gibson, "Prediction of Fiber Matrix Interphase Effects on Damping of Composites Using a Micromechanical Strain Energy/Finite Element Approach", *Composites Engineering*, 3(10), 975-984, 1993.
- J. F. Abbas, R. A. Ibrahim and R. F. Gibson, "Nonlinear Flutter of Orthotropic Composite Panel Under Aerodynamic Heating", *AIAA Journal*, 31(8), 1478-1488, 1993.
- E. O. Ayorinde and R. F. Gibson, "Elastic Constants of Orthotropic Composite Materials Using Plate Resonance Frequencies, Classical Lamination Theory and an Optimized Three Mode Rayleigh Formulation", *Composites Engineering*, 3(5), 395-407, 1993.
- S. J. Hwang and R. F. Gibson, "Influence of Bending-Twisting and Extension-Bending Coupling on Damping of Laminated Composites", *Journal of Materials Science*, 28(1), 1-8, 1993.
- R. F. Gibson, "Damping Characteristics of Composite Materials and Structures", *Journal of Materials Engineering and Performance*, 1(1), 11-20, 1992.
- S. J. Hwang and R. F. Gibson, "The Use of Strain Energy-Based Finite Element Techniques in the Analysis of Various Aspects of Damping of Composite Materials", *Journal of Composite Materials*, 26(17), 2585-2605, 1992.

S. J. Hwang and R. F. Gibson, "Contribution of Interlaminar Stresses to Damping in Thick Laminated Composites under Uniaxial Extension", *Composite Structures*, 20, 29-35, 1992.

S. J. Hwang and R. F. Gibson, "Decomposition of Coupling Effects on Damping of Laminated Composites Under Flexural Vibration", *Composites Science and Technology*, 43, 159-169, 1992.

P. R. Mantena, R. F. Gibson and S. J. Hwang, "Optimal Constrained Viscoelastic Tape Lengths for Maximizing Damping of Laminated Composites", *AIAA Journal*, 29(10), 1678-1685, 1991.

S. J. Hwang and R. F. Gibson, "The Effects of Three Dimensional States of Stress on Damping of Laminated Composites", *Composites Science and Technology*, 41, 379-393, 1991.

R. F. Gibson, S. J. Hwang and C. H. Sheppard, "Characterization of Creep in Polymer Composites by the Use of Frequency-Time Transformations", *Journal of Composite Materials*, 24, 441-453, 1990.

T. S. Srivatsan, P. R. Mantena, R. F. Gibson, T. A. Place and T. S. Sudarshan, "Electromagnetic Measurement of Damping Capacity to Detect Damage in Adhesively Bonded Material", *Materials Evaluation*, 47(5), 564-570, 1989.

L. R. Deobald and R. F. Gibson, "Determination of Elastic Constants of Orthotropic Plates by a Modal Analysis/Rayleigh-Ritz Technique", *Journal of Sound and Vibration*, 124(2), 269-284, 1988.

P. R. Mantena, R. F. Gibson, T. A. Place, T. S. Srivatsan and T. S. Sudarshan, "Debond and Failure Characteristics of a Double-lap Adhesively Bonded Joint", *Journal of Adhesion Science and Technology*, 2(3), 189-202, 1988.

C. T. Sun, J. K. Wu and R. F. Gibson, "Prediction of Material Damping of Laminated Polymer Matrix Composites", *Journal of Materials Science*, 22, 1006-1012, 1987.

S. A. Suarez and R. F. Gibson, "Improved Impulse-Frequency Response Techniques for Measurement of Dynamic Mechanical Properties of Composite Materials," *Journal of Testing and Evaluation*, 15(2), 114-121, 1987.

S. J. Hwang and R. F. Gibson, "Micromechanical Modeling of Damping in Discontinuous Fiber Composites Using a Strain Energy/Finite Element Approach", *Journal of Engineering Materials and Technology*, 109(1), 47-52, 1987.

P. R. Mantena, R. F. Gibson and T. A. Place, "Damping Capacity Measurements for Characterization of Degradation in Advanced Materials", *SAMPE Quarterly*, 17(3), 20-31, 1986.

S. A. Suarez, R. F. Gibson, C. T. Sun and S. K. Chaturvedi, "The Influence of Fiber Length and Fiber Orientation on Damping and Stiffness of Polymer Composite Materials", *Experimental Mechanics*, 26(2), 175-184, 1986.

C. T. Sun, J. K. Wu and R. F. Gibson, "Prediction of Material Damping in Randomly Oriented Short Fiber Polymer Matrix Composites", *Journal of Reinforced Plastics and Composites*, 4, 262-272, 1985.

R. F. Gibson, S. A. Suarez and L. R. Deobald, "Laboratory Production of Discontinuous-Aligned Fiber Composite Plates Using an Autoclave-Style Press Cure", *Journal of Composites Technology and Research*, 7(2), 391-400, 1985.

C. T. Sun, S. K. Chaturvedi and R. F. Gibson, "Internal Damping of Short Fiber Reinforced Polymer Composites", *Computers and Structures*, 20(1-3), 391-400, 1985.

C. T. Sun, S. K. Chaturvedi and R. F. Gibson, "Internal Damping of Polymer Matrix Composites Under Off-Axis Loading", *Journal of Materials Science*, 20, 2575-2585, 1985.

C. T. Sun, J. K. Wu and R. F. Gibson, "Prediction of Material Damping in Randomly Oriented Short Fiber Polymer Matrix Composites", *Journal of Reinforced Plastics and Composites*, 4, 262-272, 1985.

S. A. Suarez, R. F. Gibson and L. R. Deobald, "Random and Impulse Techniques for Measurement of Damping in Composite Materials", *Experimental Techniques*, 8(10), 19-24, 1984.

R. F. Gibson, S. K. Chaturvedi and C. T. Sun, "Complex Moduli of Aligned Discontinuous Fiber Reinforced Polymer Composites", *Journal of Materials Science*, 17, 3499-3509, 1982.

R. F. Gibson, A. Yau, E. W. Mende, W. E. Osborn and D. A. Riegner, "The Influence of Environmental Conditions on the Vibration Characteristics of Chopped Fiber Reinforced Composite Materials", *Journal of Reinforced Plastics and Composites*, 1, 225-241, 1982.

R. F. Gibson, A. Yau and D. A. Riegner, "An Improved Forced Vibration Technique for Measurement of Material Damping", *Experimental Techniques*, 6, 10-14, 1982.

R. F. Gibson and A. Yau, "Complex Moduli of Chopped Fiber and Continuous Fiber Composites: Comparison of Measurements with Estimated Bounds," *Journal of Composite Materials*, 14, 155-167, 1980.

R. F. Gibson, "Measurement of Creep in Rotating Viscoelastic Disks", *Experimental Mechanics*, 19(10), 378-383, 1979.

R. F. Gibson and R. Plunkett, "A Forced Vibration Technique for Measurement of Material Damping", *Experimental Mechanics*, 17(8), 297-302, 1977.

R. F. Gibson and R. Plunkett, "Dynamic Mechanical Behavior of Fiber Reinforced Composites: Measurement and Analysis", *Journal of Composite Materials*, 10, 325-341, 1976.

R. F. Gibson and F. H. Speckhart, "Optimum Damping for Accelerometers", *Instruments and Control Systems*, 87-88, Sept. 1972.

J. N. Brantley, D. D. Willis, J. P. Breillat, R. F. Gibson, L. C. Patrick and N. G. Anderson, "K-Series Centrifuges: IV. Measurement and Control of Temperature", *Analytical Biochemistry*, 36, 434-442, 1970.

N. G. Anderson, D. A. Waters, C. E. Nunley, R. F. Gibson, R. M Schilling, E. C. Denny, G. B Cline, E. F. Babelay and T. E. Perardi, "K-Series Centrifuges: I. Development of the K-II Continuous Sample Flow with Banding Centrifuge System for Vaccine Purification", *Analytical Biochemistry*, 32, 460-494, 1969.

Refereed Conference Proceedings:

S. D. Thoppul and R. F. Gibson, Macro-Micro mechanical characterization of spot friction welded lap joints in 6111 aluminum by combined experimental/numerical approach", *Proc. 2007 ASME International Mechanical Engineering Congress and Exposition*, Seattle, WA (Paper #IMECE-42721 on CD), 2007.

S. M. Soni, R. F. Gibson, and E. O. Ayorinde, Characterization of Fatigue Damage in Composite Sandwich Hull Materials at Low Temperatures", *Proc. 16th International Conference on Composite Materials*, Kyoto, Japan, July 8-13, 2007.

S. D. Thoppul, and R. F. Gibson, "Macromechanical/Micromechanical Characterization of Welds in Aluminum by Combined Experimental Approaches", *Proc. 2006 ASME International Mechanical Engineering Congress and Exposition*, Chicago, IL. (Paper # IMECE2006-14512 on CD), 2006.

R. F. Gibson and E. O. Ayorinde, "Vibration-Assisted Liquid Composite Molding", *Proc. SPE ANTEC 2004*, 1544-1547, 2004.

R. F. Gibson, K. A. Kline, J. Ku, T. Singh and C. Tan, "Achievement of Course Learning Objective: An Assessment Tool that Promotes Faculty Involvement", *Proc. 2003 ASEE Annual Conference*, Paper #555, June 22-25, 2003, Nashville, TN.

Y. Chen and R. F. Gibson, "Composite Isogrid Structures with Integral Passive Damping", *Proc. ASME Noise Control and Acoustics Division – 2000*, 425-433, 2000.

R. F. Gibson, "Sensitivity of Stiffness and Damping to Various Aspects of Material and Structural Behavior", *Proc. ASME Noise Control and Acoustics Division - 2000*, 301-318, 2000.

R. F. Gibson and H. Zhao, "Improvement of Vibration Damping Capacity and Fracture Toughness in Composite Laminates by the use of Polymeric Interleaves", *Proc. Of ASME Noise Control and Acoustics Division*, NCA Vol. 26, 333-343, 1999.

R. F. Gibson, J. Baxi, D. Bettinger, F. Stoll and V. Johnson "Simulation of Assembly and Operation of Pre-stressed, Heat-Shrinkable Structural Composite Connectors", *Proc. Of ASME Noise Control and Acoustics Division*, NCA Vol. 26, 319-332, 1999.

R. F. Gibson and Z. Liu, "Improved Accurate Identification of the Modal Damping of Composite Structures Using Multi-Degree-of-Freedom Singular Value Decomposition in the Time Domain", *Proc. Of ASME Noise Control and Acoustics Division*, NCA Vol. 25, 251-261, 1998.

E. O. Ayorinde, R. F. Gibson, F. Deng and Baig, "Vibration-Assisted Liquid Composite Molding: Practical and Numerical Simulation", *Rheology and Fluid Mechanics of Nonlinear Materials*, FED Vol. 243/MD Vol. 78, 177-183, ASME, 1997.

S. Yang, R. F. Gibson, D. Li and R. Hecht, "Damping in Brake Rotor Materials with Different Microstructures," *Proc. ASME Noise Control and Acoustics Division, Vol. 2: Advanced Materials for Vibro-acoustic Applications*", P. R. Mantena, et al., Editors, NCA Vol. 23, 51-66, 1996.

E. O. Ayorinde, R. F. Gibson and Z. Zheng, "Application of Thick Beam Frequency Solution Library to the Rapid Identification of Elastic Constants of Thick Orthotropic Rectangular Plates", *Proc. ASME Noise Control and Acoustics Division, Vol. 2: Advanced Materials for Vibro-acoustic Applications*", P. R. Mantena, et al., Editors, NCA Vol. 23, 183-190, 1996.

S. Yang, R. F. Gibson, G. M. Crosbie and R. L. Allor, "Nondestructive Characterization of Thermal Cycling-Induced Microstructural Changes in Ceramics and Ceramic Matrix Composites," *Innovative Processing and Characterization of Composite Materials*, R. F. Gibson, T. W. Chou and P. K. Raju, Editors, NCA Vol. 20/AMD Vol. 211, 131-141, ASME, 1995.

W. H. Chen and R. F. Gibson, "Characterization of Property Distributions of Nonuniform Laminated Beams by the Use of the Steepest Descent Method and Vibration Measurements", *Innovative Processing and Characterization of Composite Materials*, R. F. Gibson, T. W. Chou and P. K. Raju, Editors, NCA Vol. 20/AMD Vol. 211, 39-45, ASME, 1995.

Y. F. Wen, R. F. Gibson and J. L. Sullivan, "Characterization of Creep Behavior of Polymer Composites by the Use of Dynamic Test Methods", *Innovative Processing and Characterization of Composite Materials*, R. F. Gibson, T. W. Chou and P. K. Raju, Editors, NCA Vol. 20/AMD Vol. 211, 383-396, ASME, 1995.

S. Yang, R. F. Gibson, G. M. Crosbie and R. L. Allor, "Dynamic Mechanical Properties of Ceramics and Ceramic Composites at Elevated Temperatures", *Materials for Noise and Vibration Control*, P. K. Raju and R. F. Gibson, Editors, NCA Vol. 18, 43-51, ASME, 1994.

S. J. Hwang, R. F. Gibson and W. H. Chen, "Internal Damping in Thick Structures: Polymer Composites vs. Metal/Constrained Layer Construction," *Materials for Noise and Vibration Control*, P. K. Raju and R. F. Gibson, Editors, NCA Vol. 18, 113-124, ASME, 1994.

Y. F. Wen, R. F. Gibson and J. L. Sullivan, "Prediction of Transverse Creep Behavior of Advanced Thermoplastic Composites by the Use of Micromechanical Models", *Durability of Composite Materials*, R. C. Wetherhold, Editor, MD Vol. 51, ASME, 1994.

E. O. Ayorinde, R. F. Gibson and Y. F. Wen, "Elastic Constants of Isotropic and Orthotropic Composite Materials from Plate Vibration Test Data", *STP 1206 Composite Materials: Testing and Design, Eleventh Volume*, 150-161, American Society for Testing and Materials, 1993.

W. H. Chen, R. F. Gibson and S. J. Hwang, "Determination of Physical Property Distributions in Heterogeneous Composite Beams by the Use of Vibration Response Measurements and Galerkin's Method", *Dynamic Characterization of Advanced Materials*, P. K. Raju and R. F. Gibson, Editors, NCA Vol. 16, 33-40, ASME, 1993.

J. L. Sullivan, Y. F. Wen and R. F. Gibson, "Fundamental Aspects of Composite Viscoelastic Behavior", *Use of Plastics and Plastic Composites: Materials and Mechanics Issues*, V. K. Stokes, Editor, MD Vol. 46, 195-206, ASME, 1993.

R. Thirumalai and R. F. Gibson, "Characterization of Dynamic Extensional Modulus and Damping of Reinforcing Fibers of Advanced Composites at Elevated Temperatures", *Damping of Multiphase Inorganic Materials*, 37-46, ASM International, 1993.

R. F. Gibson, “Nontraditional Applications of Damping Measurements”, *STP 1169 Mechanics and Mechanisms of Material Damping*, V. K. Kinra and A. Wolfenden, Editors, 60-75, 1992.

E. O. Ayorinde and R. F. Gibson, “Optimized Six Mode Rayleigh Formulation for Determination of Elastic Constants of Orthotropic Composite Materials from Plate Resonance Data”, *Vibroacoustic Characterization of Materials and Structures*, P. K. Raju, Editor, NCA Vol. 14, 167-175, ASME, 1992.

J. Abbas, R. A. Ibrahim and R. F. Gibson, “Nonlinear Flutter of Orthotropic Composite Panels Under Aerodynamic Heating”, *Proc. AIAA Dynamics Specialists Conference*, Dallas, Texas, Paper No. AIAA-92-2132, American Institute for Aeronautics and Astronautics, 1991.

R. F. Gibson and G. Kathawate, “Rapid Screening of Creep Susceptibility of Structural Polymer Composites”, *Plastics and Plastic Composites: Material Properties, Part Performance and Process Simulation*, MD Vol. 29, V. K. Stokes, Editor, 161-171, ASME, 1991.

S. J. Hwang and R. F. Gibson, “The Influence of Vibration Coupling Effects on Damping of Laminated Composites”, *Proc. AIAA/ASME/ASCE/AHS 32nd Structures, Structural Dynamics and Materials Conference*, Baltimore, Maryland, 1991.

R. F. Gibson and V. S. Rao, “An Experimental Method for the Measurement of Dynamic Shear Properties of a Thin Film Adhesive”, *Advances in Adhesively Bonded Joints*, J. R. Vinson, Editor, MD Vol. 6, 51-58, ASME, 1988.

R. F. Gibson and S. Gunawan, “Analytical and Experimental Characterization of Extensional Damping in Single Lap Viscoelastic Adhesive Joints”, *Proc. AIAA/ASME/ASCE/AHS 28th Structures, Structural Dynamics and Materials Conference*, Monterey, California, Part 2A, 533-543, American Institute for Aeronautics and Astronautics, 1987.

R. F. Gibson, “Development of Damping Composite Materials”, *1983 Advances in Aerospace Structures and Materials*, AD-06, ASME, 1983.

R. F. Gibson, A. Yau, and D. A. Riegner, “Vibration Characteristics of Automotive Composite Materials”, *STP-772 Short Fiber Reinforced Composite Materials*, B. A. Sanders, Editor, 133-150, American Society for Testing and Materials, 1982.

Invited or Refereed Paper Presentations: (presenter underlined if presented by co-author)

R. F. Gibson, "A simplified analysis of initial core shear cracking in composite sandwich beams", Proc. 51st AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference, Orlando, FL, 2010.

S. D. Thoppul, and R. F. Gibson, "Macromechanical/Micromechanical Characterization of Welds in Aluminum by Combined Experimental Approaches", Proc. 2006 ASME International Mechanical Engineering Congress and Exposition, Chicago, IL. (Paper # IMECE2006-14512 on CD).

V. Garg, R. F. Gibson, S. S. Perooly, L. W. Rosenberger, M. Rahman, and G. W. Auner, "Modal Testing of Silicon Microcantilevers for Determination of Elastic Modulus of Aluminum Nitride Piezoelectric Coating", 2006 Society for Experimental Mechanics Conference, St. Louis, Missouri (Presentation only), 2006.

R. F. Gibson, "Energy Absorption in Composite Grid Structures", invited keynote presentation at Japan Society of Composite Materials 30th Anniversary Symposium, Okinawa, Japan, Oct. 28-29, 2004.

A. Jyoti and R. F. Gibson, "Transverse Crushing in Conventional and Reentrant Cell Honeycomb Structures", invited presentation at Symposium on Mechanics of Cellular Materials and Structures, ASME International Mechanical Engineering Congress and Exposition, Anaheim, California, Nov. 14-19, 2004.

R. F. Gibson and E. O. Ayorinde, "A Basic Review of Vibrations of Carbon Nanotubes and their Composites", invited presentation at Symposium on Nanocomposites, ASME International Mechanical Engineering Congress and Exposition, Anaheim, California, Nov. 14-19, 2004.

R. F. Gibson, "Analytical/Experimental Investigation of Energy Absorption in Grid-stiffened Composite Structures Under Transverse Loading", invited presentation at Symposium Honoring H. T. Hahn, American Society for Composites 19th Technical Conference, Atlanta, Georgia, Oct. 17-20, 2004.

R. F. Gibson, "Modal Vibration Testing of Adhesively Bonded Composite Structures", invited paper at Symposium on Advanced Joining Technologies for Transportation Vehicle Structures, ASME International Mechanical Engineering Congress and Exposition, Washington, D.C., Nov. 15-21, 2003.

R. F. Gibson, "Recent Research on Energy Absorption/Dissipation in Thermoplastic Composite Grid Structures", invited paper at Symposium Honoring Prof. C. T. Sun, 18th Annual Technical Conference of the American Society for Composites, Gainesville, Florida, Oct. 20-22, 2003

R. F. Gibson, "Nontraditional Applications of Vibration Testing for Material Characterization", invited paper at Symposium Honoring Prof. Chris Burger, 2003 SEM

Annual Conference and Exposition on Experimental Mechanics, Paper #6, Charlotte, North Carolina, June 2-4, 2003.

R. F. Gibson, “Analytical and Experimental Characterization of Damping in Composite Materials and Structures”, invited keynote paper at CompTest 2003 Composites Testing and Model Identification International Conference, Chalons-en-Champagne, France, January 28-30, 2003.

R. F. Gibson and Y. Chen, “Analytical/Experimental Studies of Integral Passive Damping in Composite Isogrid Structures”, invited paper at 142nd Meeting of the Acoustical Society of America, Ft. Lauderdale, Florida, December 3-7, 2001.

R. F. Gibson and Y. Chen, “Lightweight Composite Isogrid Structures with Integral Passive Damping”, invited paper at Composites Durability Workshop, Albuquerque, New Mexico, August 26-27, 2001.

R. F. Gibson, G. M. Newaz and C. Gan, “Energy Absorption in Grid-Stiffened Composite Structures”, invited paper at 16th Annual Technical Conference of the American Society for Composites”, Blacksburg, Virginia, September 10-12, 2001.

R. F. Gibson, “Sensitivity of Stiffness and Damping to Various Aspects of Material and Structural Behavior”, invited paper at Symposium on the Use of Sound and Vibration for System Characterization, ASME International Mechanical Engineering Congress, Orlando, Florida, November 5-10, 2000.

Y. Chen and R. F. Gibson, “Vibration Characteristics of Composite Isogrid Structures”, invited paper at Seventh Annual International Conference on Composites Engineering, Denver, Colorado, July 2-8, 2000.

Z. Liu, R. F. Gibson, and G. M. Newaz, “Modification of the Composite Laminate Mixed Mode Bending Test for Fracture Testing of Adhesive Joints”, invited paper at 15th Annual Conference of the American Society for Composites, Texas A&M University, Sept. 24-27, 2000.

Z. Liu, R. F. Gibson and G. M. Newaz, “Mixed-Mode Fracture Behavior in Adhesively Bonded Joints”, invited paper at 23rd Annual Meeting of the Adhesion Society, Myrtle Beach, South Carolina, Feb. 20-23, 2000.

R. F. Gibson, “Impulse Response Characterization of Composite Materials and Structures for Design and Manufacturing”, invited keynote paper at 138th Meeting of the Acoustical Society of America, Columbus, Ohio, Nov. 2, 1999.

R. F. Gibson, “Modal Vibration Response Measurements in the Design and Manufacturing of Composite Materials and Structures”, invited paper at Symposium

Honoring the 70th Birthdays of Professors Charles Bert and Jack Vinson, ASME International Mechanical Engineering Congress, Nashville, Tennessee, Nov. 15-16, 1999.

R. F. Gibson E. O. Ayorinde and Y. Chen, "Recent Developments in Vibration-Assisted Liquid Composite Molding", invited paper at SME Composites Manufacturing and Tooling '99 Conference, Anaheim, CA, Feb. 8-10, 1999.

R. F. Gibson and I. C. Finegan, "Recent Research on Enhancement of Damping in Polymer Composites", invited paper at 1997 Joint ASME/ASCE/SES Summer Meeting, Northwestern University, June 29-July 2, 1997.

I. Finegan and R. F. Gibson, "Analytical and Experimental Characterization of Damping and Stiffness in Polymer Composites Having Coated Fibers as Reinforcement", presented at 1997 ASME International Mechanical Engineering Congress and Exposition, Noise Control and Acoustics Division, ASME, 1997.

H. Guan and R. F. Gibson, "Development of Analytical Models for Predicting Viscoelastic Damping in Woven Fabric-Reinforced Polymer Matrix Composites", presented at 1997 ASME International Mechanical Engineering Congress and Exposition, Noise Control and Acoustics Division, ASME, 1997.

R. F. Gibson and W. H. Chen, "Characterization of Property Distributions of Nonuniform Laminated Beams by the Use of the Steepest Descent Method and Vibration Measurements", International Symposium on Innovative Processing and Characterization of Composite Materials, 1995 ASME International Mechanical Engineering Congress and Exposition, Nov. 12-17, 1995, San Francisco, California.

R. F. Gibson, Y. F. Wen and J. L. Sullivan, "Characterization of Creep Behavior of Polymer Composites by the use of Dynamic Test Methods", International Symposium on Innovative Processing and Characterization of Composite Materials, 1995 ASME International Mechanical Engineering Congress and Exposition, Nov. 12-17, 1995, San Francisco, CA.

I. Cartian and R. F. Gibson, "Micromechanical Modeling of Material Damping in Coated Fiber Polymer Composites", presented at 1996 ASME International Mechanical Engineering Congress and Exposition, Noise Control and Acoustics Division, ASME, 1996.

R. F. Gibson, "Dynamic Mechanical Characterization of Composites for Design and Manufacturing," invited presentation at International Conference on Design and Manufacturing Using Composites, Montreal, Quebec, August 10-17, 1994.

R. F. Gibson, S. Yang, G. Crosbie and R. Allor, "Damping in SiC/Si₃N₄ Ceramic Composites at Elevated Temperatures," invited presentation at Society for Engineering

Science 31st Annual Meeting, College Station, Texas, Oct. 10-17, 1994.

R. F. Gibson, "Rapid, Inexpensive Characterization of Structural Composites by Dynamic Mechanical Testing," invited presentation at Society for Engineering Science 31st Annual Meeting, College Station, Texas, Oct. 10-12, 1994.

I. Cartian and R. F. Gibson, "Improvement of Damping at the Micromechanical Level in Polymer Composite Materials by the Use of Special Fiber Coatings", presented at 1994 ASME Winter Annual Meeting, Noise Control and Acoustics Division, ASME, 1994.

R. F. Gibson, "Dynamic Micromechanical and Macromechanical Properties of Composite Materials: Measurement and Analysis", invited paper at Symposium on Mechanics and Mechanisms of Damping, ASM/TMS Materials Week, Pittsburgh, PA., Oct. 17-21, 1993.

R. F. Gibson, "Dynamic Mechanical Behavior of Composite Materials and Structures", 8th SAE International Conference on Vehicle Structural Mechanics, June 1992, Traverse City, Michigan, invited keynote paper.

R. F. Gibson and S. J. Hwang, "Estimation of Time Dependent Mechanical Behavior of Composites from Frequency Domain Vibration Test Data," invited paper at VII International Congress on Experimental Mechanics, June 1992, Las Vegas, Nevada.

R. Pant and R. F. Gibson, "Analysis and Testing of Dynamic Micromechanical Behavior of Composite Materials at Elevated Temperatures", presented at 1992 ASME Winter Annual Meeting, Noise Control and Acoustics Division, ASME, 1992.

R. F. Gibson and G. Kathawate, "Rapid Screening of Creep Susceptibility of Structural Polymer Composites," Symposium on Plastics and Plastic Composites: Material Properties, Part Performance and Process Simulation, ASME Winter Annual Meeting, December 1991, Atlanta, Georgia.

R. F. Gibson, "Non-traditional Applications of Damping Measurements", invited keynote paper at International Symposium on Mechanics and Mechanisms of Material Damping, American Society for Testing and Materials and Office of Naval Research, Baltimore, Maryland, March 13-15, 1991.

R. F. Gibson and V. S. Rao, "An Experimental Method for the Measurement of Dynamic Shear Properties of a Thin Film Adhesive", ASME 1988 Winter Annual Meeting - Symposium on Advances in Adhesively Bonded Joints, Chicago, IL, November 1988.

R. F. Gibson and S. Gunawan, "Analytical and Experimental Characterization of Extensional Damping in Single Lap Viscoelastic Adhesive Joints", AIAA/ASME/ASCE/AHS 28th Structures, Structural Dynamics and Materials Conference, Monterey, CA, April 1987.

R. F. Gibson and S. J Hwang, "Micromechanical Modeling of Damping in Discontinuous Fiber Composites Using a Strain Energy/Finite Approach", 1985 ASME Winter Annual Meeting, Miami Beach, FL, November 1985.

R. F. Gibson, "Frequency Domain Testing of Materials", invited paper at 5th Symposium on Non Destructive Testing of Wood", Washington State University, Pullman, WA, September 1985.

R. F. Gibson and S. A. Suarez, "The Use of Vibration Damping Measurements for Characterization of Microstructural Damage in Fiber Reinforced Composites", AIAA/ASME/ASCE/AHS 24th Structures, Structural Dynamics and Materials Conference, Lake Tahoe, NV, May 2-4, 1983.

R. F. Gibson, "Development of Damping Composite Materials", invited paper at Symposium on Advances in Aerospace Structures and Materials, ASME Winter Annual Meeting, Boston, Massachusetts, 1983.

R.F. Gibson, A. Yau and D. A. Riegner, "Vibration Characteristics of Automotive Composite Materials", invited paper at ASTM Symposium on Short Fiber Reinforced Composite Materials, Minneapolis, Minnesota, 1982.

R. F. Gibson, C. T. Sun and S. K. Chaturvedi, "Damping and Stiffness of Aligned Discontinuous Fiber Reinforced Polymer Composites", AIAA/ASME/ASCE/AHS 23rd Structures, Structural Dynamics and Materials Conference, New Orleans, LA, May 10-12, 1982.

R. F. Gibson, "Vibration Damping Characteristics of Graphite/epoxy Composites for Large Space Structures", invited paper at 3rd Large Space Systems Technology Review, NASA Langley Research Center, Hampton, VA, November 16-19, 1981.

R. F. Gibson, A. Yau, E.W. Mende, W.E. Osborn and D.A. Riegner, "The Influence of Environmental Conditions on the Vibration Characteristics of Chopped-Fiber-Reinforced Composite Materials", AIAA/ASME/ASCE/AHS 22nd Structures, Structural Dynamics, and Materials Conference, Atlanta, GA, April 1980.

Invited Seminars or Lectures:

"Fatigue of Composite Sandwich Structures at Sub-zero Temperatures", SAMPE Sierra Chapter meeting, University of Nevada-Reno, November 5, 2009.

"Energy Absorption/Dissipation in Composite Grid Structures", University of Nevada-Reno, March 14, 2007.

“Energy Absorption/Dissipation in Composite Grid Structures”, SAMPE Michigan Chapter meeting, September 20, 2005.

“Dynamic Behavior of Composite MEMS Devices”, Japan Aerospace Exploraton Agency, Tokyo, Japan, Oct. 25, 2004.

“Vibration-Assisted Liquid Composite Molding”, Japan Aerospace Exploraton Agency, Tokyo, Japan, Oct. 25, 2004.

“Dynamic Behavior of Composite MEMS Devices”, Symposium Honoring Prof. Jack Vinson, University of Delaware, July 6, 2004

“Studies of Energy Absorption/Dissipation in Composite Grid Structures”, Michigan Technological University, Oct. 3, 2002.

“Micromechanical Modeling of Dynamic and Viscoelastic Behavior of Composite Materials”, Workshop on Geotechnical Composite Systems, Virginia Tech, Roanoke, Virginia, July 29, 2002

“Studies of Energy Absorption/Dissipation in Composite Grid Structures”, University of Michigan-Dearborn, March 29, 2002.

“Lightweight Composite Isogrid Structures with Integral Passive Damping”, University of Mississippi, May 3, 2001.

“Modal Vibration Response Measurements for Characterization of Composite Materials and Structures”, University of California-Davis, April 26, 2001.

“Modal Vibration Response Measurements for Characterization of Composite Materials and Structures”, Stanford University, January 25, 2001.

“Composite Isogrid Structures with Integral Passive Damping”, Stanford University, January 29, 2001.

“Modal Vibration Response Measurements for Characterization of Composite Materials and Structures”, University of Delaware, October 27, 2000.

“Dynamic Mechanical Characterization of Composite Materials for Design and Manufacturing”, Visteon Automotive Systems, Dearborn, Michigan, May 14, 1999.

“Nondestructive Modal Vibration Measurements for Rapid Screening of Adhesively Bonded Automotive Composite Structures, Ford Research Laboratory, Dearborn, Michigan, March 4, 1999.

“Nondestructive Modal Vibration Measurements for Rapid Screening of Adhesively Bonded Composite Structures”, 1998 NCMS Fall Workshop, Dearborn, Michigan, September 22, 1998.

“Nondestructive Modal Vibration Measurements for Rapid Screening of Adhesively Bonded Composite Structures”, Adhesives and Sealant Council Twin Cities 1998 Regional Meeting, Shoreview, Minnesota, April 30, 1998.

“Dynamic Mechanical Characterization of Composite Materials for Design and Manufacturing”, 3M Company, St. Paul, Minnesota, May 1, 1998.

“Vibration Damping Characteristics of Advanced Composite Materials”, Otolaryngology Dept., School of Medicine, Wayne State University, January 16, 1996.

“Dynamic Mechanical Characterization of Composites for Design and Manufacturing”, U.S. Army TACOM, Warren Michigan, Sept. 14, 1995.

"Rapid, Inexpensive Characterization of Composite Materials by Dynamic Mechanical Testing," University of Mississippi, Sept. 2, 1993.

"Vibration Damping Characteristics of Thick Composite Structures", U.S. Army Workshop on Dynamic Response of Composite Structures, New Orleans, Louisiana, Aug. 30 - Sept. 1, 1993.

"Dynamic Mechanical Behavior of Composite Materials and Structures," Ford Scientific Research Lab, Dearborn, Michigan, August 1992.

"Dynamic Mechanical Behavior of Composite Materials", Michigan Molecular Institute, Midland, Michigan, June 1991.

"Characterization of Creep in Polymer Composites by the use of Frequency-Time Transformations", Phillips 66 Co., Bartlesville, OK, March 1990, and Wayne State University, April 1990.

"Dynamic Mechanical Testing of Composite Materials and Adhesive Joints", Ford Scientific Lab, Dearborn, MI, September, 1989.

"Dynamic Mechanical Testing of Composite Materials", Michigan State University, East Lansing, MI, June, 1987.

"Damping Characteristics of Composites Materials and Adhesive Joints", University of Nevada-Reno, February 1989.

"Vibration Damping Characteristics of Advanced Composite Materials and Adhesive Joints", ASME 1987 Winter Annual Meeting, Boston, MA, December 1987.

“Damping Characteristics of Composite Materials”, Hewlett Packard, Boise, ID, May 1987.

“Damping Characteristics of Composite Materials”, TRW Space & Technology Group, Redondo Beach, CA, June 1987.

"Burning Issues in Dynamic Behavior of Composites," Society for Experimental Mechanics 1986 Spring Meeting, New Orleans, LA, June 1986.

"Improvement and Optimization of Internal Damping in Fiber Reinforced Composite Materials", Tenth Annual Mechanics of Composites Review, Sponsored by Air Force Wright Aeronautical Labs, Dayton, OH, October 1984.

“Vibration Characteristics of Fiber Reinforced Composites”, SAMPE Seattle Chapter, Seattle, WA, March 1983.

“Vibration Characteristics of Short Fiber Composites”, Virginia Polytechnic Institute, Blacksburg, VA, NASA Langley Research Center, Hampton, VA, January 1981, and University of Florida, Gainesville, FL, April 1981.

Nonrefereed Papers:

J.-S. Jang, R. F. Gibson and J. Suhr, “Investigation of coefficient of thermal expansion of SiO₂ particulate-reinforced epoxy composites”, *Proc. International SAMPE Symposium and Exhibition*, Seattle, WA, 2010.

R. F. Gibson, “A simplified analysis of initial core shear cracking in composite sandwich beams”, *Proc. 51st AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference*, Orlando, FL, 2010.

S. D. Thoppul and R. F. Gibson, “Experimental/Numerical Studies of Macromechanical and Micromechanical Behavior of Friction Stir Welded Aluminum Joints”, *Proc. International SAMPE Symposium and Exhibition*, Long Beach, CA, 2008.

R. F. Gibson and S. D. Thoppul, “Effects of Clamping Force, Viscoelasticity and External Static and Vibratory Loads on Relaxation in Bolted Composite Joints”, *Proc. International SAMPE Symposium and Exhibition*, Long Beach, CA, 2008.

M. S. Harrar and R. F. Gibson, “The Influence of Waviness on the Modal Vibration Response of Carbon Nanotubes”, *Proc. 22nd Annual Technical Conference of the American Society for Composites*, Seattle, WA, 2007.

R. F. Gibson, S. D. Thoppul, and R. A. Ibrahim, “Analytical and experimental characterization of the effects of vibration on relaxation in composite bolted joints”,

Proc. 21st Annual Technical Conference of the American Society for Composites, (Paper #192 on CD), Dearborn, MI, 2006.

R. F. Gibson, E. O. Ayorinde, and Y-F. Wen, “Recent Research on Vibrations of Carbon Nanotubes and their Composites”, *Proc. 12th U.S.-Japan Conference on Composite Materials*, 3-21, Dearborn, MI, 2006.

B. O. Baba, R. F. Gibson, and S. Soni, “The Influence of Fatigue Cracks on the Modal Vibration Response of Composite Sandwich Beams “, *Proc. 21st Annual Technical Conference of the American Society for Composites*, (Paper # 101 on CD), Dearborn, MI, 2006.

H. C. Wu, G. Fu, R. F. Gibson, K. Warnemuende, A. Yan and V. Anumandla, “Durability Testing of FRP Materials in Low Temperature Weathering Conditions”, *Proc. 21st Annual Technical Conference of the American Society for Composites*, (Paper # 213 on CD), Dearborn, MI, 2006.

J. Bai, S.Liu, R. F. Gibson, and T. Shi, “Studies of Dynamic Properties of MEMS and NEMS Using Three Dimensional Nano-imager”, *Proc. 2006 Society for Experimental Mechanics Conference*, St. Louis, Missouri, Paper #120 (on CD), 2006.

R. F. Gibson, N. Srinivasan, G. Auner, C. Huang, Q. Wang, and S. Perooly, “Vibration Analysis of MEMS Sensors for Detection of Ultrasound”, *Proc. 2005 Society for Experimental Mechanics Conference*, Portland, Oregon, Paper # 279 (on CD), 2005.

R. F. Gibson, V. Anumandla, X. Wu and D. Bettinger, “Experimental Characterization of Delamination in Unidirectional Carbon/epoxy Laminates Featuring a Carbon Nanotube-enhanced ply interface”, *Proc. 2005 Society for Experimental Mechanics Conference*, Portland, Oregon, Paper # 280 (on CD), 2005.

S. S. Perooly, V. Garg, M. Rahman, L.W.Rosenberger, R. F. Gibson, and G.W. Auner, “Determination of Elastic Modulus of Piezoelectric Aluminum Nitride Coatings”, poster presentation at 2005 Materials Research Society Conference, Boston, Massachusetts, 2005.

V. Anumandla and R. F. Gibson, “A Comprehensive Closed Form Micromechanics Model for Estimating the Elastic Modulus of Nanotube-Reinforced Composites”, *Proc. U.S.-Japan Conference on Composite Materials*, Yonezawa, Japan, Sept. 9-11, 2004.

R. F. Gibson and E. O. Ayorinde, “Vibration-assisted Liquid Composite Molding”, *Proc. SPE ANTEC 2004 Conference*, May 16-20, 2004, Chicago, Illinois.

R. F. Gibson, Z. Liu and N. Srinivasan, “Coupling Effects in the Modal Vibration of Nonsymmetrically Laminated MEMS Microcantilever Beams”, *Proc. IMAC XXII Conference on Structural Dynamics*, Paper #278, Dearborn, Michigan, Jan. 26-29, 2004.

A. Kulkarni and R. F. Gibson, "Nondestructive Characterization of Effects of Temperature and Moisture on Elastic Moduli of Vinyl ester Resin and E-glass/vinyl ester Composite", *Proc. 18th Annual Technical Conference of the American Society for Composites*, Paper #122, Gainesville, Florida, Oct. 20-22, 2003.

R. F. Gibson, C. Gan and G. Newaz, "Energy Absorption in Thermoplastically Stamped Composite Grid Structures", *Proc. 3rd Annual SPE Automotive Composites Conference & Exposition*, Troy, Michigan, Sept. 9-10, 2003.

S. Islam and R. F. Gibson, "Evaluation of Equivalent Stiffness Models for Estimating Modal Vibration Characteristics of Composite Grid Structures", *Proc. 14th International Conference on Composite Materials*, Paper #725, San Diego, California, July 14-18, 2003.

R. F. Gibson, "Nontraditional Applications of Vibration Testing for Material Characterization", *Proc. 2003 SEM Annual Conference and Exposition on Experimental Mechanics*, Paper #6, Charlotte, North Carolina, June 2-4, 2003.

Y. Chen and R. F. Gibson, "Analysis of Modal Vibration Characteristics of Composite Isogrid Structures", *Proc. 10th U.S.-Japan Conference on Composite Materials*, Stanford, California, Sept. 16-18, 2002.

C. Gan, R. F. Gibson and G. M. Newaz, "Experimental Investigation of Energy Absorption in Grid-Stiffened Composite Structures under Transverse Loading", *Proc. 2002 Society for Experimental Mechanics Annual Conference*, Milwaukee, Wisconsin, Paper #184.

A. Jyoti, R. F. Gibson and G. M. Newaz, "Mode I Fracture Toughness Testing of Tapered Width, Adhesively Bonded Composite DCB Specimens", *Proc. 2002 Society for Experimental Mechanics Annual Conference*, Milwaukee, Wisconsin, Paper #71.

R. F. Gibson, S. W. Tsai and J. Q. Wang, "Stresses in a Notched Rib of an Interlocked Composite Grid Structure", *Proc. of 33rd International SAMPE Technical Conference*, Seattle, Washington, November 5-8, 2001, pp. 589-600.

R. F. Gibson and Y. Chen, "Lightweight Composite Isogrid Structures with Integral Passive Damping", *Proc. Composites Durability Workshop*, Albuquerque, New Mexico, August 26-27, 2001.

R. F. Gibson, G. M. Newaz and C. Gan, "Energy Absorption in Grid-Stiffened Composite Structures", *Proc. 16th Annual Technical Conference of the American Society for Composites*, Blacksburg, Virginia, Sept. 10-12, 2001, paper no. 153.

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1978-1979 “Centrifugal Cleaning of Fine Coal”, Iowa State University Research Grant Program, \$4,500, (with R. Greer), personal share \$2,250.

1978-1979 “Dynamic Stiffness and Internal Damping of Automotive Chopped Fiber Reinforced Plastic Materials”, General Motors Corp., \$19,630, personal share \$19,630.

1979-1980 “The Influence of Environmental Conditions on the Dynamic Mechanical Behavior of Automotive Fiber Reinforced Plastics”, General Motors Corp., \$25,504, personal share \$25,504.

1980 “Rotor Dynamic Simulator”, Bently Nevada Corp., \$1,300 (equipment).

1980 “Desktop Computer/Plotter System”, Hewlett Packard Corp., \$7,400 (equipment).

1983 “Modal Analysis Software Package”, Anatrol Corp., \$6,000 (software).

1983 “Digital Oscilloscope and Computer Data Acquisition System”, Hewlett Packard Corp., \$25,000 (equipment).

1983-1985 “Improvement and Optimization of Internal Damping in Fiber Reinforced Composite Materials”, U. S. Air Force Office of Scientific Research, \$82,525, personal share \$82,525.

- 1984 “Structural Dynamics Analyzer”, Hewlett Packard Corp., \$46,000 (equipment).
- 1984-1985 “Damage Detection in Advanced Composite Materials”, University of Idaho Internal Seed Grant Program, \$2,970, personal share \$2,970.
- 1983-1987 “Non Destructive Analysis of Mechanical Properties of Rapidly Solidified Alloys”, (with T. A. Place), E. G. & G Idaho, \$120,000, personal share \$60,000.
- 1986-1988 “Vibration Damping Characteristics of Spectra Fiber Reinforced Composite Materials”, Allied Signal Co., \$13,000, personal share \$13,000.
- 1986-1987 “Portable Impulse Measurements to Non Destructively Predict the Integrity of Adhesive Joints”, (with T. A. Place), Naval Surface Weapons Center via Materials Modification, Inc., \$16,000, personal share \$8,000.
- 1987-1989 “Accelerated Determination of Time-Dependent Viscoelastic Behavior of Composite Materials”, Boeing Aerospace Company, \$34,000, personal share \$34,000.
- 1987 “Analytical and Experimental Evaluation of Composite Materials for Disc Memory Systems”, Hewlett Packard Corp., \$13,436, personal share \$13,436.
- 1988 “Equipment for Measurement and Analysis of Dynamic Behavior of Advanced Composite Materials”, (with T. E. Carleson), National Science Foundation and University of Idaho, \$92,380, personal share \$46,190.
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- 1988-1991 “Vibration Control and Optimization in Composite Structural Elements by the use of Add-on Damping Materials”, Subcontract from Univ. of Florida on Army Research Office Contract, \$77,033, personal share \$77,033
- 1988 “Metal Matrix Composite Damping Studies”, Martin Marietta Aerospace, \$2,552, personal share \$2,552.
- 1988 “Allied COMPET Damping Studies”, Allied Corp., \$4,703, personal share \$4,703.

- 1989 "Creep Behavior of Glass/PPS Composites", Boeing Aerospace Company, \$24,010, personal share \$24,010.
- 1989 "Unrestricted Grant", Grumman Aerospace Company, \$2,000, personal share \$2,000.
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- 1988 "Vibration Damping Characteristics of Hybrid Spectra/Graphite Composite Materials", Allied-Signal, \$3,874, personal share \$3,874.
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- 1990-1991 "Vibration Testing of Thermoplastic Composites for Rapid Screening of Creep Susceptibility", Phillips 66 Company, \$32,500, personal share \$32,500.
- 1990-1991 "Dynamic Mechanical Behavior of Ceramic Matrix Composite Materials", Ford Motor Company, \$10,000, personal share \$10,000.
- 1991 "Vibration Damping Characteristics of Constrained Viscoelastic Polymer Layers in Thick Structural Elements", Michigan Polymer Consortium, \$10,000, personal share \$10,000.
- 1992 "Satec Creep Testing Machines", Ford Motor Co., \$26,000 (equipment).
- 1991-1994 "Dynamic Mechanical Testing of Automotive Composite Materials and Structures", Ford University Research Program, \$246,000, personal share \$246,000.
- 1994-1995 "Vibration Assisted Liquid Composite Molding" (with E. Ayorinde), Michigan Materials and Processing Institute, Automotive Composites Consortium, Oak Ridge National Laboratory, \$47,500, personal share \$23,750.
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- 1995-1998 "Rapid Screening of Adhesively Bonded Joints in Composite Structures by the Use of Nondestructive Modal Damping Measurements," Michigan Materials and Processing Institute, \$210,000, personal share \$210,000.
- 1995-1996 "Low Frequency and Ultrasonic Evaluation of Elastic and Damping Properties of Thick composite Structures", (with E. Ayorinde), Office of Naval Research, \$120,000, personal share \$60,000.
- 1995-1996 "Dynamic Polymer Composites", The Technology Partnership, \$20,000, personal share \$20,000.
- 1995-2003 "Research Experiences in Biological Materials, Composite Materials and Automotive Safety", (with K. Kline, et al.) National Science Found., \$597,627, personal share \$119,525
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- 1996-1999 "Research Experiences in Composite Materials for Undergraduates", (with G. Newaz), Ford Motor Co., \$47,873, personal share \$23,936.
- 1997 "DPC Connectors for Affordable Composite Structures", Michigan Materials and Processing Institute, \$21,328, personal share \$21,328.
- 1997 "Vehicle Lubrication Based on Viscoelastic Polymers," Michigan Materials and Processing Institute, \$19,268, personal share \$19,268.
- 1997 "Workshop on the Future of Composites Manufacturing" (with G. Newaz), National Science Foundation, \$19,161, personal share \$9,580.
- 1997-1999 "DPC Connectors for Affordable Composite Structures: Phase II", The Technology Partnership, \$69,055, personal share \$69,055.
- 1998 "Advanced Modeling Research on Dynamic Polymer Composites", The Technology Partnership, \$4,000, personal share \$4,000.
- 1998-2000 "Vehicle Lubrication Based on Viscoelastic Polymers: Phase II", The Technology Partnership, \$95,856, personal share \$95,856.

- 1997-1999 “Low Velocity Impact Studies on Composite Sandwich Panels”, (with E. Ayorinde), Office of Naval Research, \$120,000, personal share \$60,000.
- 1998-2001 “Performance and Safety of Adhesively Bonded Automotive Structures” (with G. Newaz), Ford University Research Program, \$150,000, personal share \$75,000.
- 1998-2000 “Concurrent Laboratory Improvements for a Revised Mechanical Engineering Curriculum” (lead PI in joint proposal with 7 other faculty), National Science Foundation, \$48,000 from NSF matched by \$48,000 from WSU, personal share \$6,000.
- 2000 “Fixed and Expansion Connectors for Composite Cryopipe: Phase I“, The Technology Partnership, \$4,520.
- 2000-2002 “Quantitative Non-Destructive Evaluation of Foam-Cored Sandwich Composite Structures”, (with E. Ayorinde), Office of Naval Research, \$120,000, personal share \$60,000.
- 2001-2003 “Advanced Technologies for Bridge Engineering”, (with G. Fu, H. Aktan, I. Avrutsky and H.C. Wu), U. S. Department of Transportation, \$800,000, personal share \$46,615.
- 2001-2002 “Behavior of Grid-Stiffened Automotive Composite Structures Under Transverse Impact”, (with G. Newaz), Visteon Automotive Systems, \$55,000, personal share \$27,500.
- 2003-2006 “Development of Instrumentation for Measurement of Microscopic Dynamic Motions in Physical Systems”, (with S.Liu, G. Auner, G. Newaz, X. Han, and S. Wu), National Science Foundation, \$275, 434 from NSF matched by \$100,476 from WSU, personal share \$110,174.
- 2004-2007 “Nonlinear Stochastic Flutter of a Cantilever Wing with Joint Relaxation and Random Loading”, (with R. Ibrahim), AFOSR, \$272,986, personal share \$136,493.
- 2004-2007 “Low Temperature Navy Research Center”, (with R. Ibrahim, N. Chalhoub and E. Ayorinde), ONR, \$860,000, personal share \$172,000.
- 2005-2008 “Micromechanical/Macromechanical Characterization of Welds in HS Steel, Aluminum and Magnesium by a Combined Experimental/Numerical Approach”, Ford University Research Program, \$120,000.
- 2007-2008 “Characterization of Fatigue Damage in Composite Sandwich Hull Materials at Low Temperatures,” (with E. Ayorinde), ONR, \$80,002,

personal share \$32,000.

- 2008-2010 “Durability of U. S. Naval Structures under Dynamic Loading and Subzero Temperatures”, (with R. Ibrahim, V. Berdichevsky and E. Ayorinde), ONR, personal consulting fee \$15,000 for 3 years.
- 2009-2010 “A Review of Recent Research on Mechanics of Multifunctional Materials and Structures”, AFOSR, \$15,000, personal share \$15,000.
- 2009-2010 “Nanostructured Composites with Improved Thermal Stability for Space Structures”, (with J. Suhr), Nevada NASA EPSCoR, \$30,000, personal share \$15,000.

Patents:

E. O Ayorinde and R. F. Gibson, “Method and Apparatus for Non Destructive Measurement of the Elastic Properties of Structural Materials”, U. S. Patent No. 5,533,399, July 9, 1996.

R. F. Gibson, T. Rangarajan and R. Pant, “Apparatus for Measuring the Mechanical Properties of Fibers”, U.S. Patent No. 5,269,181, December 14, 1993.

R. T. Greer and R. F. Gibson, “Continuous Centrifugal Separation of Coal from Sulfur Compounds and Mineral Impurities”, U. S. Patent No. 4,365,741, December 28, 1982.

R. F. Gibson, C. E. Nunley and D. A. Waters, “Liquid Centrifuge for Large Scale Virus Separation”, U. S. Patent No. 3,430,849, March 4, 1969.

Other Professional Service:

Served as Judge for Intel International Science and Engineering Fair, Reno, NV, 2009, and San Jose, CA, 2010

Served on National Science Foundation proposal review panels in 1990, 1994, 1997, 2000 and 2007.

Co-Technical Chair of 2008 International SAMPE Technical Conference, Memphis, Tennessee.

Co-organized Symposium on Joining Technologies for Advanced Materials and Structures, ASME International Mechanical Engineering Congress, Anaheim, California, Nov. 14-19, 2004.

Co-organized Symposium on Nanocomposites for 11th U.S. – Japan Conference on Composite Materials, Yonezawa, Japan, Sept. 9-11, 2004.

Developed successful proposal for formation of Scholarship Committee and setting up endowed Ph.D. scholarship program for the American Society for Composites, 1999.

Wayne State University Liaison to National Center for Manufacturing Sciences, 1998-2005

Co-organized Symposium on Advanced Joining Technologies for Transportation Vehicle Structures, ASME International Mechanical Engineering Congress and Exposition, Washington, D.C., Nov. 15-21, 2003.

Organized sessions on “Automotive Composites” for the 14th International Conference on Composite Materials ICCM-14, July 2003, San Diego, California

Organized sessions on Composite Grid Structures for Japan – U.S. Conference on Composite Materials, Sept. 16-18, 2002, Stanford University.

Co-organized sessions on Modeling and Characterization of Nanocomposites for ASME IMECE, Nov. 2002, New Orleans

Organized session on Damping in Composites for CompTest 2003, Chalons-en-Champagne, France, January 2003.

Chaired session at American Society for Composites Annual Technical Conference, Virginia Tech, Blacksburg, Virginia, Sept. 2001.

Chaired session at American Society for Composites Annual Technical Conference, Texas A & M University, College Station, Texas, September 2000.

Chaired session in Symposium on Multifunctional Materials and Structures at 1999 ASME IMECE, Nashville, TN, November 1999.

Chaired session at American Society for Composites Annual Technical Conference, Dayton, OH, September 1999.

Co-organized and co-chaired Japan – U. S. Composites Conference, Baltimore, Maryland, Sept. 24-25, 1998 with G. M. Newaz.

Developed and presented a successful proposal to the American Society for Composites (ASC) to bring the 1997 ASC Technical Conference to the Detroit area with Wayne State University as host. Organized and co-chaired meeting with G. M. Newaz.

Co-organized and co-chaired a "Symposium on Innovative Processing and Characterization of Composite Materials" for ASME Winter Annual Meeting, San Francisco, California, Nov. 1995

Co-organized a "Symposium on Durability and Accelerated Testing of Composites" at Society for Experimental Mechanics 1994 Spring Conference, Baltimore, Maryland, June 1994.

Co-organized an "International Symposium on Materials for Noise and Vibration Control" at ASME Winter Annual Meeting, Chicago, Illinois, November 1994.

Co-organized an "International Symposium on Dynamic Characterization for Advanced Materials", for ASME Winter Annual Meeting, November 1993, New Orleans, Louisiana.

Co-organized two sessions on "Mechanics and Materials Science of Composites" for Society for Experimental Mechanics 1993 Spring Conference, Dearborn, Michigan, June 1993.

Chaired a session on "Advanced Processing and Processing Science of Composites" at 38th International SAMPE Symposium, Anaheim, California, May 1993.

Chaired a session on "Vibroacoustic Characterization of Materials and Structures" at ASME Winter Annual Meeting, Anaheim, California, November 1992.

Chaired session on "Testing of Composites" at 37th International SAMPE Symposium and Exhibition, March 1992, Anaheim, California.

On organizing committee for 7th annual ASM/ESD Advanced Composites Conference/Exposition, October 1991, Detroit, MI. Organized and chaired one session on "Damping and Vibration of Composites".

Organized session on "Vibration Damping Characteristics of Composite Materials" for American Society for Composites 5th Technical Conference on Composite Materials to be held in East Lansing, MI, June 1990.

On organizing committee for 6th Annual ASM/ESD Advanced Composites Conference/Exposition October 1990, Detroit, MI. Organized two sessions on "Composites for Noise and Vibration Control" and one session on "High Temperature Composites".

Co-Chaired session on "Damping Characteristics of Metal Matrix Composites" at AEROMAT '90 Advance Aerospace Materials/Processes Conference, Long Beach, CA, May 1990.

Chaired session on "Mechanics of Composites Materials" at 21st Midwestern Mechanics Conference, Houghton, Michigan, August 1989.

Co-Organizer of a session on "Passive Control for Aerospace Structures Using Damping Materials" at ASME Winter Annual Meeting, December 1987, Boston, Mass.

Editor of "Composites Contents" section in *Journal of Composites Technology and Research* published by American Society for Testing and Materials. Tables of Contents of composites-related journals are compiled twice a year as a service to readers.

Paper reviewer for *Journal of Composite Materials*, *Composites Science and Technology*, *AIAA Journal*, *Polymer Composites*, *Experimental Mechanics*, *Composites Engineering*, *Journal of Composites Technology and Research*, *Mechanics of Advanced Materials and Structures*, *Journal of Engineering Materials and Technology*, *Journal of Applied Mechanics*, *Journal of Sandwich Structures and Materials*, *International Journal of Solids and Structures*.