

CURRICULUM VITA
Tsu-Wei Chou
Pierre S. du Pont Chair of Engineering

EXECUTIVE SUMMARY

Dr. Tsu-Wei Chou is the Pierre S. du Pont Chair of Engineering at the University of Delaware. Dr. Chou received the B.S. degree in civil engineering from the National Taiwan University (1963), the M.S. degree in materials science from Northwestern University (1966) and the Ph.D. degree in materials science from Stanford University. He joined the faculty of the University of Delaware in 1969. Dr. Chou also has served as a visiting professor in the following institutes: Argonne National Laboratory 1975-76, British Science Research Council 1976, the University of Witerwatersrand, South Africa 1977, National Commission for the Investigation of Space, Argentina 1981, Germany Aerospace Research Establishment 1982, London Branch Office, Office of Naval Research 1983, Tongji University, China 1990, Tokyo Science University, Japan 1990, and Industrial Research Institute, Japan 1997. Dr. Chou is an Honorary Research Professor of the Beijing University of Aeronautics and Astronautics and the Northwestern Polytechnical University as well as an Advisory Professor of Tongji University of China. He has performed composites technology assessments in Europe and Asia for ONR and ARO, respectively.

Dr. Chou's research interests are in materials science, applied mechanics, fiber composite materials, piezoelectric materials, and nanocomposites. He has authored over 335 archival journal papers and book chapters in these areas with a total ISI citation of over 10,000. Dr. Chou is the author of the book, *Microstructural Design of Fiber Composites*, Cambridge University Press, England (1992), the co-author of the book, *Composites Materials and Their Use in Structures*, Elsevier Applied Science, London (1975), and the editor of several books. Dr. Chou is a Fellow of ASME, ASM, ASC, ACerS, TMS and AIAA, and a recipient of the Charles Russ Richards Memorial Award and the Worcester Reed Warner Medal of ASME, the Distinguished Research Award of American Society for Composites, and the Francis Alison Medal as well as the Medal of Excellence in Composite Materials of the University of Delaware. Dr. Chou is the Editor-in-Chief of the international journal *Composites Science and Technology*. He has been recognized by ISI as one of the "Highly Cited Researchers" in the world. Dr. Chou has been named among top 100 materials scientists (ranked 34th) of the past decade (2000-2010) by *Times Higher Education*. Dr. Chou is honored as a World Fellow by the International Committee on Composite Materials. Dr. Chou is the recipient of the Nadai Medal of ASME in 2013.

ADDRESS

Mechanical Engineering Department
and Materials Science Faculty
University of Delaware
Newark, Delaware 19716
Tel.: 302-831-1550/2421
Fax: 302-831-3619
E-mail: chou@udel.edu

EDUCATION

Ph.D., Stanford University, 1969 (Materials Science)
M.S., Northwestern University, 1966 (Materials Science)
B.S., National Taiwan University, 1963 (Civil Engineering)

APPOINTMENTS – UNIVERSITY OF DELAWARE

1969- Faculty, Department of Mechanical Engineering
1976-78 Chairman, Materials and Metallurgy Faculty
1977-78 Associate Director, Center for Composite Materials
1985-90 Program Director, National Science Foundation–Engineering Research Center
1986-98 Co-PI, University Research Initiative Program/Army Research Office
1987-98 Board of Directors, Center for Composite Materials
1989-02 Jerzy L. Nowinski Professor of Mechanical Engineering
1998- Advisory Board, Center for Composite Materials
1999-00 Acting Chair, Department of Mechanical Engineering
2000-04 Chair, Department of Mechanical Engineering
2003- Pierre S. du Pont Chair of Engineering

EXPERIENCE

1969 Post Doctorate, Materials Research Center, Allied Chemical Corporation
1975-76 Visiting Scientist, Argonne National Laboratory
1976 Senior Visiting Research Fellow, British Science Research Council
1977 Visiting Professor, The University of the Witerwatersrand, Johannesburg, South Africa
1981 Visiting Professor, National Commission for the Investigation of Space, Buenos Aires, Argentina
1983 Visiting Professor, DFVLR–Germany Aerospace Research Establishment, Koln, Germany
1983 Liaison Scientist, London Branch Office, U. S. Office of Naval Research
1990 Visiting Professor, Tongji University, China
1990 Visiting Professor, Tokyo Science University, Japan
1997 Visiting Professor, Industrial Research Institute, Nagoya, Japan

FELLOWSHIPS, HONORS, AND AWARDS

1964-65 Walter P. Murphy Fellowship, Northwestern University
1966-67 Ford Foundation Fellowship, Stanford University
1970-71 Frederick Gardner Cottrell Fellowship, Research Corporation
1976 Senior Visiting Research Fellowship, British Science Research Council
1986-87 Fellow, Institute for Advanced Study, University of Delaware
1988 Special Faculty Award, College of Engineering, University of Delaware
1989-02 Named Professor, University of Delaware
1994 Honorary Research Professor, Beijing University of Aeronautics & Astronautics, China
1996 Charles Russ Richards Memorial Award, American Society of Mechanical Engineers
1997 Honorary Research Professor, Northwestern Polytechnical University, China
1998 Distinguished Research Award, American Society for Composites
1998 Fellow, American Society of Mechanical Engineers

- 1999 Fellow, ASM International
- 2001 Fellow, American Society for Composites
- 2001 Francis Alison Medal, University of Delaware
- 2002 Associate Fellow, American Institute of Aeronautics & Astronautics
- 2002 Fellow, American Ceramic Society
- 2002 Highly Cited Researchers, ISI
- 2002 Worcester Reed Warner Medal, ASME
- 2003- Pierre S. du Pont Chair of Engineering
- 2005 Fellow, American Institute of Aeronautics and Astronautics
- 2008 Fellow, The Mineral, Metals and Materials Society (TMS)
- 2009 Medal of Excellence in Composite Materials, University of Delaware Center for Composite Materials
- 2011 Named among top 100 materials scientists of the decade (2000-2010) by *Times Higher Education* (ranked 34th)
- 2011 World Fellow, International Committee on Composite Materials
- 2013 Advisory Professor, Tongji University, Shanghai, China
- 2013 Nadai Medal, ASME

LISTINGS IN DIRECTORIES

American Men and Women of Science
 Who's Who in the East
 Who's Who in Technology Today
 Contemporary Authors
 Who's Who Among Asian Americans
 Who's Who in Science and Engineering
 Who's Who in the Sciences

SCHOLARLY CONTRIBUTIONS

Books Authored

1. *Composite Materials and Their Use in Structures*, Elsevier–Applied Science, London, with J. R. Vinson (1975).
2. *Microstructural Design of Fiber Composites*, Cambridge University Press, Cambridge, UK (1992).

Books & Proceedings Edited

1. *Textile Structural Composites*, Elsevier Science Publishers, B.V., Amsterdam, edited with F. Ko (1988). Russian Edition, Mockba, Moscow (1991).
2. *Use of Composite Materials in Transportation Systems*, The American Society of Mechanical Engineers, New York (1991), edited with S. B. Biggers.
3. *Structure and Properties of Composites*, Vol. 13 of MATERIALS SCIENCE AND TECHNOLOGY series, VCH, Germany, volume editor, (1993).
4. *Proceedings of the American Society for Composites 9th Technical Conference*, Technomic Publishing Co., Inc., Lancaster, PA, edited with J. R. Vinson (1994).

5. *Innovative Processing and Characterization of Composite Materials*, American Society of Mechanical Engineers, New York (1995), edited with R. F. Gibson.
6. *Progress in Advanced Materials and Mechanics*, Peking University Press, Beijing, China, edited with Wang Tzuchiang (1996).
7. *Fiber Reinforcements and General Theory of Composites*, Vol. 1 of COMPREHENSIVE COMPOSITE MATERIALS, Elsevier Science, Ltd., Oxford, UK, volume editor (2000).
8. *Nanocomposites*, Vol. 2 of American Society For Composites Series on Advances in Composite Materials, DEStech Publications, Inc (2012), edited with C. T. Sun.

Refereed Journal Articles

1. "Dislocation Pileups and Elastic Cracks at a Bi-Material Interface," **Met. Trans.** 1, 1245 (1970).
2. "Number of Screw Dislocations in Double-Ended Pileups at a Phase-Boundary," **Scripta Metallurgica**, 1, 441 (1970).
3. "Stress Distribution in a Bi-Material Plate Under Uniform Loadings," **J. Comp. Mater.**, 4, 102 (1970), with J. P. Hirth.
4. "Dislocation Arrays and Elastic-Plastic Cracks in a Two-Phase System," **J. Comp. Mater.**, 4, 222 (1970), with A. S. Tetelman.
5. "Screw Dislocation Pileups and Shear Cracks in a Lamellar Composite," **J. Appl. Phys.**, 41, 4448 (1970), with Y. T. Chou and J. C. M. Li.
6. "Centers of Gravity of Dislocation Pileups," **Scripta Metallurgica**, 5, 165 (1971).
7. "Twist Disclination Loops in Nonhomogeneous Media," **J. Appl. Phys.**, 42, 4092 (1971).
8. "Elastic Behaviors of Disclinations in Nonhomogeneous Media," **J. Appl. Phys.**, 42, 4931 (1971).
9. "An Elastic Crack Crossing a Bi-Material Interface," **Int. J. of Fracture Mechanics**, 7, 331 (1971), with A. S. Tetelman.
10. "Cracks and Dislocation Arrays in Anisotropic Bi-Material Plates," **Met. Trans.** 3, 2091 (1972), with D. Olsen.
11. "Elastic Behaviors of Twist Disclination Loops Near a Free Surface," **J. Appl. Phys.**, 43, 2562 (1972).
12. "Theory of Disclinations," **J. Sci. Ind. Res.**, 32, 505 (1973).
13. "Elastic Energies of Disclinations in Hexagonal Crystals," **J. Appl. Phys.**, 44, 62 (1973), with Y. C. Pan.
14. "Elastic Energy of Wedge Disclination Loops in Hexagonal Crystals," **J. Appl. Phys.** 44, 3889 (1973), with Y. C. Pan.
15. "Elastic Behaviors of Wedge Disclination Loops Near a Free Surface," **Mater. Sci. Engr.**, 12, 163 (1973), with T. L. Lu.
16. "An Estimation of Disclination Elastic Energy in Pseudopentagonal Twins," **Scripta Metallurgica**, 7, 151 (1973).

17. "Spherulite Size Effects in Linear Polyethylene," *J. Polymer Sci.*, Part A2, 819 (January 1974), with J. M. Schultz.
18. "Elastic Interactions Between Disclination Loops and Dislocations," *J. Appl. Phys.*, 46, 523 (1975).
19. "Elastic Interactions Between Disclination Loops and Inclusion Particles," *J. Appl. Phys.*, 46, 528 (1975), with Y. C. Pan.
20. "Pileups of Circular Twist Disclinations," *J. Appl. Phys.*, 46, 4641 (1975).
21. "Point Force Solution for an Infinite Transversely Isotropic Solid," *J. Appl. Mech.*, 43, 608 (1976), with Y. C. Pan.
22. "What We Do Not Know About Fiber Composites," *Mater. Sci. and Engr.*, 25, 35 (1976), with A. Kelly.
23. "On the Hygrothermal Response of Laminated Composite Systems," *J. Comp. Mater.*, 10, 105 (1976), with R. B. Pipes and J. R. Vinson.
24. "Optimization of Composite Flywheel Design," *Int. J. Mech. Sci.*, 19, 69 (1977), with E. L. Danfelt and S. A. Hewes.
25. "Author's Reply to the Discussion on Point Force Solution for an Infinite Transversely Isotropic Solid," *J. Appl. Mech.*, 44, 515 (1977).
26. "Some Recent Developments in the Theory of Crystal Defects," *Chinese J. Mater. Sci.*, 10, 1 (1978).
27. "Dislocation Interactions in Cylindrical Surface Crystals," *J. Appl. Phys.*, 49, 4737 (1978), with M. Ichikawa.
28. "Elastic Interaction of Dislocations and Disclinations, and the Elastic Energy of Dislocations," *Mater. Sci. Engr.*, 36, 125 (1978), with M. Ichikawa and W. F. Harris.
29. "Analysis of Deformation and Contraction in Cylindrical Crystals Due to Dislocations," *J. Theoretical Biology*, 78, 129 (1978), with M. Ichikawa.
30. "Green's Function Solutions for Semi-Infinite Transversely Isotropic Solids," *Int. J. Engr. Sci.*, 17, 545 (1979), with Y. C. Pan.
31. "A Crystal Defect Theory Approach to Micro-Biomechanics," *J. Biomech.*, 12, 321 (1979), with M. Ichikawa.
32. "Green's Functions Solutions for a Two-Phase Transversely Isotropic Solid," *J. Appl. Mech.*, 46, 551 (1979), with Y. C. Pan.
33. "A Crystal Defect Theory Approach to Faulting in Geological Structures," *J. Geophysical Research*, 84, 6083 (1979).
34. "Mechanical Properties of Composites," *Ann. Rev. Mater. Sci.*, 10, 229 (1980), with A. Kelly.
35. "The Effect of Transverse Shear on the Compressive Strength of Fiber Composites," *J. Mater. Sci.*, 15, 327 (1980), with A. Kelly.
36. "A Self-Consistent Approach to the Elastic Stiffness of Short Fiber Composites," *J. Comp. Mater.*, 14, 178 (1980), with S. Nomura and M. Taya.

37. "Bounds of Effective Thermal Conductivity of Short-Fiber Composites," **J. Comp. Mater.**, 14, 120 (1980), with S. Nomura.
38. "Surface Layer Hardening of Polycrystalline Copper by Multiple Impact," **J. Mater. Sci.**, 15, 2331 (1980), with E. Iturbe and I. G. Greenfield.
39. "Wear Mechanism in Copper by Repetitive Impacts," *Proceedings of the International Conference on Wear of Materials 1981*, with E. Iturbe and I. G. Greenfield, also in **Wear of Materials**, p. 685 (1981).
40. "Effective Thermoelastic Constants of Short-Fiber Composites," **Int. J. Engr. Sci.**, 19, 1 (1981), with S. Nomura.
41. "Fiber Orientation Effects on the Thermoelastic Properties of Short-Fiber Composites," **Fibre Sci. Tech.**, 14, 279 (1981).
42. "On Two Kinds of Ellipsoidal Inhomogeneities in an Infinite Elastic Body: An Application to Hybrid Composite," **Int. J. Solid Structures**, 17, 553 (1981), with M. Taya.
43. "A Probabilistic Theory for the Strength of Short-Fiber Composites," **J. Mater. Sci.**, 16, 1088 (1981), with H. Fukuda.
44. "An Advanced Shear-Lag Model Applicable to Discontinuous Fiber Composites," **J. Comp. Mater.**, 15, 79 (1981), with H. Fukuda.
45. "Stiffness and Strength of Short Fiber Composites as Affected by Cracks and Plasticity," **Fibre Sci. Tech.**, 15, 243 (1981), with H. Fukuda.
46. "Book Review on *Mechanics of Composite Materials*, by R. M. Christensen, Wiley-Interscience (1979), **Mater. Sci. Engr.**, p. 144, April 1981.
47. "Stress Field Due to Cylindrical Inclusion with Constant Axial Eigenstrain in an Infinite Body," **J. Appl. Mech.**, 48, 853 (1981), with Y. Takao and M. Taya.
48. "A Dynamic Explanation of the Hybrid Effect," **J. Comp. Mater.**, 15, 443 (1981), with X. Ji and G. Hsiao.
49. "Monte Carlo Simulation of the Strength of Hybrid Composites," **J. Comp. Mater.**, 16, 371 (1981), with H. Fukuda.
50. "Stress Concentrations Around a Discontinuous Fiber in a Hybrid Composite Sheet," **Trans. Japan Society for Composite Materials**, 7, 37 (1981).
51. "Book Review on *Fibrous Composites in Structural Design*," by E. M. Lenoe, D. W. Oplinger and J. L. Burke, Plenum Press, New York, 1980," **Mat. Sci. Engr.**, 52, 92 (1982).
52. "Monte Carlo Simulation of the Strength of Composite Fiber Bundles," **Fibre Sci. Tech.**, 17, 183 (1982), with P. Manders and M. Bader.
53. "Stiffness and Strength Behavior of Woven Fabric Composites," **J. Mater. Sci.**, 17, 3211 (1982), with T. Ishikawa.
54. "A Probabilistic Theory of the Strength of Short-Fiber Composites with Variable Fiber Length and Orientation," **J. Mater. Sci.**, 17, 1003 (1982), with H. Fukuda.
55. "Effects of Fiber-End Cracks on the Stiffness of Aligned Short-Fiber Composites," **Int. J. Solids and Structures**, 8, 723 (1982), with Y. Takao and M. Taya.

56. "Prediction of Failure Modes in Unidirectional Short Fiber Composites," **J. Mat. Sci.**, 17, 832 (1982), with H. Ishikawa and M. Taya.
57. "Elastic Behavior of Woven Hybrid Composites," **J. Comp. Mater.**, 16, 2 (1982), with T. Ishikawa.
58. "Effective Longitudinal Young's Modulus of Misoriented Short Fiber Composites," **J. Appl. Mech.**, 49, 536 (1982), with Y. Takao and M. Taya.
59. "Prediction of the Stress-Strain Curve of a Short Fiber Reinforced Thermoplastics," **J. Mat. Sci.**, 17, 2801 (1982), with M. Taya.
60. "A Reusable Sandwich Beam for Composite Compression Test," **J. Comp. Mater.**, 16, 162 (1982), with M. Gruber and J. Overbeeke.
61. "Enhancement of Strength in Composite Reinforced with Previously-Stressed Fibers," **J. Comp. Mat.**, 17, 26 (1983), with P. Manders.
62. "In-plane Thermal Expansion and Thermal Bending Coefficients of Fabric Composites," **J. Comp. Mater.**, 17, 92 (1983).
63. "Thermoelastic Analysis of Hybrid Fabric Composite," with T. Ishikawa, **J. Mat. Sci.**, 18, 2260 (1983).
64. "Variability of Carbon and Glass Fibers, and the Strength of Aligned Composites," **J. Reinforced Plastics and Composites**, 2, 43 (1983), with P. Manders.
65. "An Experimental Study of the Effect of Prestressed Loose Carbon Strands on Composite Strength," **J. Comp. Mater.**, 17, 196 (1983), with Z. F. Chi.
66. "Statistical Analysis of Multiple Fracture in 0°/90°/0° Glass-Fiber/Epoxy-Resin Laminates," **J. Mater. Sci.**, 18, 2876 (1983), with P. Manders.
67. "Stress Concentrations in a Hybrid Composite Sheet," **Journal of Applied Mechanics**, Paper No. 83-WA/APM-11 (1983), with H. Fukuda.
68. "Nonlinear Behavior of Woven Fabric Composites," **J. Comp. Mater.**, 17, 399 (1983), with T. Ishikawa.
69. "Elastic Properties of Intermingled Hybrid Composites," **Polymer Composites**, 4, 265 (1983), with M. Gruber.
70. "One-Dimensional Analysis of Woven Fabric Composites," **AIAA Journal**, 21, 1714 (1983), with T. Ishikawa.
71. "Elastic-Plastic Analysis of Indentation Damages in Copper: Work-Hardening and Residual Stress," **Met. Trans. of AIME**, 14A, 2415 (1983), with Y. Yokouchi and I. G. Greenfield.
72. "Bounds of Elastic Moduli of Multiphase Short-Fiber Composites," **J. Applied Mechanics**, 51, 540 (1984), with S. Nomura.
73. "A Probabilistic Theory for the Strength of Discontinuous Fiber Composites," **J. Mater. Sci.**, 19, 1805 (1984), with F. Hikami.
74. "Determination of Single Fiber Strength Distributions from Fiber Bundle Testings," **J. Mater. Sci.**, 19, 3319 (1984), with Z. F. Chi and G. Y. Shen.

75. "Strength of Intermingled Hybrid Composites," **J. Reinf. Plast. and Comp.**, 3, 145 (1984), with H. Fukunaga and H. Fukuda.
76. "Probabilistic Initial Failure Strength of Hybrid and Non-hybrid Laminates," **J. Mater. Sci.** 19, 3546 (1984), with H. Fukunaga, K. Schulte and P. W. M. Peters.
77. "Probabilistic Failure Strength Analyses of Graphite/Epoxy Cross-Ply Laminates," **J. Comp. Mater.**, 18, 339 (1984), with H. Fukunaga, P. W. M. Peters, and K. Schulte.
78. "Statistical Treatment of Transverse Crack Propagation in Aligned Composites," **AIAA Journal**, 22, 1485 (1984), with F. Hikami.
79. "Fatigue Behavior of Aligned Short Carbon Fiber Reinforced Polyimide - the Polyethersulfone - Composites," **J. Mater. Sci.**, 20, 3353 (1985), with K. Friedrich, K. Schulte, and G. Horstenkamp.
80. "Flexural Fatigue of Short Fiber Reinforced PEI, PES, and Peek Thermoplastics," **SAMPE Quarterly**, p. 18 (April 1985), with S. S. Yau.
81. "Mechanical Properties and Failure Characteristics of FP/Aluminum and W/Aluminum Composites," **Met. Trans. of AIME**, 16A, 853 (1985), with H. R. Shetty.
82. "The Viscoelastic Behavior of Short-Fiber Composite Materials," **I. J. Engr. Sci.**, 23, 193 (1985), with S. Nomura.
83. "Dynamic Stress Concentration Factors in Unidirectional Composites," **J. Comp. Mater.**, 19, 269 (1985), with X. Ji and X. R. Liu.
84. "Experimental Confirmation of the Theory of Elastic Moduli of Fabric Composites," **J. Comp. Mater.**, 19, 443 (1985), with T. Ishikawa, M. Masamichi, Y. Hayashi.
85. "Transient Thermal Stress Analysis of a Rectangular Orthotropic Slab," **J. Comp. Mater.**, 19, 424 (1985), with H. S. Wang.
86. "Fiber Reinforced Metal Matrix Composites," **Composites**, 16, 177 (1985), with A. Kelly and A. Okura.
87. "Structure-Performance Maps of Polymer, Metal and Ceramic Matrix Composites," **Met. Trans. AIME**, 17A, 1547 (1986), with J. M. Yang.
88. "Stress-Corrosion Cracking and Its Propagation in Aligned Short-Fiber Composites," **J. Mater. Sci.**, 21, 3703 (1986), with P. L. Hsu and S. S. Yau.
89. "Fiber Inclination Model of Three-Dimensional Textile Structural Composites," **J. Comp. Mater.**, 20, 472 (1986), with J. M. Yang and C. L. Ma.
90. "Transient Thermal Behavior of a Thermally and Elastically Orthotropic Medium," **AIAA Journal**, 24, 664 (1986), with H. S. Wang.
91. "Thermal Transient Stresses Due to Rapid Cooling in a Thermally and Elastically Orthotropic Medium," **Met. Trans. of AIME**, 17A, 1051 (1986), with H. W. Wang and R. B. Pipes.
92. "Heat Conduction in Composites Materials Due to Oscillating Temperature Field," **Int. J. Engr. Sci.**, 24, 643 (1986), with S. Nomura.
93. "Flexural and Axial Compressive Failures of Three-Dimensionally Braided Composite I-Beams," **Composites**, 17, 227 (1986), with S. S. Yau and Frank Ko.

94. "Composites," **Scientific American**, 254, 193 (1986), with R. L. McCullough and R. B. Pipes.
95. "On Cross-Ply Cracking in Glass - and Glass-Epoxy Laminates," **Composites**, 18, 40 (1987), with P. W. M. Peters.
96. "Elastic-Plastic Analysis of Indentation Damages: Cyclic Loading of Copper," **J. Mater. Sci.**, 22, 3087 (1987), with Y. Yokouchi, I. G. Greenfield and E. Iturbe.
97. "Notched Strength of Woven Fabric Composites with Molded-In Holes," **Composites**, 18, 233 (1987), with L. W. Chang and S. S. Yau.
98. "Nonlinear Deformation and Failure Behavior of Carbon/Glass Hybrid Laminates," **J. Comp. Mater.**, 21, 396 (1987), with K. Takahashi
99. "Nonlinear Elastic Behavior of Flexible Fiber Composites," **Composites**, 18, 25 (1987), with K. Takahashi.
100. "Analytical Compliance Method for Mode I Interlaminar Fracture Toughness Test of Composites," **Composites**, 18, 393 (1987), with K. Kageyama and T. Kobayashi.
101. "Effect of Fiber Waviness on Elastic Moduli of Fiber Composites," **Trans. Japan Fiber Soc.**, 43, 376 (1987), with K. Takahashi, T. Yano and C. K. Kuo.
102. "Finite Deformation and Nonlinear Elastic Behavior of Flexible Composites," **J. Appl. Mech.**, 55, 149 (1988), with S. Y. Luo.
103. "Transverse Elastic Moduli of Unidirectional Fiber Composites with Interfacial Debonding," **Met. Trans. of AIME**, 19A, 129 (1988), with K. Takahashi.
104. "On Laminate Configurations for Simultaneous Failure," **J. Comp. Mater.**, 22, 271 (1988), with H. Fukunaga.
105. "Effects of Fiber Waviness on the Nonlinear Elastic Behavior of Flexible Composites," with C. M. Kuo and K. Takahashi, **J. Comp. Mater.**, 22, 1004 (1988).
106. "Simplified Design Techniques for Laminated Cylindrical Pressure Vessels under Stiffness and Strength Constraints," with H. Fukunaga, **J. Comp. Mater.**, 22, 1156-1169 (1988).
107. "Effect of Testing Conditions and Microstructure on the Sliding Wear of Graphite Fiber/PEEK Matrix Composites," with P. B. Mody and K. Friedrich, **J. Mater. Sci.**, 23, 4319 (1988).
108. "Analytical Modeling of Chemical Vapor Infiltration (CVI) in Fabrication of Ceramic Composites," **J. American Ceramic Society**, 72, 414 (1989), with N. H. Tai.
109. "Three-Dimensional Transient Interlaminar Thermal Stresses in Angle-Ply Composites," **J. Appl. Mech.**, 56, 601 (1989), with Y. R. Wang.
110. "Modeling of 3-D Angle-Interlock Textile Structural Composites," **J. Comp. Mater.**, 23, 890 (1989), with T. J. Whitney.
111. "Simplified Green's Functions for Mode I and II Cracks," with S. W. Fowser, **Int. J. Fracture**, 39, 301-321 (1989).
112. "Probabilistics Strength Analyses of Interlaminated Hybrid Composites," **Composites Science and Technology**, 35, 331 (1989), with H. Fukunaga and H. Fukuda.

113. "Toughness Properties of a Three-Dimensional Carbon-Epoxy Composite," **J. Mater. Sci.**, 24, 4168-4175 (1989), with V. Guenon and J. Gillespie.
114. "Analysis of Hybrid Effect in Unidirectional Composites under Longitudinal Compressions," **Composites Structures**, 12, 27-37, (1989), with L. N. Yau.
115. "Flexible Composites," **J. Mater. Sci.**, 24, 261 (1989).
116. "Stress Fields in a Composite Material by Means of a Non-classical Approach," **Int. J. Engr. Sci.**, 27, 1397-1405 (1989), with E. S. Ardic and M. H. Santare.
117. "Creep Characterization of Short Fiber Reinforced Ceramics," **Ceramic Eng. Sci. Proc.**, 10, 1154-1163 (1989), with Y. R. Wang, D. S. Liu and A. P. Majidi.
118. "Modeling and Characterization of Textile Structural Composites: A Review," **J. Strain Analysis**, 24, 253 (1989), with J. H. Byun.
119. "Elastic Properties of Three-Dimensional Angle-Interlock Fabric Composites," **J. the Textile Institute**, 81, 538-548 (1990), with J. H. Byun.
120. "Mechanical and Statistical Analyses of Toughening Mechanisms of Short Fiber Reinforced Ceramic Matrix Composites," **Int. J. Fracture**, 46, 297 (1990), with K. Kageyama.
121. "Compression Behavior of Woven Carbon Fiber/Epoxy Composites with Molded - In and Drilled Holes," **Composites**, 21, 33 (1990), with M. N. Ghasemi Nejjhad.
122. "A Model for the Prediction of Strength Reduction of Composite Laminates with Molded - In Holes," **J. Comp. Mater.**, 24, 236 (1990), with M. N. Ghasemi, Nejjhad.
123. "Modeling of Creep of Aligned Short Fiber Reinforced Ceramic Composites," **Composites Science and Technology**, 37, 329-346 (1990), with J. Pachalis and J. Kim.
124. "Finite Deformation of Flexible Composites," **Proceedings of the Royal Society, London**, A429, 569, (1990), with S. Y. Luo.
125. "Mode I Delamination of a Three-Dimensional Composite," **J. Comp. Mater.**, 24, 497 (1990), with J. H. Byun and J. W. Gillespie.
126. "Modeling of an Improved CVI Process for Ceramic Composites Fabrication," **J. Am. Ceramic Society**, 73, 1489 (1990), with N. H. Tai.
127. "On the Deposition Mechanism of Al_2O_3 in the CVI Process for Forming Ceramic Composites," **J. Mater. Res.** 5, 2255 (1990), with N. H. Tai.
128. "A Nonclassical Model for the Stresses in 3-D Continuous Fiber Reinforced Composite Materials," **Int. J. Solids and Structures**, 26, 643, (1990), with E. S. Ardic and M. H. Santare.
129. "Explicit Crack Problem Solutions of Unidirectional Composites: Elastic Stress Concentrations," **AIAA Journal**, 28, 499-505 (1990), with F. Hikami.
130. "Characterization of Al Matrix Composites Made by Compocasting and Its Variations," **J. Mater. Sci.**, 26 2573-2578 (1991), with P. G. Karandikar.
131. "Three-Dimensional Analysis of Composite Residual Stresses due to Twisted Fiber Bundles," **Sci. in China**, 34, 467 (1991), with L. N. Yao.

132. "Integral Equations Solution for Reinforced Mode I Cracks Opened by Internal Pressure," **J. Appl. Mech.**, 58, 464, (1991), with S. W. Fowser.
133. "Analysis of 3-D Textile Preform for Multi-Directional Reinforcement of Composites," **J. Mater. Sci.**, 26, 3438, (1991), with G. W. Du and P. Popper.
134. "Thermal Shock Resistance of Laminated Ceramic Matrix Composites," **J. Mater. Sci.**, 26, 2961, (1991), with Y. R. Wang.
135. "Modeling of Nonlinear Constitutive Relations of Woven Ceramic Composites," **Ceramic Engineering and Science Proceedings**, American Ceramic Society, 12, 1556 (1991), with W. S. Kuo.
136. "Microcracking and Changes in Elastic Moduli of Random, Discontinuous Celion Graphite-Borosilicate Glass Composites," **Ceramic Engineering and Science Proceedings**, American Ceramic Society, 12, 1462, (1991).
137. "Numerical Integration of Green's Functions for An Edge-Loaded Infinite Strip," **Computers and Structures**, 35, 643 (1991), with S. W. Fowser.
138. "Analytical Characterization of Two-Step Braided Composites," **J. Comp. Mater.**, 25, 1599 (1991), with J. H. Byun and T. Whitney.
139. "Modeling of Creep of Misaligned Short Fiber Reinforced Ceramic Composites," **J. Appl. Mech.**, 59, 27 (1992), with J. R. Pachalis.
140. "Analytical Modeling of Creep Behavior of Short Fiber Reinforced Ceramic Matrix Composites," **J. Comp. Mater.**, 9, 1269-1286 (1992), with Y. R. Wang.
141. "Characterization and Modeling of Microcracking and Elastic Moduli Changes in Nicalon-CAS Composites," **Composites Science and Technology**, 46, 253 (1992), with P. Karandikar.
142. "Effect of Interface Design on the Mechanical Behavior of a Nicalon-Glass Composite," **Ceramic Engineering and Science Proceedings**, American Ceramics Society, Vol. 14, p. 880 (1993), with P. Karandikar, A. P. Majidi and K. Prewo.
143. "Damage Development and Moduli Reductions in Nicalon-CAS Composites Under Static Fatigue and Cyclic Fatigue," **J. Am. Ceramic Society**, 76, 1720 (1993), with P. Karandikar.
144. "On Matrix Cracking in Fiber Reinforced Ceramics," **J. Mech. Phys. Solids**, 41, 1137 (1993), with Y. C. Chiang and A. S. D. Wang.
145. "A Criterion for Splitting Crack Initiation in Unidirectional Fiber Reinforced Composites," **J. Comp. Mater.**, 27, 1054 (1993), with K. Tohgo and A. S. D. Wang.
146. "Characterization of Interlaminar Shear Strength of Ceramic Matrix Composites," **J. Am. Ceramic Society**, 76, 2539 (1993), with N. Fang.
147. "First Order Perturbation Analysis of Transient Interlaminar Thermal Stresses in Composites," **J. Appl. Mech.**, 60, 560 (1993), with Y. R. Wang.
148. "Effects of Deposition Mechanisms in the Modeling of Forced-Flow/Temperature-Gradient Chemical Vapor Infiltration (FCVI)," **J. Am. Ceramic Society**, 77, 849 (1994), with N. W. Tai and C. C. M. Ma.

149. "Process Simulation and Fabrication of Advanced Multi-Step Three-Dimensional Braided Preforms," **J. Mater. Sci.**, 29, 2159 (1994), with T. D. Kostar (1994).
150. "Numerical Analysis for Design of Composite Specimens for Through-The-Thickness Tensile Measurements," **J. Comp. Mater.**, 28, 1032 (1994), with H. Z. Shan and A. Parvizi-Majidi.
151. "Micro-Structural Design of Advanced Multi-Step Three-Dimensional Braided Preforms," **J. Comp. Mater.**, 28 p. 1180 (1994), with T. D. Kostar.
152. "Damage Mechanics of Two-Dimensional Woven SiC/SiC Composites," **J. Engr. Mater. Tech.**, 116, 403 (1994), with H. Z. Shan, P. Pluvinage, and A. P. Majidi.
153. "Elastic Response and Effect of Transverse Cracking in Woven Fabric Brittle Matrix Composites," **J. Am. Ceramic Soc.**, 78, 738 (1995), with Wen-Shyong Kuo.
154. "Multiple Cracking of Unidirectional and Cross-Ply Ceramic Matrix Composites," **J. Am. Ceramic Soc.**, 78, 745 (1995), with Wen-Shyong Kuo.
155. "Transverse Elastic Constants of Unidirectional Fiber Composites with Interfacial Debonding," **Composites Science and Technology**, 53, 383 (1995) with H. Z. Shan.
156. "Closed Form Solutions for the In-Plane Effective Thermal Conductivity of Woven Fabric Composites," **Composites Science and Technology**, 55, 41 (1995), with Q. G. Ning.
157. "A Closed-Form Solution of the Transverse Effective Thermal Conductivity of Woven Fabric Composites," **J. Comp. Mater.**, 29, 2280 (1995), with Q. G. Ning.
158. "Fabrication and Characterization of Three-Dimensional Carbon Fiber Reinforced SiC and Si₃N₄ Composites," **J. Am. Ceramic Society**, 78, 2811 (1995), with K. Nakano, A. Kamiya, N. Terasawa, Y. Nishino and T. Imura.
159. "Impact Damage Resistance of Knitted Fabric Reinforced Polypropylene Composite Laminates," **J. Sci. Engr. of Composites**, 4, 61 (1995), with S. Ramakrishna and H. Hamada.
160. "Damage Characterization of 2D Woven and 3D Braided SiC/SiC Composites," **J. Mater. Sci.**, 30, 232 (1995), with P. Pluvinage and A. P. Majidi
161. "Process-Microstructure Relationships of 2-Step and 4-Step Braided Composites," **Composites Science and Technology**, 56, 235 (1996), with J. H. Byun.
162. "The Micromechanical Modeling of Polymeric Composites," **JOM**, 48, 53 (1996), with S. L. Phoenix and J. A. Nairn.
163. "Incremental Theory of Particulate-Reinforced Composites Including Debending Damage," **JSME International Journal**, Series A, 39, 389 (1996), with K. Tohgo. (Also in *Trans. Japan Soc. Mech. Eng.*, 61, 382, 1995-2).
164. "Experimental and Theoretical Studies of Elastic Behavior of Knitted Fabric Composites," **Composites Science and Technology**, 56, 1391 (1996), with X. P. Ruan.
165. "Tensile Behavior of Weft Knitted Glass/Epoxy Composites with Laid-In Yarns," **Sci. Engr. Comp.**, 5, 73 (1997), with H. Y. Ma and A. Parvizi-Majidi.

166. "Analysis and Optimization of Electro-Mechanical Devices Based Upon a Kinematic Model," **J. Intelligent Mater. Systems and Structures**, 8, 868 (1997), with X. P. Ruan, S. C. Danforth, and A. Safari.
167. "Elastic Field of a Thin-Film/Substrate System under an Axisymmetric Loading," **Int. J. Solids Structures**, 34, 4463 (1997), with J. Li.
168. "Elastic Moduli and Stress Field of Plain Weave Composites Under Tensile Loading," **Composites Science and Technology**, 57, 787 (1997), with M. Ito.
169. "Silicon Carbide (Nicalon™) Fiber-Reinforced Borosilicate Glass Composites: Mechanical Properties," **J. Mater. Sci.**, 32, 6459 (1997), with P. Karandikar, A. Parvizi-Majidi, N. Takeda and T. Kishi.
170. "An Analytical and Experimental Study of the Strength and Failure Behavior of Plain Weave Composites," **J. Comp. Mater.**, 32, 2 (1998), with M. Ito.
170. "Tensile Behavior of a Quasi-Isotropic Carbon-Carbon Composite," **J. Am. Ceramic Society**, 81, 113 (1998), with F. Namiki.
171. "Failure Behavior of Knitted Fabric Composites," **J. Comp. Mater.**, 32, 198 (1998), with X. P. Ruan.
172. "General Analytical Model for Predicting the Transverse Effective Thermal Conductivities of Woven Fabric Composites," **Composites Part A**, 29A, 315 (1998), with G. Q. Ning.
173. "An Investigation of Thin-Film Coating/Substrate Systems by Nanoindentation," **J. Engr. Mater. Tech.**, 120, 154 (1998), with J. Li, E. T. Thostenson, and Laura Riester.
174. "The Effect of Strain Gage Size on the Measurement Errors in Textile Composite Materials," **Composites Science and Technology**, 58, 539 (1998), with E. J. Lang.
175. "Retrofit of Reinforced Concrete Column-to-Beam Connections," **Composites Science and Technology**, 58, 1297 (1998), with Z. Geng, M. J. Chajes, and D. Y. Pan.
176. "The Propagation of One-Dimensional Transient Elastic Wave in Woven Fabric Composites," **Composites Science and Technology**, 58, 1385 (1998), with B. X. Chen.
177. "Mechanical Characterization of Triaxially Braided Hybrid Composites," **Polymer Composites**, 19, 473 (1998), with V. Savino.
178. "A Theoretical Study of the Coupling Effects in Piezoelectric Ceramics," **Int. J. Solids Structures**, 36, 465 (1999), with X. P. Ruan, S. C. Danforth and A. Safari.
179. "Free Vibration Analysis of Orthogonal Woven Fabric Composites," **Composites Part A**, 30, 285 (1999), with B. X. Chen.
180. "Pulse CVI – Slurry Joint Process for Manufacturing of Small and Medium Size Parts," **Adv. Comp. Mater.**, 8, 117 (1999), with K. Nakano and K. Suzuki.
181. "Designing of Textile Preforms for Ceramic Matrix Composites," **Advanced Composite Materials**, 8, 25 (1999) with R. Kamiya.
182. "Theoretical Analysis of Wave Propagation in Woven Fabric Composites," **J. Comp. Mater.**, 33, 1119 (1999), , with B. X. Chen and George C. Hsiao.

183. "Compaction of Woven Fabric Preforms in Liquid Composite Molding Processes: Single-Layer Deformation," **Composites Science and Technology**, 59, 1519 (1999), with B. X. Chen.
184. "Microwave Processing: Fundamental Ideas and Applications," **Composites Part A**, 30, 1055 (1999), with E. T. Thostenson.
185. "Three-Dimensionally Woven and Braided Composites-I: A Model for Anisotropic Stiffness Prediction," **Polymer Composites**, 20, 565 (1999) with K. Pochiraju.
186. "Effective Elastic Piezoelectric and Dielectric Properties of Braided Fabric Composites," **Composites Part A**, 30, 1435 (1999), with X. P. Ruan and A. Safari.
187. "Some Recent Advances in the Fabrication and Design of Three-Dimensional Textile Preforms: A Review," **Composites Science and Technology**, 60, 33 (1999), with R. Kamiya, B. A. Cheeseman and P. Popper.
188. "Design Optimization of Dome Actuators," **IEEE Trans., Ultrasonics, Ferroelectrics, and Frequency Control**, 46, 1489 (1999), with X. P. Ruan, B. Cheeseman, S. C. Danforth, and A. Safari.
189. "Three-Dimensionally Woven and Braided Composites-II: An Experimental Characterization," **Polymer Composites**, 20, 733 (2000), with K. Pochiraju.
190. "Strength and Failure Behavior of Stitched Carbon/Epoxy Composites," **Metallurgical and Materials Transactions**, 31A, 899 (2000), with R. Kamiya.
191. "Saint-Venant End Effects in Piezoelectric Materials," **Int. J. Solids Structures**, 37, 2625 (2000), with X. P. Ruan, S. C. Danforth and A. Safari.
192. "Characterization and Comparative Study of Three-Dimensional Braided Hybrid Composites," **J. Mat. Sci.**, 35, 2175 (2000), with T. Kostar and P. Popper.
193. "Local Elastodynamic Stresses in the Unit Cell of Woven Fabric Composites," **Archive of Applied Mechanics**, 70, 423 (2000), with B. X. Chen.
194. "Fabrication of a Nicalon Fiber/Si₃N₄-Based Ceramic-Matrix Composite by the Polymer Pyrolysis Method," **J. Mat. Sci.**, 35, 6301 (2000), with C. C. Lu, M. H. Headinger, and A. P. Majidi.
195. "Compaction of Woven Fabric Preforms in Liquid Composite Molding Processes: Nesting and Multi-Layer Deformation," **Composites Science and Technology**, 60, 2223 (2000), with B. Chen.
196. "A Nonlinear Compaction Model for Fibrous Preforms," **Composites Part A**, 32, 701 (2001), with B. Chen and A.H.D. Cheng.
197. "Forming Simulation of Fabrics and Power-Net with Commercialized Finite Element Method," 27, 10 (2001), **Journal of Japanese Society for Composite Materials**, with Y. Arimitsu and A. Ishinaga.
198. "Microwave and Conventional Curing of Thick-Section Thermoset Composite Laminates: Experiment and Simulation," **Polymer Composites**, 22, 197 (2001), with E. T. Thostenson
199. "Experimental and Theoretical Studies of Fabric Compaction Behavior in Resin Transfer Molding," **Mat. Sci. Engr. A**, A317, 188 (2001), with B. Chen and E. J. Lang.

200. "Advances in the Science and Technology of Carbon Nanotubes and Their Composites: A Review," **Composites Science and Technology**, 61, 1899 (2001), with E. T. Thostenson and Z.F. Ren.
201. "Design Optimization of Spiral Actuators for Enhanced Displacement," **Ceramic Engineering and Science Proceedings**, 22, 497 (2001), with B. A. Cheeseman, A. Safari and S. C. Danforth.
202. "Theoretical and Numerical Analysis of the Electromechanical Behavior of Spiral-Shaped PZT Actuators," **IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control**, 49, 319 (2002), with B. Chen, B. A. Cheeseman, A. Safari and S. Danforth.
203. "A 3-D Connectivity Model for Effective Piezoelectric Properties of Yarn Composites," **J. Comp. Mater.**, 36, 1693 (2002), with X. P. Ruan, A. Safari and S. C. Danforth.
204. "Carbon Nanotube/Carbon Fiber Hybrid Multi-Scale Composites," **J. Appl. Phys.**, 91, 6034 (2002), with E. T. Thostenson, W. Z. Li, D. Z. Wang and Z. F. Ren.
205. "Aligned Multi-Walled Carbon Nanotube-Reinforced Composites: Processing and Mechanical Characterization," **J. Phys. D: Applied Physics**, 35, 277 (2002), with E. T. Thostenson.
206. "A Methodology for Cartesian Braiding of Three-Dimensional Shapes and Special Structures," **J. Mater. Sci.**, 37, 2811 (2002), with T. D. Kostar.
207. "Inter-Fiber Sliding in Fabric Shaping Process," **Advanced Composite Materials**, 12, 23, (2003) with Y. Arimitsu and S. Takahashi.
208. "On the Elastic Properties of Carbon Nanotube-Based Composites: Modeling and Characterization," **Journal of Physics D: Applied Physics**, 36, 573 (2003), with E. T. Thostenson.
209. "A Structural Mechanics Approach for the Analysis of Carbon Nanotubes," **Int. J. Solids Struct.**, 40, 2487 (2003), with C. Li.
210. "Elastic Moduli of Multi-walled Carbon Nanotubes and the Effect of van der Waals Forces," **Composites Science and Technology**, 63, 1517 (2003), with C. Li.
211. "Single-Walled Carbon Nanotubes as Ultrahigh Frequency Nanomechanical Resonators," **Physical Review B**, 68, 073405 (2003), also in **Virtual Journal of Nanoscale Science & Technology**, September 8 (2003).
212. "A Multiscale Modeling of the Interfacial Load Transfer in Carbon Nanotube/Polymer Composites," **J. Nanoscience & Nanotechnology**, 3, 423 (2003), with C. Li.
213. "Elastic Properties of Single-Walled Carbon Nanotubes in Transverse Directions," **Physical Review B**, 69(7), 073401 (2004), also in **Virtual Journal of Nanoscale Science & Technology**, February 16 (2004), with C. Li.
214. "Vibrational Behavior of Multi-Walled Carbon Nanotube-Based Nanomechanical Resonators," **Applied Physics Letters**, 84 (1), 121 (2004), also in **Virtual Journal of Nanoscale Science & Technology**, January 12 (2004), with C. Li.
215. "Modeling of Elastic Buckling of Carbon Nanotubes by Molecular Structural Mechanics Approach," **Mechanics of Materials**, 36, 1047-1055 (2004), with C. Li.

216. "Mass Detection Using Carbon Nanotube-based Nanomechanical Resonators", **Applied Physics Letters**, 84 (25), 5246-5248 (2004), with C. Li.
217. "Nanotube Buckling in Aligned Multi-Wall Carbon Nanotube Composites," **Carbon**, 42 (14), 3015 (2004), with E. Thostenson.
218. "Strain and Pressure Sensing Using Single-Walled Carbon Nanotubes", **Nanotechnology**, 15 (11), 1493 (2004), with C. Li.
219. "Quantized Molecular Structural Mechanics Modeling for Specific Heat of Single-Walled Carbon Nanotubes," **Physical Review B**, 71 (7), 075409 (2005), also in **Virtual Journal of Nanoscale Science & Technology**, March 7 (2005), with C. Li.
220. "Nanocomposites in Context," **Composites Science and Technology**, 65, 491 (2005), with E. T. Thostenson and C. Li.
221. "Axial and Radial Thermal Expansions of Single-Walled Carbon Nanotubes," **Phys. Rev. B**, 71, 235414 (2005), also in **Virtual Journal of Nanoscale Science & Technology**, July 11 (2005), with C. Li.
222. "Heat Capacity of Multi-Walled Carbon Nanotubes by Molecular Structural Mechanics Modeling Technique," **Material Science and Engineering A**, 409, 140-144 (2005), with C. Li.
223. "Modeling of Carbon Nanotube Clamping in Tensile Tests," **Composites Science and Technology**, 65, 2407-2415 (2005), with C. Li and R. Ruoff.
224. "Fabrication and Characterization of Novel Reaction Bonded Carbon Nanotube – Reinforced Ceramic Composites," **Journal of Physics D: Applied Physics**, 38(7): 3962-3965 (2005), with E.T. Thostenson and P. Karandikar.
225. "Minimization of Acoustic Radiation from Thick Multilayered Sandwich Beams," **AIAA Journal**, 43(11) 2337 (2005), with H. Denli and J.Q. Sun.
226. "Static and Dynamic Properties of Single-Walled Boron Nitride Nanotubes," **Journal of Nanoscience and Nanotechnology**, 6(1) 54 (2006), with C. Li.
227. "Atomistic Modeling of Carbon Nanotube-Based Mechanical Sensors." **Journal of Intelligent Materials Systems and Structures**, 17, 247 (2006), with C. Li.
228. "Multiscale Modeling of Compressive Behavior of Carbon Nanotube/Polymer Composites," **Composites Science and Technology**, 66, 2409, (2006), with C. Li.
229. "Elastic Wave Velocities in Single-Walled Carbon Nanotubes," **Physical Review B**, 73, 245407 (2006), also in **Virtual Journal of Nanoscale Science & Technology**, June 19 (2006), with C. Li
230. "Electrostatic Charge Distribution on Single-Walled Carbon Nanotubes," **Applied Physics Letters**, 89, 063103 (2006), also in **Virtual Journal of Nanoscale Science & Technology**, August 21, (2006), with C. Li
231. "Charge-Induced Strains in Single-Walled Carbon Nanotubes," **Nanotechnology**, 17, 4624 (2006), with C.-Y. Li
232. "Processing-Structure-Multifunctional Property Relationship in Carbon Nanotube/Epoxy Composites," **Carbon**, 44, 3022-3029 (2006), with E. T. Thostenson.

233. "Carbon Nanotube Networks: Sensing of Distributed Strain and Damage for Life Prediction and Self-Healing," **Advanced Materials**, 18, 2837 (2006), with E. T. Thostenson.
234. "Theoretical Studies on the Charge-Induced Failure of Single-Walled Carbon Nanotubes", **Carbon**, 45, 922(2007), with C. Li.
235. "Continuum Percolation of Nanocomposites with Fillers of Arbitrary Shapes", **Applied Physics Letters**, 90, 174108 (2007), also in **Virtual Journal of Nanoscale Science & Technology**, May 7, (2007) with C. Li.
236. "Atomistic Modeling of Vibrational Behaviors of Double-Walled Boron Nitride Nanotubes," *Hayka (Science to Industry, in Russian)*, 95, 25 (2007), with C. Li.
237. "Functionalized Single-Walled Carbon Nanotubes for Carbon Fiber-Epoxy Composites," **J. Phys. Chem. C** 2007, 111, 17865-17871. with E. Bekyarova, E. T. Thostenson, A. Yu, M. E. Itkis, D. Fakhrutdinov and R. C. Haddon.
238. "Multiscale Carbon Nanotube-Carbon Fiber Reinforcement for Advanced Epoxy Composites", **Langmuir**, 23 (7), 3970 -3974 (2007), with E. Bekyarova, E. T. Thostenson, A. Yu, H. Kim, J. Gao, J. Tang, H. T. Hahn, M. E. Itkis, and R. C. Haddon
239. "Direct Electrifying Algorithm for Backbone Identification," **Journal of Applied Physics A: Mathematical and Theoretical**, 40, 14679-14686 (2007), with C. Li.
240. "Dominant Role of Contact Resistance in Electrical Conductivity of Carbon Nanotube-Based Composites," **Applied Physics Letters** 91, 223114 (2007), with C. Li, also in **Virtual Journal of Nanoscale, Science & Technology**, December 10, (2007), with C. Li.
241. "Effect of Nanotube Waviness on the Electrical Conductivity of Carbon Nanotube-Based Composites," **Composites Science and Technology**, 68(6) 1445-1452 (2008), with C. Li and E.T. Thostenson.
242. "Sensors and Actuators Based on Carbon Nantubes and Their Composites: A Review," **Composites Science and Technology**, 68(6) 1227-1249 (2008), with C. Li, and E.T. Thostenson.
243. "Real-Time *in situ* Sensing of Damage Evolution in Advanced Fiber Composites using Carbon Nanotube Networks," **Nanotechnology**, 19(21) 215713 (2008), with E. T. Thostenson.
244. "Carbon nanotube-based health monitoring of mechanically fastened composite joints," **Composites Science and Technology**, 68, 2557 (2008), with E. T. Thostenson.
245. "Modeling of Damage Sensing in Fiber Composites using Carbon Nanotube Networks," **Composites Science and Technology**, 68, 3373(2008), with C. Li.
246. "Sensing of Damage Mechanisms in Fiber Reinforced Composites under Cyclic Loading Using Carbon Nanotubes", **Advanced Functional Materials**, 19(1), 123-130 (2009), with L.M. Gao, E.T. Thostenson, Z.G. Zhang
247. "Processing and electrical properties of carbon nanotube / vinyl ester nanocomposites," **Composites Science and Technology**, 69(6), 801-804 (2009), with E. T. Thostenson and S. Ziaee.

248. "Coupled Carbon Nanotube Network and Acoustic Emission Monitoring for Sensing of Damage Development in Composites," **Carbon**, 47(5), 1381-1388 (2009), with L.M. Gao, E.T. Thostenson, Z.G. Zhang
249. "Electrical Conductivities of Composites with aligned Carbon Nanotubes," **Journal of Nanoscience and Nanotechnology**, 9(4), 2518-2534 (2009), with C. Li.
250. "Precise Determination of Backbone Structure and Conductivity of 3D Percolation Networks by the Direct Electrifying Algorithm," **International Journal of Modern Physics C**, 20(3), 423-433 (2009), with C. Li.
251. "Failure of Carbon Nanotube/Polymer Composites and the Effect of Nanotube Waviness," **Composites: Part A**, 40, 1580-1586 (2009), with C. Li.
252. "An Assessment of the Science and Technology of Carbon Nanotube Fibers and Composites," **Composites Science and Technology**, 70, 1-19 (2010), with L.M. Gao, E.T. Thostenson, Z.G. Zhang and J-H. Byun.
253. "Damage Monitoring in Fiber-Reinforced Composites under Fatigue Loading Using Carbon Nanotube Networks," **Philosophical Magazine**, 90, 4085-4099 (2010), with L.M. Gao, E.T. Thostenson, Z.G. Zhang and J-H. Byun.
254. "Highly Conductive Polymer Composites Based on Controlled Agglomeration of Carbon Nanotubes," **Carbon**, 48, 2649-2651 (2010), with L.M. Gao, E.T. Thostenson, A. Godara, Z.G. Zhang, and L. Mezzo.
255. "A Three-Dimensional Model of Electrical Percolation Thresholds in Carbon Nanotube-Based Composites," **Applied Physics Letters**, 96, 223106 (2010), also in **Virtual Journal of Nanoscale Science & Technology**, June 14 (2010), with W. Lu, and E.T. Thostenson.
256. "A Comparative Study of Damage Sensing in Fiber Composites Using Uniformly and Non-Uniformly Dispersed Carbon Nanotubes," **Carbon**, 48, 3788-3794 (2010), with L.M. Gao, E.T. Thostenson, and Z.G. Zhang.
257. "Damage Characterization of 3-D Braided Composites Using Carbon Nanotube-Based *In Situ* Sensing," **Composites: Part A**, 41, 1531-1537 (2010), with K.J. Kim, W.-R. Yu, J. S. Lee, L.M. Gao, E.T. Thostenson, and J.-H. Byun.
258. "Mechanical and Electrical Response of Carbon Nanotube-Based Fabric Composites to Hopkinson Bar Loading," **Composites Science and Technology**, 71, 616-621 (2011), with A.S. Lim, Q. Ann and E.T. Thostenson.
259. "The Properties of Dry-spun Carbon Nanotube Fibers and Their Interfacial Shear Strength in An Epoxy Composite," **Carbon**, 49, 1752-1757 (2011), with F. Deng, W.B. Lu, H.B. Zhao, Y.T. Zhu and B.S. Kim.
260. "Analysis of The Entanglements in Carbon Nanotube Fibers Using A Self-folded Nanotube Model," **Journal of the Mechanics and Physics of Solids**, 59, 511-524 (2011), with W.B. Lu.
261. "Radial Deformation and Its Related Energy Variations of Single-Walled Carbon Nanotubes," **Physical Review B**, 83, 134113 (2011), also in **Virtual Journal of Nanoscale Science & Technology**, April 25 (2011), with W.B. Lu and B.S. Kim

262. "In Situ Sensing of Impact Damage in Epoxy /Glass Fiber Composites Using Percolating Carbon Nanotube Network," **Carbon**, 49, 3382-3385 (2011), with L.M. Gao, E.T. Thostenson and Z.G. Zhang.
263. "Damage Sensing of Adhesively-Bonded Hybrid Composite/Steel Joints Using Carbon Nanotubes," **Composites Science and Technology**, 71, 1183-1189 (2011), with A.S. Lim, Z.R. Melrose and E.T. Thostenson.
264. "Synthesis of Ethanol-Soluble Few-Layer Graphene Nanosheets for Flexible and Transparent Conducting Composite Films," **Nanotechnology**, 22, 295606 (2011), with D.D. Nguyen, N. H. Tai, Y. L. Chueh, S. Y. Chen, Y. J. Chen, W. S. Kuo, C. S. Hsu and L. J. Chen.
265. "Processing and Characterization of Multi-scale Hybrid Composites Reinforced with Nanoscale Carbon Reinforcements and Carbon Fibers," **Composites: Part A**, 42, 337-344 (2011), with S.B. Lee, O. Choi, W. Lee, J.W. Yi, B.S. Kim, J.H. Byun, M.K. Yoon, H. Fong, E.T. Thostenson.
266. "Damage Mode Characterization of Mechanically Fastened Composite Joints Using Carbon Nanotube Networks," **Composites: Part A**, 42, 2003-2009 (2011), with S.M. Friedrich, A.S. Wu and E.T. Thostenson.
267. "Formicary-like carbon nanotube/copper hybrid nanostructures for carbon fiber-reinforced composites by electrophoretic deposition," **Journal of Materials Science**, 46, 2359-2364 (2011), with W. Lee, S. B. Lee, O. Choi, J. W. Yi, M. K. Um, J. H. Byun and E. T. Thostenson.
268. "The effective interfacial shear strength of carbon nanotube fibers in an epoxy matrix characterized by a microdroplet test," **Carbon**, 50, 1271-1279 (2012), with M. Zu, Q.W. Li, Y.T. Zhu, M. Dey, G.J. Wang, W.B. Lu, J.M. Deitzel, J.W. Gillespie Jr. and J.H. Byun.
269. "Electromechanical Response and Failure Behavior of Aerogel-Spun Carbon Nanotube Fibers under Tensile Loading," **Journal of Material Chemistry**, 22, 6792-6798 (2012), with A.S. Wu, J.W. Gillespie Jr., D. Lashmore and J. Rioux.
270. "A State-of-Art Review of Carbon Nanotube Fibers: Opportunities and Challenges," **Advanced Materials**, 24 1805-1833 (2012), with W.B. Lu, M. Zu, J.H. Byun and B. S. Kim.
271. "The use of Taguchi optimization in determining optimum electrophoretic conditions for the deposition of carbon nanofiber on carbon fibers for use in carbon/epoxy composites," **Carbon**, 50, 2853-2859 (2012), with Y. Q. Wang, J. H. Byun, B. S. Kim and J. I. Song.
272. "Strain rate-dependent tensile properties and dynamic electromechanical response of carbon nanotube fibers," **Carbon**, 50, 3876-3881 (2012), with A.S. Wu, X. Nie, M.C. Hudspeth, W.W. Chen, D. Lashmore, M. Schauer, E. Tolle and J. Rioux.
273. "Characterization of carbon nanotube fiber compressive properties using tensile recoil measurement," **ACS Nano**, 6, 4288-4297 (2012), with M. Zu, W. B. Lu, Q. W. Li and Y. T. Zhu.
274. "Carbon nanotube fibers as torsion sensors," **Applied Physics Letters**, 100, 201908-3 (2012), with A. S. Wu, X. Nie, M. C. Hudspeth, W. W. Chen, D. S. Lashmore, M. W. Schauer, Erick Towel, J. Rioux.
275. "Carbon Nanotube Fibers for Advanced Composites." **Materials Today**, 15, 302-310 (2012), with A. S. Wu.

276. "Stress relaxation in carbon nanotube-based fibers for load-bearing applications," **Carbon**, 52, 347-355 (2012), with M. Zu, Q. W. Li, Y. T. Zhu, Y. Zhu, G. J. Wang, and J. H. Byun.
277. "Optimization of processing parameters of the chemical vapor deposition process for synthesizing high-quality single-walled carbon nanotube fluff and roving," **Composites Science and Technology**, 72, 1855-1862 (2012), with N. H. Tai, H. M. Chen, Y. J. Chen, and J. R. Liang.
278. "Sensing of damage and healing in three-dimensional braided composites with vascular channels," **Composites Science and Technology**, 72, 1618-1626 (2012), with A. S. Wu, A. M. Coppola, M. J. Sinnott, E. T. Thostenson, J. H. Byun, and B. S. Kim.
279. "Carbon nanotube film interlayer for strain and damage sensing in composites during dynamic compressive loading," **Applied Physics Letters**, 101, 221909 (2012), with A. S. Wu, W. -J. Na, W. -R. Yu, and J. -H. Byun.
280. "Carbon Nanotube Fiber Based Stretchable Conductor," **Advanced Functional Materials**, 23, 789-793 (2013), with M. Zu, Q.W. Li, G.J. Wang, and J. H. Byun.
281. "Microstructural evolution of carbon nanotube fibers: deformation and strength mechanism," **Nanoscale**, 5, 2002-2008 (2013), with X. Liu, W. B. Lu, O. M. Ayala, L. P. Wang, A. M. Karlsson, and Q. S. Yang.
282. "Mechanical behavior and structural evolution of carbon nanotube films and fibers under tension: a coarse-grained molecular dynamics study," **Journal of Applied Mechanics** (2013), *in press*, with W. B. Lu, X. Liu, Q. W. Li, and J. H. Byun.

Chapters of Books and Encyclopedias

(including full length, refereed papers published after conference presentations)

1. "On the Compressive Strength of Glass-Epoxy Composites," *New Developments and Applications in Composites*, ed. by D. Wilsdorf, American Institute of Mining, Metallurgy and Petroleum Engineering (1979), with W. B. Stewart and M. G. Bader.
2. "On the Strength of Discontinuous-Fiber Composites with Polymeric Matrices," *New Developments and Applications in Composites*, ed. by D. Wilsdorf, American Institute of Mining, Metallurgy and Petroleum Engineering (1979), p. 127, with M. Bader and J. Quigley.
3. "Mechanical Properties of Fiber Composite Materials," *Annual Review of Materials Science*, Vol. 10, p. 239-259 (1980), with A. Kelly.
4. "Some Recent Results of the Theory of Disclinations and Dislocations," *Dislocation Modelling of Physical Systems*, Ed. by M. F. Ashby, R. Bullough, C. S. Hartley and J. P. Hirth, Pergamon Press (1981).
5. "Solid Mechanics in Biomedicine," *Perspectives in Biomechanics*, ed. by Dr.-Ing. H. Reul, Harwood Academic Publishers (1981).
6. "Energy Release Rates of Various Microcracks in Short-Fiber Composites," *Mechanics of Composite Materials-Recent Advances*, ed. by Z. Hashin and C. T. Herakovich, Pergamon Press (1983), with M. Taya.

7. "Constitutive Behavior of Hybrid Composites," *Mechanics of Composite Materials*, p. 43 ASME (1983), with H. Fukunaga.
8. "A Probabilistic Theory of the Strength of Short-Fiber Composites," *Advances in Aerospace Structures, Materials and Dynamics*, p. 97, ASME (1983), with F. Hikami.
9. "Theory of Disclinations and Dispirations," *Dislocations in Solids: Some Recent Advances*, ASME, AMD-Vol. 63 (1984).
10. "Thermo-Elastic Analysis of Three-Dimensional Fabric Composite," *Advances in Aerospace Sciences and Engineering*, ASME, New York, (1984), with J. M. Yang.
11. "Elastic Properties of Laminates," *Encyclopedia of Materials Science and Engineering*, ed. by M. B. Bever, p. 1311, Pergamon Press, (1986).
12. "Elastic Stiffness of Three-Dimensional Woven Fabric Composites," *Composite Materials: Testing and Design*, ASTM STP893, American Society for Testing and Materials, Philadelphia, 404 (1986), with J. M. Yang and C. L. Ma.
13. "Modeling of the Interfacial Behavior of Flexible Composites," *Interfaces in Metal-Matrix Composites*, ed. by A. K. Dhingra and S. G. Fishman, The Metallurgical Society, Warrendale, PA, (1986), with K. Takahashi.
14. "Toughness Characteristics of Three-Dimensionally Braided Al₂O₃/Al-Li Composites," *Interfaces in Metal-Matrix Composites*, ed. by A. K. Dhingra and S. G. Fishman, The Metallurgical Society, Warrendale, PA (1986), with Azar P. Majidi and Jen-Ming Yang.
15. "Performance Optimization of Woven Fabric Composites for Printed Circuit Boards," *Electronic Packaging Materials Science, II*, Vol. 72, p. 163 (1986), Materials Research Society, Pittsburgh, Pennsylvania.
16. "Mechanical Behavior of Three-Dimensional Braided Metal-Matrix Composites," *Testing Technology of Metal Matrix Composites: 1st Symposium*, ASTM STP 964, (1988), p. 31, with A. Majidi and J. M. Yang.
17. "Strength of Woven Fabric Composites with Drilled and Molded Holes," *ASTM-STP 972*, (1988), J. D. Whitcomb, editor, p. 423, with S. S. Yau.
18. "Fracture Mechanisms in SiC Whisker Reinforced Alumina," in *High Temperature/High Performance Composites*, Materials Research Society, Vol. 120, p. 279 (1988), with C. H. Boulanger, Y. C. Chiang, and A. P. Majidi.
19. "Theoretical Analysis of Chemical Vapor Infiltration in Ceramic/Ceramic Composites," *High Temperature/High Performance Composites*, Materials Research Society, Vol. 120, p. 185 (1988), with N. H. Tai.
20. "Abrasive Wear Behavior of Unidirectional and Woven Graphite Fiber/PEEK Composites," *Test Methods and Design Allowables for Fiber Composites*, Vol. 2, C. C. Chamis, Editor, ASTM, STP 1003, p.75 (1989), with P. B. Mody and K. Friedrich.
21. "Low Temperature Performance of Short Fiber Reinforced Thermoplastics," *Test Methods and Design Allowables for Fiber Composites*, Vol. 2, C. C. Chamis, editor, ASTM, STP 1003, p. 45 (1989), with S. S. Yau.

22. "Metal Matrix Composites," *The Encyclopedia of Physical Science and Technology, 1989 Yearbook*, Academic Press, p. 381 (1989), with F. Girot and A. P. Majidi.
23. "Properties of Woven Fabric Composites," *Encyclopedia of Materials Science and Engineering and Concise Subject Encyclopedias*, p. 292, Pergamon Press, Oxford, (1989).
24. "Elastic Properties of Laminates," *Encyclopedia of Materials Science and Engineering and Concise Subject Encyclopedias*, Pergamon Press, p. 159, Oxford (1989).
25. "Mechanics of Two-Dimensional Woven Fabric Composites," *Mechanical Behavior and Properties of Composite Materials*, p.131-150, Technomic Publishing Co., Inc., Lancaster, PA (1989).
26. "Manufacturing of C/Al Composites by Gravity Infiltration and Their Characterization," *Fundamental Relationships Between Microstructure and Mechanical Properties of Metal Matrix Composites*, TMS, Warrendale, Pennsylvania, p. 59 (1989), with P. G. Karandikar.
27. "Elastic Behavior of Laminated Flexible Composites Under Finite Information," *Micromechanics and Inhomogeneity- The Toshio Mura Anniversary Volume*, Springer-Verlag, p. 243-256 (1990), with S. Y. Luo.
28. "Flexible Composites," *International Encyclopedia of Composites*, VCH Publishers, New York (1990)
29. "Structure-Performance Maps," *Encyclopedia of Materials Science and Engineering Supplementary Vol.2*, P.837, Pergamon Press, Oxford (1990).
30. "Toughness Models of Whisker Reinforced Ceramic Matrix Composites," *Thermal and Mechanical Behavior of Metal Matrix and Ceramic Matrix Composites*, ASTM STP 1080, edited by J. M. Kennedy, H. H. Moeller, and W. S. Johnson, ASTM, P 101 (1990), with Y. C. Chiang.
31. "Are There Fatigue Effects on Ceramics and Ceramic Matrix Composites Under Cyclic Loading"?, *Metals and Ceramic Matrix Composites: Processing, Modeling & Mechanical Behavior*, ed. by R. B. Bhagat, A. H. Clauer, P. Kumar and A. M. Ritter, The Mineral, Metals and Materials Society, p. 253 (1990), with T. Fujii and A. P. Majidi.
32. "Manufacturing of C/Al Composites by Gravity Infiltration and Their Characterization," *Fundamental Relationships between Microstructure and Mechanical Properties of Metal Matrix Composites*, ed. by P. K. Liaw and M. N. Gungor, The Minerals, Metals and Materials Society, p. 59 (1990), with P. G. Karandikar.
33. "Theoretical Modeling of the Chemical Vapor Infiltration Process for Forming Highly Densified Ceramic/Ceramic Composites," *Metals and Ceramic Matrix Composites: Processing, Modeling & Mechanical Behavior*, ed. by A. B. Bhagat, A. H. Clauer, P. Kumar and A. M. Ritter, The Minerals, Metals and Materials Society, p. 303 (1990), with N. H. Tai.
34. "Modeling of the Thermomechanical Behavior of Glass Matrix Composites," *Metals and Ceramic Matrix Composites: Processing, Modeling & Mechanical Behavior*, ed. by A. B. Bhagat, A. H. Clauer, P. Kumar, and A. M. Ritter, The Minerals, Metals and Materials Society, p. 311 (1990), with W. S. Kuo.

35. "Modeling of Nonlinear Elastic Behavior of Elastomeric Flexible Composites under Finite Deformation," *Composite Applications: The Role of Matrix, Fiber, and Interface*, ed. by T. Vigo and B. Kinzig, VCH Publishers, Inc., p. 31 (1992), with S. Y. Luo.
36. "Design and Automated Fabrication of 3-D Braided Preforms for Advanced Structural Composites," *Computer Aided Design in Composite Materials Technology III*, Elsevier Applied Science, London (1992) with T. D. Kostar.
37. "Metal Matrix Composites," *Encyclopedia of Physical Science and Technology*, 2nd edition, Academic Press, Vol. 9, p. 747 (1992), with F. A. Girot and A. Parvizi-Majidi.
38. "Elastic Properties of Laminates," *Concise Encyclopedia of Composite Materials*, Revised Edition, Elsevier Science Pub. (1994).
39. "Properties of Woven Fabric Composites," *Concise Encyclopedia of Composite Materials*, Revised Edition, Elsevier Science Pub. (1994).
40. "Commonality in the Damage of Ceramic and Polymer Matrix Composites," *High Performance Composites: Commonality of Phenomena*, Ed. by K. K. Chawla, P. K. Liaw and S. G. Fishman, The Minerals, Metals and Materials Society, Warrendale, PA, p. 249 (1994), with P. G. Karandikar.
41. "Design-Fabrication-Performance Relationship of Advanced Textile Structural Composites," *Advanced Technology for Design and Fabrication of Composite Materials and Structures*, G. C. Sih, A. Carpinteri and G. Surace, (eds.) Kluwer Academic Pub., p. 63 (1995), with T. D. Kostar and J. H. Byun.
42. "Damage Processes and Non-Linearity in Ceramic Matrix Composites," *High Temperature Ceramic Matrix Composites I: Design, Durability, and Performance*, p. 107 (1995), A. G. Evans and R. Naslain (eds.), American Ceramic Society, with P. G. Karandikar.
43. "Microstructural Design of Fiber Composites," *Micromechanics of Advanced Materials*, edited by S. N. G. Chu, et.al., The Minerals, Metals & Materials Society, Warrendale, PA, p. 413 (1995).
44. "Effective Transverse Electrical Permittivities of Plain Weave, Twill Weave, and Satin Fabric Composites," *Electrically Based Microstructural Characterization*, Materials Research Society, Pittsburgh, PA, vol. 411 (1996), with Q. G. Ning.
45. "Structural Properties of Ceramic Matrix Composites," Chapter 10, *Handbook on Continuous Fiber Reinforced Ceramic Matrix Composites*, American Ceramic Society, p. 355 (1996), with P. G. Karandikar.
46. "Ceramic Matrix Composites," *Microstructure and Properties of Materials*, J.C.M. Li (ed.), p. 247-350 (1996), World Scientific Publishing Co., Ltd., Singapore with P. Karandikar and A. P. Majidi.
47. "Braided Structures," in *3-D Textile Reinforcements in Composite Materials*, ed. by A. Miravete, Woodhead Pub. Ltd., p. 217 (1999) with T. Kostar.
48. "Mechanics of Three-Dimensional Textile Structural Composites: Processing," *Mechanics of Composite Materials and Structures*, Eds. C.A.M. Soares, C.M.M. Soares and M.J.M.

- Freitas, NATO Science Series E: Applied Sciences - Vol. 361, 151 (1999), Kluwer Academic Publishers, The Netherlands, with T. D. Kostar.
49. "Mechanics of Three-Dimensional Textile Structural Composites: Analysis," *Mechanics of Composite Materials and Structures*, Eds. C.A.M. Soares, C.M.M. Soares and M.J.M. Freitas, NATO Science Series E: Applied Sciences - Vol. 361, 163 (1999), Kluwer Academic Publishers, The Netherlands, with T. D. Kostar.
 50. "Mechanics of Three-Dimensional Textile Structural Composites: Performance Modeling," in *Mechanics of Composite Materials and Structures*, Eds. C.A.M. Soares, C.M.M. Soares and M.J.M. Freitas, NATO Science Series E: Applied Sciences - Vol. 361, 173 (1999), Kluwer Academic Publishers, The Netherlands, with K. Pochiraju.
 51. "Mechanics of Textile Composites," in *Fiber Reinforcements and General Theory of Composites*, Vol. 1 of *Comprehensive Composite Materials*, Vol. Editor, T. W. Chou, 719-761 (2000), with J. H. Byun.
 52. "Modeling of Carbon Nanotubes and Their Composites," in *Nanomechanics of Materials and Structures*, eds. T.J. Chuang, P.M. Anderson, M.K. Wu and S. Hsieh, p. 55 (2006), Springer, The Netherlands, with C. Li.
 53. "Carbon Nanotube-Based Composites and Damage Sensing," in *Multifunctional Polymer Nanocomposites*, Eds. Jinsong Leng and Alan Kin-tak Lau, CRC Press (2011), with C. Y. Li and E. T. Thostenson.

Refereed Proceedings Articles

1. "Some Recent Results on the Elastic Field of Disclinations," *Proceedings of the Symposium of the Fourth Canadian Congress of Applied Mechanics*, Montreal, Canada (1973).
2. "A Study of Surface Layer Damage Due to Impingement Fatigue," *Proceedings of the Fifth International Conference on Erosion by Liquid and Solid Particles*, Cambridge University (1979), with I. G. Greenfield and E. Iturbe.
3. "On the Longitudinal Compressive Strength of Fiber Composites," *Modern Developments in Composite Materials and Structures*, ed. by J. R. Vinson, ASME, p. 165 (1979).
4. "Mechanical Behavior of Hybrid Composites," *Emerging Technologies in Aerospace Structures, Design, Structural Dynamics and Materials*, ed. by J. R. Vinson, ASME (1980).
5. "On the Thermomechanical Behavior of Short-Fiber and Hybrid Composites," *Advances in Composite Materials*, Proceedings of the Third International Conference on Composite Materials, Paris (1980).
6. "Stiffness and Strength of Hybrid Composites," *Composite Materials: Mechanics, Mechanical Properties and Fabrication*, Japan Society for Composite Materials, Tokyo, Japan, p. 78 (1981), with H. Fukuda.
7. "Probabilistic Approach on the Strength of Fibrous Composites," *Composite Materials: Mechanics, Mechanical Properties and Fabrication*, Japan Society for Composite Materials, Tokyo, Japan, p. 181 (1981) with H. Fukuda and K. Kawata.
8. "Prediction of First and Second Stages of Stress-Strain Curves of Unidirectional Short-Fiber Reinforced Thermoplastics," *Composite Materials: Mechanics, Mechanical*

- Properties and Fabrication*, Japan Society for Composite Materials, Tokyo, Japan, p. 119 (1981), with M. Taya.
9. "The Strength of Aligned Short-Fibre Carbon, Glass, and Hybrid Carbon/Glass Composites," *Proceedings of the Fourth International Conference on Composite Materials: Progress in Science and Engineering of Composites* (1982), with P. Manders.
 10. "Theoretical Predictions of the Strength Behavior of Short-Fiber Reinforced Metals," *Progress in Science and Engineering of Composites, Proceedings of the Fourth International Conference on Composite Materials* (1982), with F. Hikami.
 11. "Stiffness and Strength Properties of Woven Fabric Composites," *Progress in Science and Engineering of Composites, Proceedings of the Fourth International Conference on Composite Materials* (1982), with T. Ishikawa.
 12. "A Statistical Approach to the Strength of Hybrid Composites," *Progress in Science and Engineering of Composites, Proceedings of the Fourth International Conference on Composite Materials* (1982), with H. Fukuda.
 13. "Effective Longitudinal Young's Modulus of Two-Dimensionally Misoriented Short Fiber Composites," *Progress in Science and Engineering of Composites, Proceedings of the Fourth International Conference on Composite Materials* (1982), with T. Takao and M. Taya.
 14. "In-Plane Thermal Expansion and Thermal Bending Coefficients of Fabric Composites," *Advances in Aerospace Structures and Materials*, ASME, New York, p. 115 (1982).
 15. "Stress Concentration Factors in Elastic-Plastic Composites with Multi-Filament Failures," *Materials and Processing - Continuing Innovations*, 28th National SAMPE Symposium, p.1 (1983), with F. Hikami.
 16. "The Effect of Prestressed Fibers on Tensile Strength of Aligned Fiber Composites," *Materials and Processing - Continuing Innovations*, 28th National SAMPE Symposium, p. 554 (1983), with Z. F. Chi and P. W. Manders.
 17. "On the Multi-Filament Failure Problem in Unidirectional Fiber Reinforced Composites," *Proceedings of AIAA/ASME/ ASCE/AHS 24th Structures, Structural Dynamics and Materials Conference*, Paper No. AIAA-83-0800-CP, p. 36 (1983), with F. Hikami.
 18. "Elastic Stiffness of Biaxial and Triaxial Woven Fabric Composites," *Proceedings of the 29th National SAMPE Symposium* (1984), with J. M. Yang and C. L. Ma.
 19. "Analysis of Textile Structural Composites: An Overview," *Proceedings of the Army Symposium on Solid Mechanics, 1984 - Advances in Solid Mechanics for Design and Analysis*, AMMRC, Watertown, Mass. (1984).
 20. "Analytical and Experimental Studies of Textile Structural Composites," *Proceedings of the International Conference on Rotorcraft Basic Research*, American Helicopter Society and Army Research Office (1985), with B. Shehata and J. M. Yang.
 21. "Corrosion Effects on E-Glass Filaments, Bundles, and Their Aligned Short-Fiber Composites" *Proceedings of the Fifth International Conference on Composite Materials* (1985), p. 1475, with P. L. Hsu.

22. "Nonlinear Stress-Strain Behavior of Carbon/Glass Hybrid Composites," *Proceedings of the Fifth International Conference on Composite Materials* (1985), p. 1573, with K. Takahashi and K. Ban.
23. "Mechanical Behavior of Three-Dimensional Woven Fiber Composites," *Proceedings of the Fifth International Conference on Composite Materials* (1985), p. 1247, with A. P. Majidi, J. M. Yang and R. B. Pipes.
24. "Characterization and Modeling of Textile Structural Composites: An Overview," *Proceedings of the European Conference on Composite Materials*, p. 133, Bordeaux, France (1985).
25. "Magnetically Woven Composite I-Beams - A Structural Alternate," **Proceedings of the 40th Annual Conference, Reinforced Plastic/Composites Institute** (January 1985), with R. A. Florentine and F. K. Ko.
26. "Modeling and Characterization of Three Dimensionally Braided Metal-Matrix Composites," *Proceedings of the Working Group Meeting on 3-D Composite Materials*, Department of Navy and NASA, NASA Conference Publication 2420 (1986).
27. "Impact Tolerance of Braided Aluminum Fiber Reinforced Aluminum Composites," *Proceedings of the 31st International SAMPE Symposium*, Las Vegas, NV (April 1986), with A. P. Majidi.
28. "Hybrid and Textile Structural Composites-An Overview," *Proceedings of International Symposium on Composite Materials and Structures*; Technomic Pub. Co., (June 1986), Beijing, China.
29. "Strength and Failure Behavior of Textile Structural Composites," *Proceedings of the American Society for Composites*, p. 104, Technomic Publishing Co. (1986).
30. "Nonlinear Elastic Constitutive Equations of Flexible Fiber Composites," *Composites '86: Recent Advances in Japan and the United States*, p. 389 (1986), with K. Takahashi and C. M. Kuo.
31. "Structure and Properties of Multilayer, Multidirectional Warp Knit Fabric Reinforced Composites," *Composites '86: Recent Advances in Japan and the United States*, Japan Society for Composite Materials (1986), with F. Ko, C. M. Pastore and J. M. Yang.
32. "Recent Developments in Advanced Composites," *Proceedings of the International Conference on Advanced Composite Materials and Structures*, Taipei, May 1986, VNU Science Press BV, The Netherlands, p. 87 (1987).
33. "Transient Thermal Stress and Thermal Shock Resistance of Advanced High Temperature Composites," *Proceedings of the Sixth International Conference on Composite Materials*, Vol. 4, p. 4.384 (1987), London, with Y. R. Wang.
34. "Performance Maps of Textile Structural Composites," *Proceedings of the Sixth International Conference on Composite Materials*, Vol. 5, p. 5.579 (1987), London, with J. M. Yang.
35. "Modeling and Analysis of Fracture Toughness of Short-Fiber Reinforced Ceramic-Matrix Composites," *Proceedings of the Sixth International Conference on Composite Materials*, Vol. 2 (1987), London, with K. Kageyama.

36. "Structure Reliability Studies of Three-Dimensionally Braided Metal Matrix Composites," *Proceedings of the Sixth International Conference on Composite Materials*, Vol. 2 (1987), London, with A. P. Majidi.
37. "Fatigue Behavior and Damage Development in Woven Fabric and Hybrid Fabric Composites," *Proceedings of the Sixth International Conference on Composite Materials*, Vol. 4, p. 4.89 (1987), London, with K. Schulte and E. Reese.
38. "Transient Thermal Stress Analysis of Fiber Composite Materials," *Proceedings of the 32nd International SAMPE Symposium*, p. 730 (1987), Anaheim, CA, 1987, with H. S. Wang.
39. "Creep of Short Fiber Reinforced Ceramic Matrix Composites," *Proceedings of the 2nd Annual Conference of American Society for Composites*, p. 303 (1987), with J. Kim.
40. "The Effect of Fiber Architecture on the Mechanical Performance of Metal Matrix Composites," *Proceedings of the 2nd Annual Conference of American Society for Composites*, p. 371 (1987), with A. P. Majidi and O. Remond.
41. "Interlaminar Fracture Toughness of a Three-Dimensional Fabric Composite," *Proceedings of the Society of Manufacturing Engineers*, EM87-551 (1987), with A. Guenon and J. W. Gillespie, Jr.
42. "Modeling of Elastic Properties of 3-D Textile Structural Composites," *Proceedings of the American Society for Composites, Third Technical Conference in Composite Materials* (1988), Technomic Pub. Co., p. 427, with T. J. Whitney.
43. "Composcasting and Shape Forming of Metal Matrix Composites," *Proceedings of the 33rd International SAMPE Symposium*, p. 1260 (1988), with F. A. Girot, P. Karandikar and A. P. Majidi.
44. "Composcasting and Shape Forming of Metal Matrix Composites," *Proceedings of the International SAMPE Symposium*, Vol. 33, p. 1260 (1988), with F. Girot, P. Karandikar and A. P. Majidi.
45. "Constitutive Relations of Flexible Composites Under Finite Elastic Deformation," *Mechanics of Composite Materials - 1988*, AMD - Vol. 92, ASME (1988), p. 209, with S. Y. Luo.
46. "Analysis of Transient Interlaminar Thermal Stress of Laminated Composites," *Mechanics of Composite Materials - 1988*, AMD - Vol. 92, ASME (1988), p. 185, with Y. R. Wang.
47. "Performance Maps of 3-D Textile Structural Composites," **Fiber-Tex 87**, NASA Conference Publication No. 3001 (1988), with T. J. Whitney, L. E. Taske and A. P. Majidi.
48. "Analysis and Automation of Two-Step Braiding," **Fiber-Tex 88**, NASA Conference, Publication No. 3038, p. 217-233 (1989), with G. W. Du and P. Popper.
49. "Modeling of Chemical Vapor Infiltration (CVI) in Al_2O_3/SiC Composites Processing," *Proceedings of the 12th Conference on Composites Materials and Structures*, Cocoa Beach, Florida, NASA Conference Publication 3018, p. 237 (1989), with N. H. Tai.

50. "Mode II Interlaminar Fracture Toughness of Three-Dimensional Textile Structural Composites," *Proceedings of the Fourth US-Japan Conference on Composite Materials*, p. 981, Technomic Pub. Co., Lancaster, PA (1989), with C. H. Liu.
51. "Theoretical Modeling of Flexible Composites," *Proceedings of the Fourth US-Japan Conference on Composite Materials*, p. 885, Technomic Pub. Co., Lancaster, PA (1989), with S. Y. Luo and C. M. Kuo.
52. "Modeling and Characterization of Fracture of Whisker Reinforced Ceramic Matrix Composites," *Proceedings of the 12th Conference on Composites Materials and Structures*, Cocoa Beach, Florida, NASA Conference Publication 3018, p. 145 (1989), with Y. C., Chiang and A. P. Majidi.
53. "Elevated Temperature Studies of Continuous and Discontinuous Fiber Reinforced Ceramic Matrix Composites," *34th ASME International Gas Turbine and Aeroengine Congress*, ASME Paper No. 89-GT-124 (1989), with A. P. Majidi.
54. "Modeling of Crack Deflection in Particle and Whisker Reinforced Ceramic Matrix Composites," *Proceedings of the American Society for Composites Fourth Technical Conference*, Technomic Pub. Co., Lancaster, PA (1989), with Y. C. Chiang.
55. "Effects of Manufacturing Parameters on the Chemical Vapor Infiltration of Ceramic/Ceramic Composites," *Proceedings of the American Society for Composites Fourth Technical Conference*, Technomic Pub. Co., Lancaster, PA, p. 317 (1989), with N. H. Tai.
56. "Mode II Delamination of Three-Dimensional Textile Structural Composites," *Proceedings of the American Society for Composites Fourth Technical Conference*, Technomic Pub. Co., Lancaster, PA, p. 287 (1989), with J. H. Byun, and J. W. Gillespie, Jr.
57. "Analytical Simulation of an Improved CVI Process for Forming Highly Densified Ceramic Composites," *Proceedings of the Materials Research Society Conference* (1989), with N. H. Tai.
58. "Analytical Modeling of Elevated Temperature Mechanical Behavior of Ceramic Matrix Composites," *Proceedings of the 3rd International Symposium on Ceramic Materials and Components for Engines*, ed. by V. J. Tennery, p. 673, American Ceramic Society, (1989), with Y. R. Wang.
59. "Analytical Modeling of Elevated Temperature Mechanical Behavior of Ceramic Matrix Composites," *Proceedings of the Third International Symposium, Ceramic Materials and Components for Engines*, edited by V. L. Tennery, Oak Ridge National Laboratory, p. 673 (1990) with Y. R. Wang.
60. "Modeling and Characterization of Multi-Directionally Reinforced Ceramic Matrix Composites," *Proceedings of the Third Annual HITEMP Review*, NASA-Lewis Research Center, NASA Conference Publication 10051, p. 76-1 (1990), with W. Y. Chen, W. S. Kuo and A. P. Majidi.
61. "Structural Characteristics of Three-Dimensional Angle- Interlock Woven Fabric Preforms," *Processing of Polymers and Polymeric Composites*, ASME, MD- Vol. 19, p. 177 (1990), with J. H. Byun, B. S. Leach, S. S. Stroud.

62. "Process Model of Circular Braiding," *Processing of Polymers and Polymeric Composites*, ASME, MD - Vol. 19, p. 119 (1990), with G. W. Du and P. Popper.
63. "Modeling of the Flexural Behavior of Ceramic - Matrix Composites," *Microcracking Induced Damage in Composites*, AMD-Vol. 111, p. 29, ASME (1990), with W. S. Kuo.
64. "Mechanical Behaviors of Ceramic Matrix Composites with Matrix Cracking and Fiber Debonding," *Achievements in Composites in Japan and the United States*, Japan Society for Composite Materials, Tokyo, p. 31 (1990), with W. S. Kuo.
65. "Predictions of the Critical Strain for Matrix Cracking of Ceramic Matrix Composites," *Proceedings of IUTAM Symposium*, p. 639 (1991), Springer-Verlag, with W. S. Kuo.
66. "Analysis and Modeling of 3-D Textile Structural Composites," *High-Tech Fibrous Materials*, ed. by T. L. Vigro and A. F. Turbak, ACS Symposium Series 457, American Chemical Society, Washington, D.C., 22 (1991), with J. H. Byun and G. W. Du.
67. "Characterization and Modeling of Tensile Behavior of Ceramic Woven Fabric Composites," *Proceedings of the International Gas Turbine and Aeroengine Congress and Exposition; Mechanics of Ceramic Matrix Composites*, ASME, Orlando, paper no. 91-GT-105 (1991), with W. S. Kuo, W. Y. Chen and A. P. Majidi.
68. "Three-Dimensional Textile Composites: A Review," *Use of Composite Materials in Transportation Systems*, ed. by S. B. Biggers and T. W. Chou, AMD Vol. 129, p. 47, ASME, New York (1991), with J. H. Byun.
69. "Stress-Strain Behavior of 3-D Braid Composites," *Plastics and Plastic Composites: Material Properties, Part Performance, and Process Simulation*, ed. by V. J. Stokes, MD Vol. 29, p. 309, ASME, New York (1991), with J. H. Byun.
70. "Non-Linear Thermomechanical Behavior of Woven Ceramic Composites," *Proceedings of the 6th Technical Conference of American Society for Composites*, p. 611, with W. S. Kuo (1991).
71. "Microstructure and Process Characteristics of 3-D Braided Preforms," *Proceedings of the Eighth International Conference on Composite Materials*, ed. by S. W. Tsai and G. S. Springer, SAMPE, Covina, California, p. 6-C-1 (1991), with J. H. Byun.
72. "Modeling and Characterization of Multidirectionally Reinforced Ceramic Matrix Composites," *Proceedings of the Eighth International Conference on Composite Materials*, ed. by S. W. Tsai and G. S. Springer, SAMPE, Covina, California, p. 24-C-1 (1991), with J. Jagota, W. S. Kuo, and A. Parvizi-Majidi.
73. "Modeling and Analysis of Processing of Ceramic Matrix Composites," *Proceedings of the Eighth International Conference on Composite Materials*, ed. by S. W. Tsai and G. S. Springer, SAMPE, Covina, CA, p. 24-E-1 (1991), with N. H. Tai.
74. "Modeling and Characterization of Multi-Directionally Reinforced Ceramic Matrix Composites," *Proceedings of the 4th Annual HITEMP Review*, NASA Conference Publication 10082, p. 56-1 (1991), with W. S. Kuo, N. J. J. Fang and A. Parvizi-Majidi.
75. "Microcracking and Elastic Moduli Reductions in Unidirectional Nicalon-CAS Composite under Cyclic Fatigue Loading," *Proceedings of the 16th Annual Conference on Composites and Advanced Ceramics*, American Ceramic Society, Westerville, OH, p. 882 (1992).

76. "A Criterion for Splitting Crack Initiation in Unidirectional Fiber-Reinforced Composites," *Proceedings of the 2nd International Symposium on Composite Materials and Structures*, Beijing, China, Beijing University Press, p. 390 (1992).
77. "Constitutive Relations of Flexible Composites," *Proceedings of the First USSR-US Symposium on Mechanics of Composite Materials*, Volume II, Ed. by Yuri Tarnopolshii, p.64-74, (in Russian) (1992), with S. Y. Luo.
78. "Experimental Characterization and Modeling of 2D Woven and 3D Braided SiC/SiC Composites," *Proceedings of the American Society for Composites 7th Technical Conference on Composite Materials*, Technomic Pub. Co., Lancaster, PA, p. 400 (1992), with P. Pluvinage and A. P. Majidi.
79. "A Comparative Study of Microcrack Growth and Moduli Reductions in Nicalon-CAS Composites under Static Fatigue and Cyclic Fatigue," *Proceedings of the American Society for Composites 7th Technical Conference on Composite Materials*, Technomic Pub. Co., Lancaster, PA, p. 695 (1992), with P. G. Karandikar.
80. "Modeling of Damage in Ceramic Matrix Cross-Ply Composites" *Damage Mechanics and Localization*, ASME, AMD-Vol. 142 and MD-Vol. 34, p. 97 (1992), with Wen-Shyong Kuo.
81. "Damage Mechanics and Mechanisms in SiC/SiC Composites," *Fifth Annual NASA HITEMP Conference Proceedings* (1992), with P. Pluvinage, W. S. Kuo, and A. Parvizi-Majidi.
82. "Nonlinear and Damage Behavior of Ceramic-Matrix Cross-Ply Composites," *Proceedings of International Conference on Composite Materials-9*, Vol. 2, p. 47 (1993), with W. S. Kuo.
83. "Simulation, Design and Fabrication of Advanced Three-Dimensional Braided Preforms," *Proceedings of International Conference on Composite Materials-9*, Vol. IV, p. 593 (1993), with T. D. Kostar.
84. "Processing of Carbon/Carbon Composites Based Upon Chemical Vapor Infiltration and Polymer Pyrolysis Methods," *Proceedings of International Conference on Composite Materials-9*, Vol. 3, p. 695 (1993), with N. H. Tai and C. C. M. Ma.
85. "Modeling of the Self-Adjusted Reactant Flow Path Method for CVI of Ceramic Matrix Composites," *Proceedings of International Conference on Composite Materials-9*, Vol. 2, p. 163, (1993), with N. H. Tai and C. C. M. Ma.
86. "Damage Mechanics of Two-Dimensional Woven SiC/SiC Composites," *Proceedings of NASA HITEMP Conference*, Vol. 3, 78-1, (1993), with A. P. Majidi, H. Z. Shan and P. Karandikar.
87. "Modeling of Damage in Ceramic Matrix Composites," *Proceedings of the International Conference on Ceramic Matrix Composites*, ECCM-6, Bordeaux, p. 583 (1993), with W. S. Kuo.
88. "High Temperature Behavior of 2D Woven and 3D Braided SiC/SiC Composites," *Proceedings of the International Conference on Ceramic Matrix Composites*, ECCM-6, Bordeaux, p. 675, (1993), with P. Pluvinage and A. P. Majidi.

89. "Tensile, Compressive and Shear Behavior of 2D Woven and 3D Braided SiC/SiC Composites," *Proceedings of the American Society for Composite Materials 8th Technical Conference*, Technomic Pub. Co., Inc. Lancaster, PA, p. 775, (1993), with P. G. Karandikar and A. P. Majidi (1993).
90. "Processing-Microstructure-Performance Relationships of Textile Structural Composites," *Proceedings of the 3rd Japan International SAMPE Symposium*, p. 256 (1993), with T. Kostar.
91. "Strength of Nicalon Fiber Reinforced Glass Matrix Composites," *Proceedings of the 3rd Japan International SAMPE Symposium*, p. 547 (1993), with P.G. Karandikar and A.P. Majidi.
92. "Fabrication of SiC Fiber Reinforced Ceramic Composite by Polymer Pyrolysis Method," *Proceedings of the 39th International SAMPE Symposium, Society for the Advancement of Material and Processing Engineering*, Covina, CA (1994), with C. C. Lu and A. P. Majidi.
93. "Designing the Thermal and Electric Behavior of Woven Fabric Composites," *Proceedings of the International Conference on Design and Manufacturing Using Composites*, Montreal, p. 222, (1994), with Q. G. Ning.
94. "Prediction of Mechanical and Thermal Properties of 3-D Textile Structural Composites," *Proceedings of ICCE-I*, Ed. by D. Hui, p. 95 (1994), with K. Pochiraju, Q. G. Ning, and A. P. Majidi.
95. "Computer Synthesis of Fiber Architecture and Properties of Textile Structural Composites," *Proceedings of US-Russian Workshop on Computer Synthesis of Structures and Properties of Fiber Composites*, Russian Academy of Sciences, Moscow, p. 86 (1994), with T. D. Kostar.
96. "Process-Microstructure - Property Relationship of Textile Structural Composites," *Proceedings of the 8th CIMTEC-World Ceramics Congress and Forum on New Materials*, Florence, Italy, Techna Publishers (1994), with T. D. Kostar.
97. "Bending Response of 3-D Woven and Braided Preform Composite Materials," *Proceedings of the American Society for Composites 9th Technical Conference*, Technomic Pub. Inc., Lancaster, PA, p. 1135 (1994), with K. Pochiraju, B. Shah, and A. P. Majidi.
98. "Modeling Damage in Rigid Textile Composite Structures," Paper No. 94-WA/AERO-4, *'94 International Mechanical Eng. Congress and Exhibition*, Chicago, IL (1994).
99. "Modal Filtering Using Lineal Sensors," *Proceedings of the 35th AIAA/ASME/ASCE/AHS/ASC-SDM Conference*, Hilton Head, South Carolina, Paper No. AIAA-94-1741-CP, p. 95 (1994), with E. J. Lang.
100. "Analytical Characterization of Thermal and Dielectric Properties of Woven Fabric Composites," *Proceedings of the 10th International Conference on Composite Materials*, p. IV-465 (1995), Woodhead Publishing Limited, with Q.-G. Ning.
101. "Geometrical and Deformation Characteristics of 3-D Braided Composites," *Proceedings of the 10th International Conference on Composite Materials*, Woodhead Publishing Limited, p. III-213 (1995) with M. Ito.

102. "Effect of Yarn Twist on the Elastic Property of Composites," *Proceedings of the 10th International Conference on Composite Materials*, Woodhead Publishing Limited, p. IV-293 (1995), with J. H. Byun.
103. "Effective Transverse Thermal Conductivities of Plain Weave, Twill Weave, and Four Harness Satin Weave Composites," *Innovative Processing and Characterization of Composite Materials*, ASME, NCA-Vol. 20 and AMD-Vol. 211, p. 343 (1995), with Q-G. Ning and D. G. Hwang.
104. "Modeling and Characterization of Through-The-Thickness Properties of 3D Woven Composites," *Mechanics of Textile Composites Conference*, NASA Conference Publication 3311, Part 2, ed. by C. C. Poe, Jr., and C. E. Harris, p. 251 (1995), with D. Hartranft and A. P. Majidi.
105. "Development of an Automated 2-Step Braiding Machine and the Process Model," *Innovative Processing and Characterization of Composite Materials*, ASME, NCA - Vol. 20 and AMD - Vol. 211, p. 305 (1995), with J. H. Byun.
106. "Modeling Stiffness and Strength of 3-D Textile Structural Composites," *Proceedings of 37th AIAA/ASME/ASCE/AHS/ASL Structures, Structural Dynamics and Materials Conference*, CP962, p. 2295 (1996), with K. Pochiraju and B. M. Shah.
107. "Experimental Characterization of 3-D Woven and Braided Composites," *Proceedings of 37th AIAA/ASME/ASCE/AHS/ASL Structures, Structural Dynamics and Materials Conference*, CP962, p. 908 (1996), with K. Pochiraju and B. M. Shah.
108. "Recent Advances in the Intelligent Manufacture of Textile Composites," *Progress in Advanced Materials and Mechanics*, Peking University Press, Beijing, China (1996).
109. "Processing-Microstructure-Property Relationships of Textile Structural Composites," *Proceedings of the Third International Symposium on Textile Composites in Building Construction*, (1996), Seoul, Korea.
110. "The Effect of Strain Gage Size on Measurement Errors in Textile Composite Materials," *Proceedings of the 11th Int. Conf. Comp. Mater.*, Vol. 5, p. V-1, (1997), Australian Composite Structures Society, Woodhead Pub. Ltd., with E. J. Lang.
111. "Mechanical Behavior of Thin-Film Coating/Substrate Systems under Nanoindentation," *Proceedings of the ASME/ASCE/SES Symposium on Damage Mechanics in Engineering Materials*, (1997), with J. Li.
112. "Textile Structural Composites, Their Processing and Properties," *Proceedings of the 18th Risø International Symposium on Materials Science: Polymer Composites - Expanding the Limits*, p. 21, Risø National Laboratory, Roskilde, Denmark, (1997).
113. "Microwave Processing of Thick-Section Polymer Composites," *Proceedings of the 12th Annual Technical Conference of the American Society for Composites*, American Society for Composites, (1997), with E. Thostenson.
114. "Modeling the Electro-Mechanical Response and Effective Properties of Piezoelectric Composites," *Proceedings of the 22nd Cocoa Beach Conference & Exposition*, (1998), Am. Ceramic Soc., with X. P. Ruan, S. C. Danforth and A. Safari.

115. "Fabrication and Characterization of 3D Carbon Fiber Reinforced SiC Matrix Composites Via Slurry and Pulse-CVI Joint Process," *Proceedings of the 22nd Cocoa Beach Conference & Exposition*, (1998) Am. Ceramic Soc., with K. Suzuki, K. Nakano, and S. Kume.
116. "Recent Developments in Textile Structural and Functional Composites," *Proceedings of the Fifth International Conference on Composites Engineering* (1998).
117. "Fabrication and Characterization of 3-D C/SiC Composites via Slurry and PCVI Joint Process," The Ceramic Soc. of Japan, Trans. Tech. Pub. Ltd., Zuerich, Switzerland, p. 113 (1998).
118. "An Assessment of the Textile Preform Technology for Structural Composites," *Recent Advances in Mechanics of Aerospace Structures and Materials*, AD-Vol. 56, Ed. B. V. Sankar, ASME, (1998) with R. Kamiya and B. A. Cheeseman.
119. "Characterization and Prediction of Compaction Force and Preform Permeability of Woven Fabrics During the Resin Transfer Molding Process," *Proceedings of the 5th International Conference on Flow Processes in Composite Materials*, p. 25, (1999), with E. M. Sozer, B. Chen, P. J. Graham, S. Bickerton and S. G. Advani.
120. "Transient Elastic Wave Propagation and Dynamic Stress Concentration in Woven Fabric Composites," *Proceedings of 1999 ASME Mechanics and Materials Conference*, Editors, R. C. Batra and E. G. Henneke, p. 54 (1999), with B. Chen.
121. "A General Micro-Mechanical Compaction Model of Woven-Fabric Preforms in Liquid Composite Molding Processes," *Proceedings of 14th Annual Technical Conference*, American Society for Composites, Editor, J. M. Whitney, p. 307 (1999), with B. Chen.
122. "Some Fundamental Issues in Liquid Composite Molding Processes," *Proceedings of the Sixth Japan International SAMPE Symposium*, Eds. T. Tanimoto and T. Morii, Japan Chapter of SAMPE (1999), p. 35, with B. Chen and E. T. Thostenson.
123. "Modeling of Yarn Orientation and Stress Concentration in Fabric Shaping Process," *Proceedings of the Sixth Japan International SAMPE Symposium*, Eds. T. Tanimoto and T. Morii, Japan Chapter of SAMPE (1999), p. 551, with Y. Arimitsu.
124. "Design and Optimization of Piezoelectric Actuators Produced by the Solid Freeform Fabrication Technique," *Proceedings of the Sixth Japan International SAMPE Symposium*, Eds. T. Tanimoto and T. Morii, Japan Chapter of SAMPE (1999), p. 1011, with B. A. Cheeseman, X. Ruan, S. C. Danforth, A. Safari, and T. W. Chou.
124. "Application of Microwave Heating for Adhesive Joining," in *Advances in Aerospace Materials and Structures*, AD-Vol. 58, p. 89 (1999) ASME, with E. Thostenson.
125. "Damage Modeling and Characterization of a Three-Dimensional Woven Composite," *Proceedings of the 12th International Conference on Composite Materials*, (2000), with P. Casari and P. Ladeverge.
127. "Compaction Behavior of Fabric Preforms in Resin Transfer Molding Process," *Proceedings of the 12th International Conference on Composite Materials*, (2000), with B. Chen and E. J. Lang.

128. "Fabrication and Characterization of 3D Carbon-fiber/SiC Composites by Slurry-Pulse CVI Joint Process," *Proceedings of the 12th International Conference on Composite Materials*, (2000) with K. Suzuki and K. Nakano.
129. "Characterization of 3D-Carbon Fiber Reinforced SiC Composites," *Proceedings of the 24th Annual Cocoa Beach Conference & Exposition*, American Ceramic Society, (2000), with K. Suzuki, K. Nakano, T. Ishikana, and Y. Kanno.
130. "Modeling of Nonlinear Dry Preform Compaction in Liquid Composite Molding Process," *Proceedings of the European Conference for Composite Materials*, (2000), with Baoxing Chen.
131. "Modeling of Liquid Composite Molding Process: Some Recent Developments," *Proceedings of the Seventh International Conference on Composites Engineering*, B3, (2000), with Baoxing Chen.
132. "The Design of 3-D Braided Preforms for High Temperature Structural Application," *Proceedings of the Seventh International Conference on Composites Engineering*, 479, (2000), with T. D. Kostar.
133. "Design and Analysis of Piezoelectric Actuators Produced by Solid Freeform Fabrication," *ASME-2000 IMECE*, submitted for publication (2000), with B.A. Cheeseman, B. Chen, A. Safari, and S. Danforth.
134. "Modeling and Optimization of Noval Actuators Produced by Solid Freeform Fabrication," *Proceedings of the Materials Research Society Spring Conference*, (2000), San Francisco, in press, with B.A. Cheeseman, X.P. Ruan, A. Safari and S.C. Danforth.
135. "Some Recent Advances in Textile Composite Technology," *Proceedings of the 5th International Conference on Textile Composites*, Leuven, Belgium, (2000), with B.A. Cheeseman and B. Chen.
136. "Design and Analysis of Piezoelectric Actuators Produced by Solid Freeform Fabrication," *Proceedings of the ASME Manufacturing Division*, (2000) MED-Vol. 11, p. 381-387, with B. A. Cheeseman, B. Chen, A. Safari and S. Danforth
137. "Finite Element Analysis of Fabric Shaping Process," *Proceedings of the First International Conference on Mechanical Engineering*, Shanghai, China (2000), with Y. Arimitsu and A. Ishinaga.
138. "Modeling of Inter-Fiber Sliding in Fabric Shaping Process," *Proceedings of JISSE-7* (2001), Japan, with Y. Arimitsu.
139. "Interfacial Characterization of Carbon Nanotube-Modified Graphite Fiber Composites," *Proceedings of the 16th Annual Technical Conference*, American Society for Composites (2001), with E. T. Thostenson, W. Z. Li, D. Z. Wang and Z. Ren.
140. "Recent Advancements in Carbon Nanotubes and Their Composites," *Proceedings of the 13th International Conference on Composite Materials*, Beijing, China (2001), with Erik T. Thostenson (Keynote Address). Also in Society of Manufacturing Engineers, technical paper EM01-353 (2001).

141. "Carbon Nanotube-Based Polymeric Composites," *Proceedings of the 8th International Conference on Composites Engineering*, Tenerife, Spain (2001), with E. T. Thostenson, Chunyu Li and Zhifeng Ren.
142. "Carbon Nanotube Based Polymeric Composites – A Review," *Proceedings of the Third Canadian International Conference on Composites*, Montreal, Canada (2001), with E. T. Thostenson and C. Li.
143. "Recent Advances in the Design of Enhanced Displacement Piezoelectric Actuators," *The Third Workshop on Structural Health Monitoring*, Stanford, CA (2001), with B. A. Cheeseman, A. Safari and S. C. Danforth.
144. "Processing, Characterization and Modeling of Carbon Nanotube/Polymer Composites," *Proceedings of DURACOSYS*, Tokyo, Japan (2001), with E. T. Thostenson and C. Li.
145. "An Atomistic Modeling of Carbon Nanotube Tensile Strength," *Proceedings of 43rd AIAA/ASME/ASCE/AHS Structures, Structural Dynamics, and Materials Conference*, AIAA-2002-1520, Denver, Colorado (2002), with C. Li.
146. "Recent Research in Carbon Nanotube Composites," *Proceeding of ICCE-9*, San Diego, CA (2002), with E. T. Thostenson and C. Li (Keynote Address).
147. "Carbon Nanotube Reinforcement: Characterization and Modeling of Composites at the Nano-Scale," *Proceedings of ECCM-10*, Brugge, Belgium (2002), with E. T. Thostenson and C. Li (Keynote Address).
148. "A Computational Structural Mechanics Approach to Modeling of Nanostructures," *Proceedings of Fifth World Congress on Computational Mechanics*, Vienna, Austria (2002), with C. Li.
149. "Fabrication of 3D-Carbon Fiber Reinforced SiC Composites by Slurry Infiltration and CVI Joint Process," *Proceedings of 10th CIMTEC* (2002), with K. Suzuki, K. Nakano, and Y. Kanno.
150. "Carbon Nanotube-Reinforced Composites: Processing, Modeling and Property Characterization," *Proceedings of the 10th US-Japan Conference on Composite Materials* (2002), Stanford, CA, with E. T. Thostenson and C. Li.
151. "Processing, Structure and Properties of Carbon Nanotube-Based Polymer Composites," *Proceedings of the American Society for Composites 17th Technical Conference* (2002), with E. T. Thostenson.
152. "Modeling and Characterization of Carbon Nanotubes and their Composites: Bridging the Micro and Nano Scales," *Proceedings of the International Symposium on Textile Composites (TEXCOMP 6)*, (2002), Philadelphia, PA, with E. T. Thostenson and C. Li.
153. "Modeling of the Elastic Behavior of Double-Walled Carbon Nanotubes," *Proceedings of the 44th AIAA/ASME/ASCE/AHS Structures, Structural Dynamics, and Materials Conference* (2003), Norfolk, VA, Paper No. AIAA 2003-1553, with C. Li.
154. "Effective Elastic Modulus of Aligned Carbon Nanotube Reinforced Polymer Composites," *International Conference on Computational & Experimental Engineering and Sciences, ICCES' 03 Corfu, Greece*, (2003), with C. Li.

155. "Multiscale Modeling of Compressive Behavior of Carbon Nanotube/Polymer Composites," **Proceedings of the American Society for Composites 18th Technical Conference**, (2003), Gainesville, FL, with C. Li.
156. "Modeling of Carbon Nanotubes and Carbon Nanotube/Polymer Composites," **Proceedings of the 16th U. S. Army Symposium on Solid Mechanics**, Charleston, SC, (2003), p. 1111, with C. Li.
157. "Nanoscale Design of Carbon Nanotube – Reinforced Composites: Bridging the Micro and Nano Scales," **Proceedings of the 14th International Conference on Composite Materials (ICCM-14)**, San Diego, CA, (2003), with E. Thostenson.
158. "Structure/Mechanical Property Relationships in Carbon Nanotube-Based Composites: Characterization and Modeling," **Proceedings of the Sixth International Seminar on Experimental Techniques and Design in Composite Materials**, Vicenza, Italy (2003), with E. Thostenson.
159. "Anisotropic Elastic Properties of Carbon Nanotubes," **Proceedings of the 45th AIAA Structural, Dynamics and Materials Conference**, Palm Springs, CA, (2004), with C. Li.
160. "Modeling of Carbon Nanotubes and Their Composites," **Proceedings of the International Workshop on Nanomechanics**, Monterey, CA, (2004), with C. Li.
161. "Nanoscale Devices and Nanocomposites Based on Carbon Nanotubes: Processing, Characterization and Modeling," **Proceedings of the 11th International Conference on Composites/Nano Engineering (ICCE-11)**, Hilton-Head, SC, (2004), with E. T. Thostenson and C. Li.
162. "Recent Advances in Processing, Characterization and Modeling of Carbon Nanotube-Reinforced Composites," **Proceedings of the 11th US-Japan Conference on Composite Materials**, Yamagata, Japan, (2004), with E. T. Thostenson.
163. "Nanotube-Reinforced Composites: Characterization and Modeling," **Proceedings of the American Society for Composites 19th Annual Technical Conference**, Atlanta, GA, (2004), with E. T. Thostenson.
164. "Atomistic Modeling for Static, Dynamic and Thermal Properties of Carbon Nanotubes," **Proceedings of the American Society for Composites 19th Annual Technical Conference**, Atlanta, GA, (2004), with C. Li.
165. "Simulations of Carbon Nanotube-Based Nanoresonators and Nanosensors," **Proceedings of the 46th AIAA Structural, Dynamics and Materials Conference**, Austin, TX, (2005), with C. Li.
166. "Modeling Studies on Boron Nitride Nanotubes and Their Composites," **Proceedings of the American Society for Composites 20th Technical Conference**, (2005), Philadelphia, PA, with C. Li.
167. "The Mechanics of Carbon Nanotubes and Their Composites," **Proceedings of the International Conference on Computational Experimental Engineering and Sciences**, (2005), Chennai, India, with C. Li.

168. "Influence of Reinforcement Morphology on Nanocomposite Fracture Behavior," **Proceedings of 16th European Conference on Fracture**, (2006), Alexandroupolis, Greece, with E. Thostenson.
169. "Charge Distributions on Single-Walled Carbon Nanotubes by an Atomistic Moment Method," **Proceedings of the American Society for Composites – Twentieth Technical Conference**, Sep. 9-14, 2006, Philadelphia, with C. Li.
170. "Multifunctional Carbon Nanotube/Epoxy Composites: Processing and Characterization," **Proceedings of the 38th International SAMPE Technical Conference**, Dallas, TX, November 6-9 (2006), with E.T. Thostenson.
171. "Multi-Scale Hybrid Nanotube/Fiber Composites: Processing and Characterization," **Proceedings of the 8th International Conference on Textile Composites (TEXCOMP-8)**, Nottingham UK, October 16-18, (2006), with E.T. Thostenson.
172. "Multifunctional Composites with Self-Sensing Capabilities: Carbon Nanotube-Based Networks," **SPIE Smart Structures and Materials & Nondestructive Evaluation and Health Monitoring (SS/NDE) 2007. Proceedings of SPIE volume: 6526**, San Diego, CA, March 18-22, (2007), with E.T. Thostenson.
173. "Carbon Nanotube Composites for Self-Sensing of Deformation and Damage," **Proceedings of the 52nd International SAMPE Symposium and Exhibition**, June 3-7 (2007), Baltimore, Maryland, with E.T. Thostenson and V. Gendlin.
174. "Modeling of Harness Satin Weave Using Finite element Method" **Proceedings of the 16th International Conference on Composite Materials**, (2007), Kyoto, Japan, with Y. Arimitsu, M. Eki, Y. Sogabe and Z. Wu.
175. "Scalable Processing Techniques for Nanotube-Based Polymer Composites," **Proceedings of the 16th International Conference on Composite Materials**, (2007), Kyoto, Japan, with E.T. Thostenson.
176. "Carbon Nanotube-Based Composites for Damage Detection and Health Monitoring," **Proceedings of the 16th International Conference on Composite Materials**, (2007), Kyoto, Japan (Keynote), with E.T. Thostenson and C. Li.
177. "Carbon nanotube networks: *in situ* sensing of damage evolution in fiber composites," **Proceedings of the 40th International SAMPE Technical Conference**, Memphis, TN, September 8-11 (2008), with E.T. Thostenson and L.M. Gao.
178. "Multifunctional Carbon Nanotube Network Sensors for Damage Sensing and Health Monitoring of Fiber-Reinforced Composites," in **Proceedings of the SAMPE '09, The 54th International SAMPE Symposium and Exhibition**, Baltimore, MD, May 18-21 (2009), with L.M. Gao, E.T. Thostenson and Z.G. Zhang.
179. "Advances in the Science and Technology of Carbon Nanotube Composites," in **Proceedings of the 17th International Conference on Composite Materials (ICCM-17)**, Edinburgh, Scotland, July 27-31 (2009), with E.T. Thostenson and L.M. Gao.
180. "Vinyl Ester Nanocomposites for Damage Sensing in Naval Applications," in **Proceedings of the 17th International Conference on Composite Materials (ICCM-17)**, Edinburgh, Scotland, July 27-31 (2009), with E.T. Thostenson.

181. "Mechanical and Electrical Properties of Micro/Nanocomposites via CNT Dispersed Resin Film Infusion Process," in **Proceedings of the 17th International Conference on Composite Materials (ICCM-17)**, Edinburgh, Scotland, July 27-31 (2009), with J-W Yi, J-H Jang, W Lee, M-K Um, J-H Byun, H-G Lee and E.T. Thostenson.
182. "Coating Effects of Copper in CNT/Carbon Fabric Hybrid Composites using Electrophoretic Deposition," in **Proceedings of the 17th International Conference on Composite Materials (ICCM-17)**, Edinburgh, Scotland, July 27-31 (2009), with O. Choi, S-B. Lee, J-H. Byun, W. Lee, J-W. Yi, B-S. Kim and E.T. Thostenson.
183. "Damage Monitoring of A Highly Conductive Polymer Composite Under Cyclic and Impact Loading Using Carbon Nanotube Network," in **Proceeding of the 25th American Society for Composites (ASC) Annual Technical Conference 14th US-Japan Conference on Composite Materials and ASTM-D30 Meeting**, Dayton, Ohio, September 20-22 (2010), with L.M. Gao, E.T. Thostenson.
184. "Damage Sensing in Fiber Composites Using Uniformly and Dispersed Carbon Nanotubes Non-Uniformly," in **Proceeding of the 25th American Society for Composites (ASC) Annual Technical Conference 14th US-Japan Conference on Composite Materials and ASTM-D30 Meeting**, Dayton, Ohio, September 20-22 (2010), with L.M. Gao, E.T. Thostenson, Z.G. Zhang.
185. "Health Monitoring using Carbon Nanotubes in Adhesively-Bonded Composite-to-Metal Joints," in **Proceeding of the 25th American Society for Composites (ASC) Annual Technical Conference 14th US-Japan Conference on Composite Materials and ASTM-D30 Meeting**, Dayton, Ohio, September 20-22 (2010), with A. Lim.
186. "Damage monitoring in adhesively-bonded joints using carbon nanotubes," in **Proceeding of the 25th Annual Technical Conference of the American Society for Composites**, Dayton, OH, September 20-22 (2010), with A. Lim, Z. Melrose and E. Thostenson.
187. "Recent progress in resistance-based damage sensing of carbon nanotube-fiber composites," in **Proceeding of the 18th International Conference on Composite Materials (ICCM)**, Jeju, South Korea August 21-26 (2011), with A. Wu and E. Thostenson.
188. "Carbon nanotube fibers: Challenges and Opportunities", in **Proceeding of the 18th International Conference on Composite Materials (ICCM)**, Jeju, South Korea August 21-26 (2011), with W.B. Lu, M. Zu, J. H. Byun, and B. S. Kim.
189. "Damage sensing in carbon nanotube composites under dynamic compression loading," in **Proceeding of the ASC 26th Technical Conference/Second Joint US-Canada Conference on Composites**, Montreal, Canada September 26-28 (2011), with A. Wu and E. Thostenson.

Technical Reports

1. "An Analytical Study of Misfit Dislocations in CdS Solar Cells," NSF/RANN/SE/GI 34872/TR72/3, Institute of Energy Conversion, University of Delaware (1973).

2. "The Mechanical Stability of a Coated CTR First-Wall Under Thermal-Transient Conditions," Controlled Thermonuclear Fusion Research, Argonne National Laboratory (1976).
3. "The Migration of Bubbles in Coated CTR First-Wall," Controlled Thermonuclear Fusion Research, Argonne National Laboratory (1976).
4. "A Feasibility Study of Composite Materials Application to CTR First-Wall.," Controlled Thermonuclear Fusion Research, Argonne National Laboratory (1976).
5. "On the Compressive Strength of Fiber Composites," Technical Report, University of Surrey, England (1976).
6. "Contributions to European Scientific Notes, U.S. Office of Naval Research, London, April–December (1983).
7. "Contributions to European Scientific Notes, U.S. Office of Naval Research, London, July–August (1984).
8. "Analytical and Experimental Studies of Textile Structural Composites," Mechanical Properties, Modeling and Testing Procedures for Carbon-Carbon Composites, Institute for Defense Analysis, IDA Memorandum Report M-86, May 1985.
9. "Static and Cyclic Fatigue of Si₃N₄ at Room and Elevated Temperatures," Technical Report No. 92-33, Center for Composite Materials (1992), with P. Karandikar and T. Fujii.
10. "Smart Structure Concepts Applied to Wind Turbine Design," National Renewable Energy Laboratory, Final Report, RFP# TO-3-13414, (1994), with E. J. Lang (1994).
11. "Process-Structure-Property Relationships for 3-D Textile Structural Composites," Final Technical Report to Lockheed-Martin Aeronautical Systems Co. (NASA Contract NAS1-18888) (1995), with K. Pochiraju, J. H. Byun, and A. P. Majidi.
12. "Report of Composites Technology Assessment in Asia, Part I–China," to ARO, February 1998.
13. "Report of Composites Technology Assessment in Asia, Part II - Japan," to ARO, January 1999.

Patent Disclosure

1. "2-Dimensionally Braided PZT Fiber/Polymer Composites," with A. Safari and B. Jadidian (1998)
2. "Design and Fabrication of Piezoelectric Dome-Shaped Actuators," with a. Safari, F. Mohamadi, and X. P. Ruan (1998).
3. "Method and Apparatus for Forming Multiple Direction Reinforced Braids of Complex Shape and Architecture," with T. Kostar (2001).
4. "Aligned Carbon Nanotube Composite Ribbons and Their Production" with E.T. Thostenson - Filing Date 8/6/03
5. "Method and System for Detecting Damage in Aligned Carbon Nanotube Fiber Composites using Networks" with E.T. Thostenson - Filing Date 10/2/07