

January 2008

GEORGE J. DVORAK

Adjunct Professor

Department of Civil and Environmental Engineering
Northwestern University, Evanston, IL 60209-3109
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Education: C.E. Czech Technical University, Prague, 1956
C.Sc. Czechoslovak Academy of Sciences, Prague, 1964
Ph.D. Brown University, 1969

Citizenship: United States

Academic Appointments:

Brown University, 1964-1965
Research Associate, Division of Engineering

Duke University, 1967-1979
Professor of Civil Engineering, 1974-1979
Professor of Biomedical Engineering, 1977-1979
Director of Graduate Studies in Civil Engineering, 1972-1979

University of Utah, 1979-1984
Professor and Chairman, Department of Civil Engineering, 1979-1984
Professor of Materials Science and Engineering, 1980-1984
Director, Center for Composite Materials, 1982-1984

Rensselaer Polytechnic Institute, 1984-present
Professor and Chairman of Civil Engineering, 1984-1995
Professor of Mechanical Engineering, Aeronautical Engineering and Mechanics, 1986-2006
William Howard Hart Professor of Mechanics, 1995-2007
Professor Emeritus, 2008

Term Appointments:

Cambridge University, Engineering Department, Cambridge, England, Senior Fellow, 1975-1976
Yale University, School of Engineering 1986,
Politecnico di Milano, Milan, Italy, Department of Structural Engineering, 1991, 2000,
Technical University of Denmark, Lyngby, Denmark. Department of Solid Mechanics, Spring 1995
Northwestern University, Department of Civil Engineering. Adjunct Professor 2007-2010. .

Honors and Awards:

National Academy of Engineering, elected in 1995
Arpad Nadai Medal, for pioneering research in the mechanics of modern materials, ASME, 1992
William Prager Medal, for outstanding contributions to the mechanics of solids, SES, 1994
Fulbright Research Fellowship, Technical University of Denmark, 1995
Doctor Honoris Causa, Czech Technical University, Prague, June 1997.
Brown Engineering Alumni Medal, June 1999
Daniel C. Drucker Medal for eminent contributions of broad influence in mechanics, ASME 2002
A Special Issue of the *International Journal of Solids and Structures* in Honour of George J. Dvorak was published as No. 25, Vol. 40, 2003.
Theodore von Karman Medal, for fundamental contributions to the mechanics of material behavior, including micromechanics and the fracture and fatigue of composite materials and structures. ASCE, 2006

Visiting Fellowship, Clare Hall, Cambridge, England, elected in 1975
Senior Visiting Fellowship, British Science Research Council, 1975
Citation for Accomplishment of Special Merit, U. S. Army Research Office, 1977, 1979
Fellow, ASCE, ASME, American Academy of Mechanics, Society of Engineering Science
Lecturer, Midwestern Mechanics Seminar Series, 1986
Lecturer, Southwest Mechanics Seminar Series, 1992
Invited sectional lecturer at the 1988 (Grenoble) , 1996 (Kyoto) and 2000 (Chicago) International Congresses
of Theoretical and Applied Mechanics
Medal of Merit for Contributions to the Development of Mechanics, Czechoslovak Academy of Science,
Prague, 1992
Member, Scientific Advisory Board of the Academy of Science of the Czech Republic, 1993-1997
Member, U.S. Natl. Comm. on Theoretical and Applied Mechanics, 1994-2002

Scientific and Professional Societies:

American Society of Civil Engineers (1967-present)
Engineering Mechanics Division
Committee on Properties of Materials (1972-80), Chairman (1978-80)
Editorial Board, ASCE J. of the Engr. Mech. Div. (1976-78)
Executive Committee (1982-86), Chairman (1984-85)
Advisory Board (1986-90), Chairman (1988-89)

American Society of Mechanical Engineers (1968-present)
Applied Mechanics Division, Committee on Composite Materials, Chairman (1981-89)
General Committee (1981-89), Program Committee(1981-89)

American Academy of Mechanics (1985-present)

Society of Engineering Science (1970-present), Board of Directors (1974-77, 1985-92), President (1988-89)

Research Support:

Director, DARPA/ONR URI Program on High Temperature Advanced Structural Composites, 1988-92

Director, ARPA/ONR URI Program Mechanism-Based Design of High-Temperature Composite Structures,
1992-1997

Principal investigator on numerous projects on many aspects of solid mechanics and mechanical behavior of
materials, sponsored by AFOSR, ARO, DARPA, NSF and ONR, 1971-present.

Other Activities:

Chairman, 11th Annual Meeting of the Society of Engineering Science, Duke University, 1974.
Chairman, Research Workshop on Mechanics of Composite Materials, Duke University, 1978.
Editor, Special Issue of the Jnl. Eng. Mech. Division, ASCE (Vol. 106, October 1980) on Mechanics of
Heterogeneous Media.
External Referee for a Sc.D. Submission, University of Cambridge, 1982.
Coordinator (with C. Zweben) of semiannual, one-week course on "Metal Matrix Composites" at UCLA
and University of Maryland, 1982-1992.
Chairman, AMD Symposium on Mechanics of Composite Materials, ASME WAM, Boston, 1983.
General Chairman, Joint ASCE-ASME Summer Mechanics Conference, Albuquerque, NM, June 1985.
Chairman, Symposium on the Mechanics of Composite Materials, First Joint Summer Meeting of the
Applied Mechanics Division of ASME and Society of Engineering Science, 1988.
Chairman, International Scientific Committee, 1990 IUTAM Symposium on Inelastic Behavior of Composite

Materials at Rensselaer Polytechnic Institute.
Co-Chairman, International Scientific Committee, 1997 IUTAM Symposium on Transformation Problems in Composite and Active Materials, Cairo, Egypt.
Co-chair & organizer, Symposium on Damage in Composite Materials at the ICTAM 2000, XXth Intl. Congress on Theoretical and Applied Mechanics in Chicago, July 2000

Member of many scientific committees, for national and international conferences and symposia, including:
Program Committees of 16th, 17th, and 19th Annual Meetings of the Society of Engineering Science, 1979, 1980, and 1982.

Program Committee, 1998 U.S. National Congress of Theoretical and Applied Mechanics.
Scientific Committee, Euromech 385 Inelastic Analysis of Structures under Variable Loads
TU Aachen, Germany September 1998.

U.S. National Committee on Theoretical and Applied Mechanics (A standing committee of the National Academy of Engineering and the National Research Council.) 1994-2002.

Editorial Board, ASCE Journal of the Engineering Mechanics Division, 1976-78
Associate Editor, Applied Mechanics Reviews, ASME 1985-1995.
Associate Editor, International Journal of Plasticity, Pergamon Press, 1984-2003.
Associate Editor, ASME Journal of Applied Mechanics, 1989-1995.
Editorial Board, Mechanics of Composite Materials and Structures, 1993-present.
Editorial Board, Journal of Composite Materials, 2001-present.

1992-2008 PUBLICATIONS:

- "Thermomechanical Stress Fields in High-Temperature Fibrous Composites: I. Unidirectional Laminates," (with T. Chen and J. Teply), Composites Science and Technology, Vol. 43, pp. 347-358, 1992.
- "Thermomechanical Stress Fields in High-Temperature Fibrous Composites: II. Laminated Plates," (with T. Chen and J. Teply), Composites Sciences and Technology, Vol. 43, pp. 359-368, 1992.
- "On the Thermomechanics of Composites with Imperfectly Bonded Interfaces and Damage," (with Y. Benveniste), International Journal of Solids and Structures, Vol. 29, No. 23, pp. 2907-2919, 1992.
- "On Transformation Strains and Uniform Fields in Multiphase Elastic Media," (with Y. Benveniste), Proceedings of the Royal Society, London, A437, pp. 291-310, 1992.
- "Transformation Field Analysis of Inelastic Composite Materials," Proceedings of the Royal Society, London, A437, pp. 311-326, 1992.
- "On Some Exact Results in Thermoplasticity of Composite Materials," Special Issue of the Journal of Thermal Stresses in Honor of Bruno Boley, Vol. 15, pp. 211-228, 1992.
- "Fracture of Fibrous Metal Matrix Composites-IV. Plastic Zones, Local Stresses and Fracture Strength," (with J. Zarzour and Y. Benveniste), Engineering Fracture Mechanics, Vol. 42, No. 3, pp. 501-517, 1992.
- "Dimensional Stability of Metal-Matrix Laminates," (with Y.A. Bahei-El-Din and J.F. Wu), Composites Science and Technology, Vol. 43, pp. 207-219, 1992.
- "Uniform Fields and Universal Relations in Piezoelectric Composites," with Y. Benveniste), Journal of Mechanics and Physics of Solids, Vol. 40, #6, pp. 1295-1312, 1992.
- "Mori-Tanaka Estimates of the Overall Elastic Moduli of Certain Composite Materials," (with T. Chen and Y. Benveniste), Journal of Applied Mechanics, Vol. 59, No. 3, pp. 539-546, 1992.
- "Some Remarks on a Class of Uniform Fields in Fibrous Composites," (with Y. Benveniste), Journal of Applied Mechanics, Vol. 59, No. 4, pp. 1030-1032, 1992.
- "On Some Exact Results for Disordered Elastic Media," AMD-Vol. 147, Macroscopic Behavior of Heterogeneous Materials from the Microstructure, ASME, pp. 85-93, 1992.
- "Analysis of the Stress Field in Damaged Fibrous Composite Laminates," (with A. Kaveh-Ahangar), AMD-Vol. 150/AD-Vol. 32, Damage Mechanics in Composites, ASME, pp. 53-69, 1992.
- "Dimensional Stability of Metal Matrix Laminates," (with Y.A. Bahei-El-Din and J.F. Wu), Composites Science and Technology, Vol. 43, pp. 207-219, 1992.
- "Finite Deformation Constitutive Relations for Elastic-Plastic Fibrous Metal Matrix Composites," (with N. Fares), ASME Journal of Applied Mechanics, Vol. 60, pp. 619-625, 1993.
- "Optimal Eigenstrain Fields in Thick-Walled Composite Cylinders," (with P. Prochazka), Mechanics of Thick Composites, AMD Vol. 162, pp. 159-182, 1993.

Papers and Book Chapters - continued:

"Experimental Study of Inelastic Behavior of Metal-Matrix Composites," (with H. Nigam and Y.A. Bahei-El-Din), CANCAM'93, Proceedings of the 14th Canadian Congress of Applied Mechanics, Queen's University, Kingston, Vol. 2, pp. 541-542, 1993.

"ASME 1992 Nadai Lecture: Micromechanics of Inelastic Composite Materials: Theory and Experiment," ASME Journal of Engineering Materials and Technology, Vol. 115, pp. 327-338, October 1993.

"Inelastic Analysis of Laminated Plates by Transformation Field Analysis," (with J.R. Zuiker), Proceedings of the Air Force TMC Conference, San Diego, CA, in Titanium Metal Matrix Composites II, P.R. Smith and W.C. Revelos, Eds., USAF WL-TR-93-410, pp. 326-343, June 1993.

"Implementation of the Transformation Field Analysis for Inelastic Composite Materials," (with Y.A. Bahei-El-Din and A.M. Wafa), Computational Mechanics, Vol. 14, pp. 201-228, 1994.

"The Effective Properties of Functionally Graded Composites-I. Extension of the Mori-Tanaka Method to Linearly Varying Fields," (with J.R. Zuiker), Composites Engineering, Vol. 4, No. 1, pp. 19-35, 1994.

"The Modeling of Inelastic Composite Materials with the Transformation Field Analysis," (with Y.A. Bahei-El-Din and A.M. Wafa), Modeling and Simulation in Materials Science and Engineering, Vol. 2, pp. 571-586, 1994.

"An Experimental Investigation of Elastic-Plastic Behavior of a Fibrous Boron-Aluminum Composite: I. Matrix-Dominated Mode," (with H. Nigam and Y.A. Bahei-El-Din), International Journal of Plasticity, Vol. 10, No. 1, pp. 23-48, 1994.

"An Experimental Investigation of Elastic-Plastic Behavior of a Fibrous Boron-Aluminum Composite: II. Fiber-Dominated Mode," (with H. Nigam and Y.A. Bahei-El-Din), International Journal of Plasticity, Vol. 10, No. 1, pp. 49-62, 1994.

"Mechanics of Hot Isostatic Pressing of a SiC/Ti Composite," Mechanics in Materials Processing and Manufacturing, edited by T.J. Moon and M.N. Ghasemi Nejjhad, AMD-Vol. 194, American Society of Mechanical Engineers, New York, 1994, pp. 185-201.

"The Effective Properties of Composite Materials with Constant Reinforcement Density by the Linear Mori-Tanaka Method," (with J. Zuiker), Journal of Engineering Materials and Technology, Vol. 116, pp. 428-437, ASME, 1994.

"Computer-Aided Modeling Tools for Composite Materials," (with M.W. Beall, J. Fish, M.S. Shephard, K.L. Shek and R. Wentorf), Ceramic Engineering and Science Proceedings: 18th Annual Conference on Composites and Advanced Materials - A, pp. 436-443, Westerville, Ohio, The American Ceramic Society, 1994.

"Rate Effects in Hot Isostatic Pressing of a Unidirectional SiC/Ti Composite, (with Y.A. Bahei-El-Din), Proceedings of the Symposium on Inelasticity and Micromechanics of Metal Matrix Composites, Seattle, Washington, (edited by G.Z. Voyiadjis and J.W. Ju), pp. 3-23, 1994.

"Fatigue Damage and Shakedown in Metal Matrix Composite Laminates," (with D.C. Lagoudas and C.-M. Huang), Mechanics of Composite Materials and Structures, Vol. 1, pp. 171-202, 1994.

"Initial Failure Maps for Ceramic & Metal Matrix Composite Laminates," (with M. Sejnoha), Proceedings of U.S.-Europe Workshop on Fracture and Damage of Quasi-Brittle Materials, Prague, edited by Z.P. Bazant, Z. Bittnar, M. Jirasek, and J. Mazars, E & FN Spon, an imprint of Chapman & Hall, pp. 575-2588, 1995.

Papers and Book Chapters - continued:

"Effective Local Properties for Modeling of Functionally Graded Composite Materials," (with J. Zuiker), IUTAM/ISIMM Symposium on Anisotropy, Inhomogeneity and Nonlinearity in Solid Mechanics, University of Nottingham, August 1994, England, Kluwer Acad. Publ., pp. 103-108, 1995

"Mechanics of Hot Isostatic Pressing of a Unidirectional SiC/Ti Composite," (with Y.A. Bahei-El-Din), Acta Metallurgica et Materialia, Vol. 43, No. 7, pp. 2531-2539, 1995.

"Transformation Analysis of Inelastic Laminates," (with Y.A. Bahei-El-Din), IUTAM Symposium on Microstructure-Property Interactions in Composite Materials, Aalborg University, Denmark, August 1994, (Kluwer Academic Publishers), pp. 89-100, 1995.

"Initial Failure Maps for Fibrous CMC Laminates," (with M. Sejnoha), Journal of The American Ceramic Society, Vol. 78, No. 1, pp. 205-210, 1995.

"Coupling in the Mechanical Response of Functionally Graded Composite Materials," (with J.R. Zuiker), Mechanics and Materials for Electronic Packaging, edited by M.L. Dunn, M. Taya and M. Saka, AMD-Vol. 193, ASME, pp. 73-80, 1994.

"Mechanics of Hot Isostatic Pressing in Intermetallic Matrix Composites," (with Y.A. Bahei-El-Din and J.F.-Wu), Journal of Materials Science, Vol. 30, pp. 1-23, 1995.

"Modeling of Thermomechanical Fatigue in (0/±45/90)_s Sigma/TIMETAL-21S Laminates," (with Y.A. Bahei-El-Din, H. Nigam and A.M. Wafa), Life Prediction Methodology for Titanium Matrix Composites, ASTM STP 1253, edited by W.S. Johnson, J.M. Larsen and B.N. Cox, American Society for Testing and Materials, Philadelphia, Pennsylvania, pp. 328-356, 1995.

"Isothermal Fatigue of Sigma/Timetal 21S Laminates - I. Experimental Results," (with H. Nigam and Y.A. Bahei-El-Din), Mechanics of Composite Materials and Structures, Vol. 4, No. 2, 113-130, 1997.

"Isothermal Fatigue of Sigma/Timetal 21S Laminates - II. Modeling and Numerical Analysis," (with Y.A. Bahei-El-Din), Mechanics of Composite Materials and Structures, Vol 4, No. 2, 131-158, 1997.

"Inelastic Composite Materials, Transformation Analysis and Experiments," (with Y.A. Bahei-El-Din), Continuum Micromechanics, edited by P. Suquet, CISM Courses and Lectures, International Centre for Mechanical Sciences, Udine, Italy, pp. 1-59, Springer Verlag, NY, 1996.

"Initial Failure Maps for Ceramic and Metal Matrix Composite Laminates," (with M. Sejnoha), Modeling and Simulation in Materials Science and Engineering, Vol. 4, pp. 553-580, 1996.

"Thick-Walled Composite Cylinders with Optimal Fiber Prestress" (with P. Prochazka), Composites Part B, Vol. 27B, 643-649, 1996.

"Pseudoplasticity of Fibrous Composite Materials: Inelastic Response of Laminates with Intefacial decohesion," (with M. Sejnoha and M. Srinivas) Micromechanics of Plasticity and Damage of Multiphase Materials, edited by A. Pineau and A. Zaoui, Kluwer Academic Publishers, Dordrecht, pp. 43-50, 1996

"Mechanism-based Design of Composite Structures" (with S. Adjerid, M. Beall, J. Fish, J. Flaherty, J. Hudson, K. Shek, M. Shephard and R. Wentorf) AD-Vol. 51/MD-Vol.73 Proc. ASME Aerospace and Materials Divisions, ed. by W.S. Chan, et al., ASME 1996, pp. 271-281.

Papers and Book Chapters - continued:

- “Damage Accumulation during Isothermal Fatigue of Ti-SiC Laminates,” (with P. Lipetzky and N. Stoloff) Scripta materialia, Vol. 15, No. 9, pp. 1089-1094, 1996
- “Tensile Properties of a SiC_f/SiC Composite, (with P. Lipetzky, and N. Stoloff), Materials Science and Engineering A216, pp. 11-19, 1996.
- “High-Temperature Cylindrical Specimen Grip for Biaxial Loading,” (with P. Lipetzky and N. Stoloff), Rev. Sci. Instrum. 67 (5) pp. 1989-1992, May 1996.
- “Thermomechanics of Heterogeneous Media,” Journal of Thermal Stresses, 20, 799-817, 1997.
- “Micromechanical Theories” (with Y.A. Bahei-El-Din and J. Zuiker), Chapter 3 in Titanium Matrix Composites, edited by S. Mall and T. Nicolas, Technomic Publishing, Lancaster, PA, 1997, pp. 69-111.
- “On Micromechanics of Inelastic and Piezoelectric Composites,” (with Y. Benveniste), in Theoretical and Applied Mechanics 1996, edited by T. Tatsumi, E. Watanabe, and T. Kambe, Elsevier Science B.V., pp. 217-237, 1997.
- “Mechanism-based Design of Composite Structures: Program Overview and Accomplishments,” Ceramic Engineering & Science Proceedings, Vol. 18, Issue 4, 299-306, 1997.
- “Software Framework for Mechanism-based Design of Composite Structures,” (with R. Wentorf, M.S. Shephard, J. Fish, M.W. Beall, R. Collar, and K.-L. Shek), Ceramic Engineering & Science Proceedings, Vol 18, Issue 4, 307-334, 1997.
- “Modeling and Simulation of Failure Processes in Composites,” (with J. Fish, K. Shek, S. Gomma, M.S. Shephard, W.E. Bachrach and A.M. Wafa), Ceramic Engineering & Science Proceedings, Vol, 18, Issue 4, 323-330, 1997.
- “Multiaxial Response of Woven Continuous-Fiber Composites,” (with P. Lipetzky, and N.S. Stoloff), Ceramic Engineering & Science Proceedings, Vol. 18, Issue 4, 347-354, 1997.
- “Atmospheric Effects on High-Temperature Lifetime of Ceramic Composites,” (with P. Lipetzky, and N.S. Stoloff), Ceramic Engineering & Science Proceedings, Vol. 18, Issue 4, 355-362, 1997.
- “Micromechanical Models for Graded Composite Materials,” (with T. Reiter and V. Tvergaard), Journal of the Mechanics and Physics of Solids, Vol. 45, No. 8, 1281-1302, 1997.
- G.J. Dvorak and Y.A. Bahei-El-Din editors, "IUTAM Symposium on Transformation Problems in Composite and Active Materials," Kluwer academic Publishers, Dordrecht, 317 pp., 1998.
- “Micromechanical Models for Graded Composite Materials II-Thermomechanical Loading,” (with T. Reiter) Journal of the Mechanics and Physics of Solids, 46(9) 1655-1674, 1998.
- “Composite Model for Basic Creep of Concrete,” (with S. Baweja and Z.P. Bazant), ASCE Journal of Engineering Mechanics Division, 124(9), 959-965, 1998.
- “Micromechanical Modeling of Functionally Graded Materials,” (with T. Reiter) in Transformation Problems in Composite and Active Materials, edited with Y.A. Bahei-El-Din. Proc. IUTAM Symposium, in Cairo, Egypt, March 1997, Kluwer Academic Publishers, pp. 173-184, 1998.

"Submerged cylindrical laminates with optimal fiber prestress," IUTAM Symposium on Transformation Problems in Composite and Active Materials, edited with Y.A. Bahei-El-Din, Kluwer Academic Publishers, pp. 209-220, 1998.

"Energy released by interfacial decohesion in a two-phase composite system," in Recent Advances in Mechanics of Aerospace Structures and Materials, AD-56 edited by B.V. Sankar, ASME, New York, 1998, pp.13-22.

G.J. Dvorak, editor, "Research Trends in Solid Mechanics, a Report from the U.S. National Committee on Theoretical and Applied Mechanics," Elsevier Science Ltd., Oxford, 422 pp., 1999.
Also published in Intl. Jnl. Solids and Structures, Vol. 37(1&2) 2000.

"Size effects in fracture of unidirectional composite plates," Special Issue of International Journal of Fracture on size effect problems, 95, 89-101, 1999. Also Published in Fracture Scaling, (Z. P. Bazant and Y. Rajapakse, editors) Kluwer Academic Publishers, Dordrecht.

"Micromechanics of Inelastic Composite Materials," (with Y.A. Bahei-El-Din) Chapter 1. 14 in Vol. I: Fiber Reinforcement and General Theory of Composites (ed. By tsu-Wei Chou), of Comprehensive Composite Materials, (A. Kelly and C. Zweben, editors), Elsevier Science 2000, pp. 403-430.

"Design and Fabrication of Submerged Cylindrical Laminates-I," (with P. Prochazka and M.V. Srinivas), International Journal of Solids and Structures, (36) 26, 3917-3944, 1999.

"Design and Fabrication of Submerged Cylindrical Laminates: II Effect of Fiber Prestress," (with M.V. Srinivas, and P. Prochazka), International Journal of Solids and Structures, (36) 26 3945-3976, 1999.

"New Estimates of Overall Properties of Heterogeneous Solids," (with M.V. Srinivas) Journal of the Mechanics and Physics of Solids, Vol. 47(4), pp. 899-920, 1999.

"Executive summary" for Research Trends in Solid Mechanics, a Report from the U.S. National Committee on Theoretical and Applied Mechanics, Intl. Jnl. Solids and Structures, 37(1&2) 1-11. 2000. Also published in book edition of the Report, (ISBN: 0-08-043572-6) Elsevier, Oxford.

"Composite materials: Inelastic behavior, damage, fatigue and fracture," Intl. Jnl. Solids and Structures, 37(1&2), 155-170, 2000.

"Shakedown and Fatigue Damage in Metal Matrix Composites," in Inelastic Analysis of Structures under Variable Repeated Loads, (ed. by D. Weichert and G. Maier) Kluwer Academic Publishers, 2000.

"Adhesive Joints for Thick Composite Laminates," (with J. Zhang and O. Canyurt) Proc. 23rd Annual Meeting of the Adhesion Society, , (ed. by Gregory Anderson), ISSN 1086-9506, pp. 389-391, 2000.

"Prestressed Adhesive Strap Joints for Composite Laminates," (with J. Zhang and O. Canyurt) Proc. 23rd Annual Meeting of the Adhesion Society, (ed. by Gregory Anderson) ISSN 1086-9506, pp. 186-187, 2000.

"Effect of Fiber Prestress on Residual Stresses and Onset of Damage in Symmetric Laminates," (with A. Suvorov), Composites Science and Technology, 60, 1929-1939, 2000.

"New Adhesive Joints for Thick Composite Laminates," (with Y. A. Bahei-El-Din), Composites Science and Technology, 61, 19-40, 2001.

"Adhesive Tongue and Groove Joints for Thick Composite Laminates," (with J. Zhang and O. Canyurt), Composites Science and Technology, 61, 1123-1142, 2001.

"Adhesive Tongue and Groove Joints for Thick Composite Laminates," (with J. Zhang and O. Canyurt), Composites Science and Technology, 61, 1123-1142, 2001.

"Damage evolution and prevention in composite materials," Mechanics for the New Millenium Proceedings of ICTAM 2000, the 20th International Congress of Theoretical and Applied Mechanics. (ed. by H. Aref and J. W. Phillips), Kluwer Academic Publishers, pp. 197-210. 2001.

"Optimized Fiber Prestress for Reduction of Free Edge Stresses in Composite Laminates," (with A. Suvorov), Intl. Jnl. Solids and Structures, 38, 6751-6786, 2001.

"Transformation Field Analysis of Damage Evolution in Composite Materials, (with J. Zhang), Jnl. of the Mechanics and Physics of Solids -the Jean-Paul Boehler Memorial Volume) 49, 2517-2541. 2001,

"Optimal Design of Prestressed Laminate/Ceramic Plate Assemblies," (with A. Suvorov), Meccanica 36, 87-109, 2001. (Special issue for the 70th birthday of Professor Giulio Maier).

"Transformation field analysis of composite materials." Handbook of Materials Behavior Models, (edited by Jean Lemaitre), Section 10.5, Academic Press, 2001, pp. 996-1003.

"Evolution of interfacial decohesion in particulate composites," (with J. Zhang) in Three-Dimensional Effects in Composite and Sandwich Structures, (ed. by Y. D. S. Rajapakse) AMD vol. 248, ASME, New York, pp. 69-80., 2001.

"Damage control in composite laminates, " (with A. P. Suvorov) in Three-Dimensional Effects in Composite and Sandwich Structures, (ed. by Y. D. S. Rajapakse) AMD vol. 248, ASME, New York, pp. 107-116, 2001.

"Stress Relaxation in Prestressed Composite Laminates, (with A. Suvorov), ASME J. Applied Mechanics, 69, 459-469, 2002..

"Stress redistribution in skin/flange assemblies," (with K. Matous), Mechanics of Advanced Materials and Structures, 9, 257-272, 2002.

"Design of prestressed skin-flange assembly," (with K. Matous) Journal of Sandwich Materials and Structures. 4, 367-387, 2002.

"Rate forms of the Eshelby and Hill tensors, " (with A. Suvorov) Intl. Jnl. Solids and Structures, 39 (22), 5659-5678, 2002.

"Optimization of electromagnetic absorption in laminated composite plates," (with K. Matous) IEEE Transactions on Magnetics, 39(3), 1827-1835, 2003.

"Analysis of elastic and viscoelastic prestressed composite laminates," (with A. Suvorov) Proceedings of 6th International Conference on Sandwich Structures, 842-850, 2003.

"Analysis of elastic and viscoelastic prestressed composite laminates," Proc. 6th Intl. Conf. Sandwich Structures, ed. by J. R> Vinson, Y. D. S. Rajapakse and L. A. Carlsson, CRC Press, 942-850, 2003.

"Analysis of tongue-and-groove joints for thick laminates, (with K. Matous) Composites B, 35, 609-617., 2004.

Papers and Book Chapters - continued:

"Incremental double-diaphragm forming of composite materials using reconfigurable tooling," (with C. Munro, D. Walczyk and S. J. Slusarski). Trans. N. American Manufacturing Res. Inst. and Soc. Manufacturing Engng., NAMRI/SME, 32, 495-502, 2004.

"Enhancement of low velocity impact resistance of sandwich plates," (with A. Suvorov)- Intl. Jnl. Solids Structures – 42(8), 2323-2344, 2005.

"Cylindrical bending of continuous sandwich plates with arbitrary number of anisotropic layers," (with A. Suvorov) Mechanics of Advanced Materials and Structures. Vol. 12(4), 247-264, 2005.

"Dynamic response of sandwich plates to medium-velocity impact (with A. Suvorov), Journal of Sandwich Structures and Materials, 7(5), 395-412, 2005

"Anti-plane shear cracks approaching a bi-material interface," (with A. Suvorov), Intl. Jnl. Fracture 137, 275-294, 2006.

"Protection of sandwich plates from low-velocity impact," J. Composite Matls, 40(15), 1317-1331, 2006.

"A blast-tolerant sandwich plate design with a polyurea interlayer" (with Y.A. Bahei-El-Din and O.J. Fredricksen) Intl. Jnl. Solids Structures, 43(25-26), 7644-7658), 2006.

Fibrous nanocomposites with interface stress: Hill's and Levin's connections for effective moduli, (with T. Chen), Appl. Phys. Letters, 88, 211912-1-3, 2006

"Solids containing spherical nano-inclusions with interface stresses: Effective properties and thermal-mechanical connections," (with T. Chen and C. C. Yu). Intl. J. Solids Structures, 44, 941-955, 2007.

"Size-dependent elastic properties of unidirectional nano-composites with interface stresses, (with T. Chen and C. C. Yu), Acta Mech. 188, 39-54, 2007.

"Behavior of sandwich plates reinforced with polyurethane/polyurea interlayers under blast loads," (with Y.A. Bahei-El-Din) Jnl. Sandwich Structures Materials, 9, 261-282, 2007.

"Wave propagation and dispersion in sandwich plates subjected to blast loads," (with Y.A. Bahei-El-Din), Mechanics of Advanced Materials and Structures, 14, 465-475, 2007.

"Enhancement of blast resistance of sandwich plates," (with Y.A. Bahei-El-Din). _Special Issue "Marine Composites and Sandwich Structures", ed. by Yapa Rajapakse and David Hui, Composites Part B, B39, 120-127, 2008.

"Impact and blast resistance of sandwich plates," (with Y.A. Bahei-El-Din and A. P. Suvorov). in *Composite Materials and Sandwich Structures* ed. by E.E. Gdoutos and I. M. Daniel, Springer Verlag, 46pp; to appear.

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