WIESLAW K. BINIENDA, Ph.D., F. ASCE

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EDUCATION:

Ph.D. Mechanical Engineering, Drexel University (1987)

M.S. Mechanical Engineering, Drexel University (1985)

M.S. Motor Vehicles and Heavy Duty Machines, Warsaw Polytechnic University (1980)

PROFESSIONAL EXPERIENCE:

MANAGERIAL:

Civil Engineering Department, University of Akron

- **Chairman (2003 – present)**
- Interim Chairman (2000 – 2003)

Gas and Turbine Research and Testing Laboratory, University of Akron

- ***Co- Director* (2003 – present)**

Aerospace Division, ASCE

- Executive Committee Chairman (2008 -2009)
- General Chair of *2008 Earth & Space International Conference*
- Technical Co-Chair of *2006 Earth & Space International Conference*
- Member of Executive Committee (2005 – 2010)
- Chairman of the Advanced Composite Materials and Structures Committee (2000 – 2005)
- Deputy Chairman of the Advanced Composite Materials and Structures Committee (1998 – 2000)

Journal of Aerospace Engineering, ASCE

- **Editor-in-Chief (November 2010 – present)**
- Associate Editor for Composite Materials and Advanced Structures (2008 -2011).

Journal of Frontiers in Aerospace Engineering

- **Editorial Board Member (July 2013 – present)**

Structures, Structural Dynamics, and Materials (SDM) Conference Liaison Committee, ASCE

- Chairman (2008 – present)
- Student paper Competition Chairman – SDM Conference 2010
- Associate Chairman (2005 – 2008)
- Secretary (2000 – 2005)

University of Akron

- Senator (1999 – 2002)

ACADEMIC:

University of Akron

- ***Professor*, Department of Civil Engineering (2000 – present)**
- *Associate Professor*, Department of Civil Engineering (1993 – 2000)
- *Assistant Professor*, Department of Civil Engineering (1988 – 1993)

Drexel University

- *Post Doctoral Fellow*, Mechanical Engineering Department (1987 – 1988)

Temple University

- *Adjunct Professor*, Mechanical Engineering Department (1986 – 1987)

Warsaw Technical University

- *Research Assistant*, Motor Vehicles and Heavy Duty Machines (1980 – 1982)

ACADEMIC SERVICE:

THE UNIVERSITY OF AKRON:

- Supercomputing Committee, Ohio Supercomputer Center (1993 – present)
- Resource Committee, Ohio Supercomputer Center (1993 – present)
- Software Committee, Ohio Supercomputer Center (1993 – present)
- Wellbeing Committee (2000 – 2004)
- Research Committee (2000 – 2004)
- Faculty Senate (2000 – 2001)
- Student Policy Committee (1998 – 1999)
- Advisory Committee for Electronic Delivery System (1994 – 1995)
- Hearing Board Pool (2007 – present)

THE COLLEGE OF ENGINEERING:

- Dean's Advisory Research Committee and Space Committee (2000 – present)
- New Programs in Architecture Engineering Committee (2000 – present)
- Construction Engineering Committee (2000 – present)
- Aerospace Engineering Committee (2000 – 2006)
- Search Committee for the Dean of the College of Engineering (1999 – 2001)
- Graduate Curriculum Committee (1994 – 1995)
- Engineering Computer Policy and Management Committee (1993 – 1999)

THE CIVIL ENGINEERING DEPARTMENT:

- Oversight of all committees of the Civil Engineering Department as Interim Department Chair and Department Chair (2000 – present)
- Undergraduate Curriculum Committee (1996 – 2000)
- Structural Group Planning Committee (1994 – 2000)
- Department Search Committees (1994 – 2000)

- Structural Group Equipment Committee - Materials and Structures Group (1994 – 2000)
- Graduate Committee (1994 – 1998)

EXTERNAL COMMITTEES:

- BUGC Human Resources Task Force, Greater Cleveland Partnership (2003 – present)
- Technical Advisory Committee for FOSBEL, Inc. (1991 – 1994)
- ASCE Aerospace Division Executive Committee member (2004 – 2010)
- Member of the Organizing Committee of International Scientific-Technical Conference, "Advance in Petroleum and Gas Industry and Petrochemistry" – Lviv 2009
- Expert Evaluator for the Foundation of Polish Science, 2008 – present
- SDM Conference Organizing Committee member and Chair of The Best Student Paper Committee – for 2010 SDM Conference, Orlando FL.
- Expert of the Steering Committee on **Digital Thread, Integrated Information Systems, Big Data, Analytics and Visualization,** and **High Performance Computing** under the US President's Council of Advisors on Science and Technology (PCAST), Advanced Manufacturing Initiative AMP 2.0 **http://www.whitehouse.gov/sites/default/files/microsites/ostp/PCAST/amp20_report_final.pdf**
- Member of the Government of Poland Investigation Commission for the Airplane Crash in Smolensk on April 10, 2010, appointed by Ministry of Defense of Poland on February 3, 2016
- Member of the Government of Poland Steering Committee for Scientific Research and Development in the area of Security and Defense, appointed by Ministry of Higher Education of Poland on March 29, 2016.

LEADERSHIP:

- Editorial Board Member of Frontiers in Aerospace Engineering Journal, 2013 - present
- Editor-in-Chief of the Journal of Aerospace Engineering, ASCE, from 2000 – present.
- Chairman of the Civil Engineering Department from 2000 to present.
- Led ASCE Aerospace Division, organize Earth and Space Conferences, Sessions for Engineering Mechanics and SDM Conferences, Responsible for Student Paper Competition in 2010 SDM Conference.
- Developed a project for the formation of the Intelligent Gas Turbine Engine Research Center (1$M equipment funding)– $2M for New Lab Building for the College, Co-director (2003 – present)
- Created Advisory Council for the Civil Engineering Department (2000 – present)
- Fundraised for undergraduate scholarships via CFCE (distributed scholarships for over $70k per academic year) (2000 – present)
- Hired faculty members who rank in the College of Engineering as the highest in publication record and research funding at their ranks (2002)
- Initiated a proposal led by the Civil Engineering Department at the University of Akron for the formation of a Transportation Center in cooperation with Ohio University, University of

Cincinnati, Central Ohio University, University of Dayton and Case Western Reserve University (2000). Funding at level 0f $2M received for 2006-2010.
- Secretary - South Shore Yacht Club (2007-2008).

PROFESSIONAL DEVELOPMENT:

- NSF Workshop for Engineering Materials Laboratory Teaching – NWU 1989
- ExCEEd – during CE Head and Chairs meeting 2005, 2010

FELLOWSHIPS, CERTIFICATES, AND AWARDS:

- NASA Lewis Research Center Fellowship (Summer 1989 and 1990)
- The University of Akron Certificate for The Collaborative Performance Review Process Training for Supervisors (June 18, 2001)
- College of Engineering Outstanding Researcher Award – Granted by the peer group in the College of Engineering (April 25, 2002)
- The University of Akron Fifteen Year Award (May 7, 2003)
- NASA "Turning Goals Into Reality Award" for valuable contribution to Jet Engine Containment Concepts and Blade-Out Simulation Team and Exceptional Progress Toward Aviation Safety (September 2, 2004)
- Certificate of Achievement for Faculty Mentor/Learning Assistant Partnership (2004, 2005)
- Akron Public School Certificate – International Baccalaureate Task Force Certificate (July 10, 2005)
- ASCE 2006 Certificate of Appreciation in recognition for outstanding service.
- 2007 Educational Talent Search Certificate for the University of Akron's "College for a Day" Program.
- ASCE Fellow - awarded November 9, 2007.
- Polonia Technica Certificate of Appreciation September 12, 2007.
- "2008 Gold Award" - American Polish Engineering Association.
- NASA Glenn Patent Award for "Strain Rate Dependent Analysis of Polymer Matrix Composites STRANAL-PMS Version 2" – LEW-17910-1, June 3, 2009.
- NASA Glenn Technical Brief Award for "A Modeling Technique and Representation of Failure in the Analysis of Triaxial Braided Carbon Fiber Composites" – LEW-18435-1 June 10, 2009.
- The Louis A. Hill, Jr. Award, April 15, 2010.
- ASCE Aerospace Division 2010 Outstanding Professional Service Award
- ASCE Aerospace Division 2011 Outstanding Technical Contribution Award
- In Recognition of Leadership Participation in establishing The Timken Endowed Chair for Engineering Surfaces and The Timken Engineering Surface Laboratory, August 18, 2011
- Polish American Engineering Association Certificate of Recognition, May 6, 2012
- Recognition Letter from Mary Taylor Liet. Governor of the State of Ohio dated April 24, 2012, for "contributions to advancing the field o aerospace engineering, philanthropic and leadership efforts."
- "Polish American Heritage Award" from the Polish American Congress, Illinois Division, October 19, 2012.
- Person of the Year 2012 from Gazeta Polska
- The 2013 Richard R. Torrens Award, by the ASCE Subcommittee on Technical Advancement, in recognition of excellent editorial leadership and for contributions to the enhancement of the Journal of Aerospace Engineering.
- Award for Outstanding Service from the Institute of International Education Scholar Rescue Fund, November 2013.

- The University of Akron College of Engineering Outstanding Research Award, January 26, 2018.

TEACHING ACTIVITIES:

PH.D. DISSERTATIONS DIRECTED

1. "Theory of Crack Initiation from Smooth Surfaces and its Application" by Anping Hong - defended November 21, 1994, co-advisor Prof. Z. Bazant, Civil Engineering Department, Northwestern University, Evanston, IL 60208-3109. Committee members: R. Liang, A. Saleeb, D. Robinson and Y-J Lin.
2. "The Analysis of Multiple Cracks in Non-homogeneous Material" by Ming Zhou – defended May 12, 1995. Committee members: Fertis, Robinson, Kankam, Saleeb, Hariharan
3. "Numerical modeling of breast cancer by detection of the surface deformation perturbation" - by J. Q. Neifert - defended February 10, 1995 (together with biomedical and mechanical engineering departments).
4. "Crack Growth in Functionally Graded Materials" by Nadim Shbeeb defended September 9, 1998. Committee members: Robinson, Menzemer, Zobel, Krieder.
5. "Analytical Modeling of Imperfect Bond Between Coated Fiber and Matrix Material" by Latife Kuguoglu, June 22, 1999. Committee members: Robinson, Menzemer, Kreider, Hajjafar, Hoo Fatt.
6. "Multiple kinked and branched cracks in anisotropic plate" by Khaled Hamad, September 2002. Committee members: HooFatt, Menzemer, Kreider.
7. "Composite/concrete inter-phase performance" by Salim Baraka, May 2002. Committee members: P. Qiao, C. Menzemer and K. Kreider.
8. "Material Modeling of Strain Rate Dependent Polymer and 2D tri-axially Braided Composite", by Jingyun Cheng, April 15, 2006. P. Qiao, A. Saleeb, R. Goldberg, E. Pan, and K. Kreider.
9. "Nonlinear Strain Rate Dependent Composite Model for Explicit Finite Element Analysis" by Xiahua Zheng, April 22, 2006. Committee members: P. Qiao, A. Saleeb, R. Goldberg, E. Pan, and K. Kreider.
10. "Mechanics of Bi-Material beams and its application to mixed-mode fracture of wood-FRP" by Cole Hamey, July 7, 2007, Committee members: P. Qiao, C. Menzemer, D. Quinn, and K. Kreider.
11. "Low Velocity Impact Analysis of Composite Laminate Plates and Sandwich Panels", by Daihua Zheng, Committee members:, A. Saleeb, E. Pan, C. Menzemer, X. Gao, and J. Young, December 2007.
12. "The Experimental and Analytical Characterization of the Macromechanical Response for Triaxial Braided Composite Materials", by Justin Littell, Committee members: E. Pan, C. Menzemer, K. Kreider, M. HooFatt, and R. Goldberg, September 2008.
13. "Mesomechanical Model for Failure Study of Triaxial Braided Composite Materials", by Xuetao Li, Committee members: E. Pan, G. Yun, K. Kreider, X. Gao, and R. Goldberg, October 2010.
14. "Systematic Approach to Simulating Impact for Triaxially Braided Composites", by Brina J. Blizler, Committee members: Dr. R. Goldberg, Dr. E. Pan, Dr. A. Patnaik, and Dr. K. Kreider, March 9, 2012.
15. "Evaluation of Test Methods for Triaxial Braid Composites and the Development of a Large Multiaxial Test Frame for Validation Using Braided Tube Specimens", by Lee Kohlman, Committee members: Dr. R. Goldberg, Dr. C.C Menzemer, Dr. G. N. Morscher, Dr. A. Patnaik, and Dr. S. Dordevic, March 20, 2012.

16. “Multi-scale Characterization and Failure Modeling of Carbon/Epoxy Triaxially Braided Composite”, by Chao Zhang, Committee members: Dr. R. Goldberg, Dr. A. Patnaik, Dr. E. Pan, Dr. E. Sancaktar, and Dr. Xiaosheng Gao, November 7, 2013.
17. “Advanced Mesomechanical Modeling of Triaxially Braided Composites for Dynamic Impact Analysis with Fracture”, by Zifeng Nie, Committee members: Dr. Ernian Pan, Dr. Guo-Xiang Wang, Dr. Robert Goldberg, Dr. QWindan Huang, Dr. Kevin Kreider, 2014.

MASTERS THESES DIRECTED

1. Crack Development in Cross-Ply Laminates under Uniaxial Tension - Andrew L. Gyekenesi, graduated with M.Sc. in CSU Civil Engineering Department, March 1993.
2. Contact Problems for Multilayer Composite Half-plane with HoneyComb substrate - Wang Zhong, April, 1995.
3. High Performance Filament Wound Composite Tubes Analysis - Yong Wang, May, 1996.
4. Retrofitting of Concrete Beam using Graphite Epoxy Layers - Steven Tysl, May, 1999.
5. Vibration Damping in a Composite Shaft using Piezoelectric Patches – Vikram Dhruva, December 2000.
6. Creep-Rupture of Composite Materials - Yanx Cai, July 2002.
7. The preliminary Research on the Composite Material use in Highway Guardrail System – Guozhong Chen, January 2004.
8. Simplified Creep-Rupture material Model for Implicit FEA - Fengxia Ouyang, November 2005.
9. Simulation of Ballistic Impact Behavior of Tri-Axially Braided Composite Half-Cylinders - Marcin Staniszewski, April 2007.
10. Non-Destructive Investigation & FEA Correlation on an Aircraft Sandwich Composite Structure – Justin Bail, December 2007.
11. High Strain Rate Data Acquisition of 2D Braided Composite Substructures – Chuck Ruggeri, September 2009.
12. Simulations of Dynamic Impact of Self-Centering Concentrically-Braced Frames (SC-CBF) using Ls-Dyna- Lucie Blin-Bellomi, June, 2012.
13. Finite Element Modeling of Aerospace Materials and Structures, Zhoupei Hu- July 2012.

SPECIAL PROJECTS DIRECTED

- Interaction of Two Annular Interfacial Cracks - Partial Bound of Fiber - Wanming Lao - Summer 1993.
- Smart Structures in Structural Engineering, M.Sc. Project by Joushua Raymond, Summer 1999.
- Efficiency Estimation for Multibolted GFRP Single Connected Angles, M.Sc. Project by Traian-Ovidiu Gheorghiu, Summer 2000.
- Singularity Index for a Kinked Crack in Anisotropic Material using Finite Element Analysis – M.Sc Project by Khaled A. Hamad, May 2001.

ACADEMIC COURSES TAUGHT

The University of Akron

- Development of Distance Learning Courses: Mechanics of Solids, Nuclear Engineering (4 courses)
- 702:801 Plates and Shells
- 710:802 Advanced Composite Mechanics
- 610:803 Introduction to Composite Mechanics
- 682:701 Elasticity
- 694:702 Damage Mechanics in Composites
- 694:703 Design with Advanced Composite Materials
- 694:704 Polymer Composites for Civil and Structural Engineering.
- 101:001 Tools for Engineering Lab
- 201:002 Statics
- Internet Lecture, available at http://www.ecgf.uakron.edu/~civil/statics
- 202:003 Introduction to Mechanics of Solids
- 380:001 Engineering Materials Lab

Distance Learning Courses Developed

- Introduction to Mechanics of Solids www – developed and approved 2015, first time taught Fall 2016

Drexel University

- G606 Solid Mechanics II
- E321 Statics
- E323 Dynamics

Temple University

- E101 Introduction to Fortran 77

WORKSHOPS AND SHORT COURSES:

Department of Polymer Engineering, University of Technology, Malaysia (Summer 1995)

- Micromechanics Approach in Composite Materials
- Macromechanics Approach in Composite Materials
- Fracture and Impact Problems in Composites

Northwestern University, Xi'an, China

- (Summer 2015) – 3 week course in Composite materials
- October 20-23, 2016 – Composite Materials, Fundamentals, Advanced Research and Application to Airplane Crash Investigation

CURRICULUM DEVELOPMENT:

- New curriculum for Undergraduate CE Program under review
- Member of the Mid-West Council of Chairs – ABET accreditation and curriculum development.
- ACBM Undergraduate Faculty Coalition for Engineering Materials Curriculum Development, from 1993 to present.
- Served in Undergraduate Mechanics Focus Group organized by Simon & Schuster Education Group, Chicago Il., May 4 and 5, 1992.

- Served in Ad-hoc UA-CSU Composite Bridge Committee, 1991 - 1999.
- ABET driven modification to Civil Engineering Program.
- Participation in the development of Aerospace Engineering Systems Program
- Development of Architectural Engineering and Construction Engineering Programs.
- Modification of CE program – addition of Senior Design Class 2000, Modification of Tools for Engineering 2006, addition of introduction to Design, 2006.
- Member of Zip for Engineering – Distance Learning courses development, 2013- present

SCHOLARLY PUBLICATIONS:

Books (3),
Editorial of Special Issues (5),
Total Refereed Papers (150)
Journal Papers (64)
NASA Publications (22)
Proceedings Papers and Other Publications (82)
Patent and Disclosures (6)
Total Citations by Google Scholar (over 1461)
h-index - 22
i10-index - 44

Google Scholar: http://scholar.google.com/citations?user=j314OY8AAAAJ&hl=en

BOOKS :

1. "Earth and Space 2006 - Engineering, Construction, and Operations in Challenging Environments", R.B. Malla, W.K. Binienda, and A.K. Maji, ASCE 2006, ISBN 0-7844-0830-0.
2. "Earth and Space 2008 - Engineering, Science, Construction, and Operations in Challenging Environments" W. K. Binienda, ASCE 2008, ISBN 978-0-7844-0988-6.
3. "Earth and Space 2012 - Engineering, Construction, and Operations in Challenging Environments", K. Zacny, R.B. Malla, and W.K. Binienda, ASCE 2012, ISBN 0-7844-1219-0.

REFEREED JOURNAL EDITORIALS:

1. W.K. Binienda and M.J Pindera, , editorial special issue of Journal of Aerospace Engineering, Vol.15, No.3, p. 73, 2002.
2. W.K. Binienda and P. Qiao, "Advanced Materials and Structures: Analysis methods and Results," editorial special issue of Journal of Aerospace Engineering, Vol. 18, pp. 1-2, 2005.
3. P. Qiao and W.K. Binienda, "Impact Mechanics of Composite Materials for Aerospace Application", editorial special issue of Journal of Aerospace Engineering, Vol. 21, pp.117-118, 2008.
4. R. K. Goldberg and W.K. Binienda, "Ballistic Impact and Crashworthiness Response of Aerospace Structures", editorial special issue of Journal of Aerospace Engineering, V. 22, No. 3, pp. 199-200, 2009.
5. W.K. Binienda, "Mechanics of Advanced Materials and Structures", editorial special issue of Journal of Aerospace Engineering, V.24, No.2, pp. 145-146, 2011

REFEREED JOURNAL PAPERS :

1. L.S. Penn, C.T. Chou, A.S.D. Wang, W.K. Binienda, "The Effects of Matrix Shrinkage on Damage Accumulation in Composites," Journal of Composite Materials, Vol. 23, pp. 570-586, 1989.
2. W.K. Binienda, F. Delale, A.S.D. Wang, "Mixed-Mode Strain Energy Release Rates for a Cracked Unidirectional Composite," ASTM-STP 1059, 1989.
3. W.K. Binienda, A.S.D. Wang, F. Delale, "Analysis of Bent Crack in Unidirectional Fiber Reinforced Composites," International Journal of Fracture, Vol. 47, pp 1-24, 1991.
4. W.K. Binienda, D.N. Robinson, "Creep Model for Metallic Composites Based on Matrix Testing," J. of Engineering Mechanics, ASCE, Vol. 117, pp. 624-639, 1991.
5. W.K. Binienda and E. Reddy, "Mixed-Mode Fracture in Unidirectional Graphite Epoxy Composite Laminates with Central Notch," J. of Reinforced Plastics and Composites, v. 11, pp. 324-338, 1992.
6. W.K. Binienda, G.D. Roberts, and D.S. Papadopoulos, "Effect of Contact Stresses in Four Point Bend Testing of Graphite/Epoxy and Graphite/PMR-15 Composite Beams," SAMPE Quarterly Journal, v. 23, No. 3, pp. 20-28, 1992.
7. D.N. Robinson, W.K. Binienda, and M. Miti-Kavuma, "Creep and Creep Rupture of Metallic Composites," J. of Engineering Mechanics, ASCE, Vol. 118, pp. 1646 - 1660, 1992.
8. W.K. Binienda, S.M. Arnold, H.Q Tan, and M.H. Xu "Stress Intensity Factors in a Fully Interacting, Multicracked, Isotropic Plate," Computational Mechanics, v. 13, pp. 1-18, 1993.
9. W.K. Binienda and M.J. Pindera, "Frictionless Contact of Layered Metal Matrix and Polymeric Matrix Composite Half Planes," Composite Science and Technology Journal, Vol. 50, No. 1, pp. 119-128, 1994.
10. A. Gyekenesi, J. Hemann and W.K. Binienda, "Crack Development in Car bon/Polyimide Cross-ply Laminates under Uniaxial Tension," SAMPE Journal, Vol. 30, No. 3, pp.17-27, 1994.
11. W.K. Binienda, "Stress Intensity Factor for Fully Interacting Cracking in a Multi- Crack Solid," ASME Journal of Offshore Mechanics and Arctic Engineering, Journal of Offshore Mechanics and Arctic Engineering, Vol. 116, No. 2, pp. 56-63, 1994.
12. E.S. Reddy and W.K. Binienda, "Prediction of Crack Initiation in Unidirectional Composite Beams Subjected to Four Point Bending," Composite Engineering Journal, Vol. 4, No. 7, pp. 703-714, 1994.
13. W.K. Binienda and A.F. Saleeb, "Contact Stress Phenomena in Numerical Simulation of Unidirectionally-Reinforced Composite Beams," J. of Computers and Structures, Vol.51, No. 3, pp.277-288, 1994.
14. W.K. Binienda, G.D. Roberts and A. Hong, "Influence of Material Parameters on Strain Energy Release Rates for Cross-Ply Laminates with a Preexisting Transverse Crack," Composites Engineering Journal, Vol.4, No. 12, pp. 1197-1210, 1994.
15. W.K. Binienda, "Crack Interaction in Brittle Anisotropic Materials," Archives of Mechanics Journal, Vol. 47, No. 1, pp. 39-67, 1995.
16. W.K. Binienda, S.M. Arnold, "Driving Force Analysis in an Infinite Anisotropic Plate with Multiple Crack Interactions," J. of Fracture, V. 71, pp. 213-245, 1995.
17. M. Zhou and W.K. Binienda, “Analysis of Multiple Cracks Close to Bi-material Interface,” Journal of Aerospace Engineering, V. 10, no. 1, pp. 16-26, 1997.
18. Y.N. Li, A.P. Hong and W.K. Binienda “Theory of Cohesive Crack Model with Interactive Cracks,” Int. J. Solids and Structures, Vol. 35, No. 11, pp. 981-994, 1998.

19. W. Zhang, W.K. Binienda and M.J. Pindera, “Frictionless Contact of Multilayered Composite Half Planes Containing Honeycomb Layer,” Composite Science and Technology Journal, Vol. 59, pp. 331-343, 1999.
20. W. K. Binienda and Y. Wang, “Residual Stresses Reduction in Filament Wound Composite Tubes,” Journal of Reinforced Plastics and Composites, Vol. 18, No. 8, pp. 684-701, 1999.
21. N.I. Shbeeb, W.K. Binienda and K.L. Kreider, “Analysis of the Driving Forces for Multiple Cracks in Infinite Non-homogeneous Plate, Part I: Analysis,” Journal of Applied Mechanics, Vol. 66, pp. 492 - 500, 1999.
22. N.I. Shbeeb, W.K. Binienda and K.L. Kreider, “Analysis of the Driving Forces for Multiple Cracks in Infinite Non-homogeneous Plate, Part II: Parametric study,” Journal of Applied Mechanics, Vol. 66, pp. 501 - 506, 1999.
23. N.I. Shbeeb and W.K. Binienda, “Analysis of an Interface Crack for a Functionally Graded Strip Sandwiched between two homogeneous layers of Finite Thickness,” Engineering Fracture Mechanics, 64, pp. 693-720, 1999.
24. M. Zhou and W.K. Binienda, “Analysis of Multiple Cracks in a Sandwiched Layer,” Science and Engineering of Composite Materials, Vol. 8, No. 6, pp. 293-309, 1999.
25. N.I. Shbeeb, W.K. Binienda and K.L. Kreider, “Analysis of a general crack in a functionally graded strip sandwiched between two homogeneous half planes,” International Journal of Fracture, 104:1, pp. 23-50, 2000.
26. D.N. Robinson and W.K. Binienda, “Optimal Fiber Orientation in Creeping Composite Structures,” Journal of Applied Mechanics, Vol. 68, pp. 213-217, 2001.
27. D.N. Robinson, and W.K. Binienda, “A Model of Viscoplasticity for Transversely Isotropic In Elastically Compressible Solids,” ASCE Journal of Engineering Mechanics, Vol.127, No. 6, pp 567-573, 2001.
28. V. B. Birman, W. K. Binienda, and G. Townsend, “2D Maxwell Model,” Journal of Macromolecular Science and Physics, B41 (2), pp.341-356, 2002.
29. G. Roberts, D.M. Revilock, W.K. Binienda, W.Z., Nie, S.B. Mackenzie, and K.B. Todd, "Impact Testing of Composites for Aircraft Engine Fan Cases," Journal of Aerospace Engineering, Vol. 15, No.3, pp. 104-110, 2002.
30. G. Song, P. Qiao, W.K Binienda, and G.P. Zou, "Active vibration damping of a composite beam using smart sensors and actuators," Journal of Aerospace Engineering, Vol. 15, No.3, pp. 97-103, 2002.
31. D. N. Robinson, W.K. Binienda, and M. Ruggles, “Creep of Polymer Matrix Composites, Part 1 – A Norton/Bailey Creep Law for Transverse Isotropy,” J. Engineering Mech., Vol. 129, No.3, pp.310-317, 2003.
32. W.K. Binienda, D.N. Robinson, and M. Ruggles, “Creep of Polymer Matrix Composites, Part 2 – A Monkman-Grant Failure Relationship for Transverse Isotropy,” J. Engineering Mech., Vol 129, No.3, pp.318-323, 2003.
33. L. Kuguoglu, W.K. Binienda, and A. Hajjafar, "Analytical Modeling of Imperfect Bond between Coated Fibers and Matrix Material,” International Journal of Fracture, Vol. 123, pp. 63-80, 2003.
34. G. Song, X. Zhou, and W.K. Binienda, “Thermal Deformation Compensation of a Composite Beam Using Piezoelectric Actuators,” Smart Mater. Struct. 13 No 1, pp. 30-37, 2004.
35. D.N. Robinson, and W.K. Binienda, “A Representation of Anisotropic Creep Damage in Fiber Reinforced Composites,” Journal of Applied Mechanics, Vol. 72, no.4, pp.484-492, 2005
36. G.D. Roberts, J.M. Pereira, D.M. Revilock, W.K. Binienda, M. Xie, and M. Braily, “Ballistic Impact of Braided Composites with Soft Projectiles,” Journal of Aerospace Engineering, Vol.18, pp. 3-7, 2005.

37. J. Cheng, and W.K. Binienda, “Simulation of Soft Projectiles Impacting Composite Targets using an Arbitrary Lagrangian-Eulerian Formulation” AIAA Journal of Aircraft, V.43, No.6, pp 1726-1731, 2006.
38. D. Zheng, and W. K. Binienda, “Effect of Permanent Indentation on the Delamination Treshold for Small Mass Impact on Plates”, IJSS, V. 44/25-26, pp 8143-8158, 2007.
39. J. D. Littell, Ch. R. Ruggeri, R.K. Goldberg, G.D. Roberts, and W.K. Binienda, “Measurement of Epoxy Resin Tension, Compression, and Shear Stress-Strain Curves over a Wide Range of Strain Rates Using Small Test Specimen”, JAE Vol.21, pp. 162-173, 2008.
40. J. Cheng, and W.K. Binienda, “Simplified Braiding through Integration Points Model for Tri-Axially Braided Composites” , JAE Vol.21, pp. 152-161, 2008.
41. X. Zheng, and W.K. Binienda, “Rate Dependent Shell Element Composite Material Model Implementation in Ls-Dyna” , JAE Vol.21, pp. 140-151, 2008.
42. R.K. Goldberg, G.D. Roberts, J.D. Littell, and W.K. Binienda, “Approximation of Nonlinear Unloading Effect in the Strain Rate Dependent Deformation Analysis of Polymer Matrix Materials Utilizing a State Variable Approach” , JAE Vol.21, pp. 119-131, 2008.
43. J. D. Littell, W. K. Binienda, G.D. Roberts, and R.K. Goldberg, “Characterization of Damage in Triaxial Braided Composites under Tensile Loading”, Journal of Aerospace Engineering, V. 22, No.3, pp.270-279, 2009.
44. D. Zheng, and W.K. Binienda, “A Semi-Analytical Solution of Wave-controlled Impact on Composite Laminates”, Journal of Aerospace Engineering, V. 22, No.3, pp.318-323, 2009.
45. X. Li, W.K. Binienda, and J.D. Littell, “Methodology for Impact Modeling of Tri-axial Braided Composites using Shell Elements”, Journal of Aerospace Engineering, V. 22, No.3, pp.310-317, 2009.
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82. W.Z. Nie, and W.K. Binienda, "Effective Mesomechanical Modelling of Triaxially Braided Composite for Dynamic Impact Analysis with Failure", ASCE Earth and Space Conference Proceedings, St. Louis, October 2014.

PATENTS DISCLOSURES:

- Spring Accelerated Projectile Impactor – UA 530 Provisional together with William Arnold and Dave Mc.Vaney
- High Velocity Dynamic Friction Tester Device and Procedure – UA 544 Provisional together with William Arnold
- Method for braid analysis – UA 694.
- Strain Rate Dependent Analysis of Polymer Matrix Composites STRANAL-PMS version 1 and 2 – LEW-17910-1- NCC3-932 together with Robert Goldberg
- "METHOD FOR STRAIN RATE DEPENDENCE ANALYSIS" US 2010/0299112 Al
- "INFLATABLE STRUCTURE WITH INTERNAL SUPPORT" US2013/8572911

ACTIVITY IN RESEARCH:

FUNDED RESEARCH - FUNDING TOTAL $8,604,298
EXTERNAL FUNDING - $6,631,645 (PI -$3,337,970, CO-PI -$3,293,675)
INTERNAL FUNDING - $2,436,200

1. "Prediction and Measurement of Transverse Cracking in Cross-Ply Laminates," Ohio Aerospace Institute **$12,805** from Sept. 1990 to June 1991.
2. "3-D FEM Simulations of the Delamination Progress in Cross-Ply Symmetric Graphite-Polyimide Composites," NASA, **$22,871** from Nov. 1990 to Oct. 1991, **$33,000** from Nov. 1991 to Oct. 1992 and **$33,000** from Nov. 1992 to Sept. 1994.
3. "Damage Mechanics Controlled by the Interaction of Microcracks in the Interphase of MMC and BMC," NASA. Lewis Research Center, **$37,832** from Nov. 1990 to Oct. 1991, **$48,000** from Nov. 1991 to Oct. 1992, **$60,000** from Nov. 1992 to Oct. 1993, **$55,000** from November 1993 to December 1994, and **$55,000** from January 1995 to December 1995.
4. "Damage and Strength Characterization of BASF Ultrapack – AS4 Interlocked Composite Material under Static Tensile Load Conditions," EPIC **$1,875** from Jan. 1991 to Sept. 1992.
5. "Tension-Tension Fatigue Behavior of Kevlar Cables – Tests," LORAL Defense Systems, Sept. 1991 - June 1992, **$ 8,010**.
6. "Durability and Life Prediction Modeling in Polyimide Composites" - NASA Lewis Research Center, from December 1993 to September 1995, **$20,000**.
7. "Static and dynamic properties of rubber components – tests," LORAL Defense Systems, June - August 1994, **$ 5,000**.

8. "Prestressed Composite Tubes - Fabrication Process & Design" - Asian Development Bank, **$ 15,000** from October 15 to Dec 10, 1995.
9. "UA/CWRU Center for Infrastructure Materials and Rehabilitation," Ohio Board of Regents Investment Fund Award, from 7/1/95 to 6/30/96 - group proposal for **$1,770,000**, (together with Drs. R. Liang, A. Saleeb, J. Padovan, and some CE department members of Case Western Universty).
10. "Mixed-Mode Complex Shape Cracks Propagation in Anisotropic Plates," NASA Lewis Research Center, from 4/11/96 to 4/10/97, **$ 56,354**.
11. "FE/Analytical Life Prediction of Brittle Materials," NASA Lewis Research Center, from 6/1/97 to 5/31/2000, **$408,816.**
12. "Design Analysis and Material Modeling for Ceramic Matrix Composite Materials," NASA from 11/3/97 to 11/2/98, **$ 107,302**.
13. "High Temperature Testing and Modeling of Ceramic Matrix Composites," NASA from May 1, 1998 to April 30, 1999, **$ 101,544**.
14. "Stress Analysis of Graphite/Epoxy Layered System Adhered to Concrete," Master Builders Technologies, from May 29, 1998 to August 30, 1998, **$ 8,989**.
15. "General Crack Problems in Functionally Graded Materials," NASA Lewis Research Center, from September 22, 1998 to January 21, 1999, **$42,000**, together with Dr. J. Padovan.
16. "NDE Methods for Commercial Aircraft Engine," NASA Lewis Research Center, from November 4, 1998 to November 3, 1999, **$110,507**.
17. "Development of a jet engine containment design methodology," NASA Glenn Research Center, from December 1, 1999 to November 30, 2002, **$533,275**, together with Dr. E. Sancactar.
18. "Creep rupture model of composite materials", NSF SERG, from June 1, 2000 to May 31, 2001, **$50,400**, together with Dr. D. Robinson.
19. "FEA Study of Impact-Penetration for Lightweight Jet Engine Containment," NASA Glenn Research Center, from January 1, 2002 to December 31, 2002, **$115,039**.
20. "FEA Study of Impact-Penetration for Lightweight Jet Engine Containment," NASA Glenn Research Center, from January 1, 2003 to December 31, 2003, **$148,626**.
21. "Intelligent Propulsion System Foundation Technology – Propulsion 21," NASA Glenn Research Center, from August 1, 2003 to April 30, 2004, **$29,600**.
22. "Wright Center of Innovation – Spin Test Equipment Grant," OBR, from January 1, 2004 to December 31, 2006, **$800,000,** together with Drs. P. Qiao, J. Braun.
23. "FEA Study of Impact-Penetration for Lightweight Jet Engine Containment," NASA Glenn Research Center, from January 19, 2004 to January 18, 2005, **$172,316.**
24. "FEA Study of Impact-Penetration for Lightweight Jet Engine Containment," NASA Glenn Research Center, from January 19, 2005 to January 18, 2006, **$205,486.**
25. **"**Intelligent Propulsion Systems Foundation Technology – Phase 2 of Propulsion 21," GEAE **$39,283,** from Aug 1, 2005 to August 31, 2006.
26. "Development of 3D Braided Zylon Model for Explicit FEA Analysis," NASA, **$86,749,** from September 1, 2005 to August 31, 2006**.**
27. "Polymer and Composite Ballistic Impact Testing, Characterization, and Modeling", NASA **$52,435,** from June 1, 2006 to September 30 2007.
28. "Space Flights Fluid Experiments Analysis and Modeling", ZIN Technologies, **$67,880**, from October 1, 2006 to June 30, 2008.
29. "Numerical Modeling of Textile Composites" GE Aircraft Engines, **$20,000**, from May 1, 2007 to December 1, 2007.
30. "Modeling and Testing of Aging Degradation Effects on Dynamic/Impact Performance of Advanced Braided Composites for Jet Engine Fan Cases/Blade Containment Systems", NASA-NRA, **$879,205,** from September 29, 2007 to September 29, 2011.

31. "An Investigation into Mechanical and Impact Properties of Triaxial Braided Composites for Jet Engine Blade Containment", NASA GSRP - Justin Littell –, **$30,000**, from September 1, 2007 to August 31, 2008.
32. "Investigation of Test Methods and Damage Mechanisms for Triaxial Braided Composites" Lee Kohlman – NASA GSRP, **$30,000**, September 1, 2009 to August 31, 2010.
33. "Macro-mechanical Modeling of Tri-axial Braided Composites" Brina Blinzer – NASA GSRP, **$30,000**, September 1, 2009 to August 31, 2010.
34. "UA support to ZIN for NASA Space Flight Program in 2009", ZIN Technologies, **$17,592,** October 1, 2009,to September 30, 2010.
35. "Experimental Structural Assessment of Advanced Stirling Convertor Planar Spring Material for Long-Term Durability – Phase I," Sunpower Inc., **$80,000**, From October 1, 2009 to March 31, 2010, with Dr. Yun Gin Yun.
36. "Experimental Structural Assessment of Advanced Stirling Convertor Planar Spring Material for Long-Term Durability – Phase II," NASA., **$98,000**, From October 1, 2010 to September 30, 2011, with Dr. Yun Gin Yun.
37. "Investigation of Test Methods and Damage Mechanisms for Triaxial Braided Composites – year 2" Lee Kohlman – NASA GSRP, **$30,000**, September 1, 2010 to August 31, 2011.
38. "Macro-mechanical Modeling of Tri-axial Braided Composites- year 2" Brina Blinzer – NASA GSRP, **$30,000**, September 1, 2010 to August 31, 2011.
39. Helicopter Gear Development, A&P Technology, **$36,427**, August 1, 2014 to August 1, 2016.

RESEARCH FUNDED INTERNALLY

1. "Micromechanisms Governing the Deformation and Fracture Behavior of Metal- Matrix Composite Materials," **$1,200,** Faculty Research Grant, Nov. 1988.
2. "Characterization of Visco-plastic Materials," **$10,000** - Summer Faculty Fellowship at NASA, 1989.
3. "A Study on Failure and Crack Growth Mechanisms in Ceramics Composites," Research Challenge Grant **$10,200,** May 1989 to Sept. 1990.
4. "Damage Mechanics in Metal Matrix Composite materials," **$12,000** - summer faculty Fellowship at NASA, 1990.
5. "Numerical Analysis of Filament Winding Tubes with Pre-stresses Fibers," **$6,000** - Faculty Research Fellowship, summer 1996.
6. "OBR Individual Research Challenge Match to Design, Progress Modeling, Manufacture, and Testing of Composite Shield for Turbine Engine Blade Containment(1999-01 biennium)," **$20,000**.
7. "OBR Research Challenge Match to FEA Study of Impact-Penetration for Lightweight Jet Engine Containment", (2001-03 biennium)," **$20,000**.
8. OBR Incentive Fund, "Polymer-Based Nanotechnologies," **$7,000** (part of $70k funding for 10 faculty), 2003.
9. UA cash matching component for "Wright Center of Innovation – Spin Test Equipment Grant," from January 1, 2004 to December 31, 2006, **$330,000** together with Drs. P. Qiao, J. Braun.
10. UA in-kind matching component for "Wright Center of Innovation – Gas Turbine Engine Research and Testing Laboratory Building, April 2005, **$2,000,000.**
11. OBR Research Challenge Grant, "Impact Testing and Analysis", **$20,000**, 2007.
12. Internal cost sharing grant, The University of Akron, **$10,000**, 2007.

ACTIVITY IN PROFESSION OR DISCIPLINE:

LEADERSHIP IN CONFERENCES

- Session Chairman at ASCE Engineering Construction & Operations in Space IV, Albuquerque, NM (1994)
- Session Chairman at Structural Dynamics and Materials AIAA Conference, Seattle, WA (2001)
- Session Chairman at Structural Dynamics and Materials AIAA Conference, Norfolk, VA (2003)
- Session Chairman at ASCE Robotics, Engineering Construction and Operations in Challenging Environments in Houston, TX (2004)
- Guest editor for Journal of Aeronautic Engineering - special issues (2002 and 2004)
- Organizing Committee Member of the III Scientific-Technical Conference "Advances in Petroleum and Gas Industry and Petrochemistry Conference," Lvov, Ukraine (September 12-18 2004)
- Session Chair at the III Scientific-Technical Conference "Advance in Petroleum and Gas Industry and Petrochemistry Conference, Lvov, Ukraine (September 12-18 2004)
- Technical Co-Chair of the Earth and Space Conference, Houston, TX (March 4-9 2006)
- General Chair of the Earth and Space Conference, Long Beach, CA (March 3-5, 2008)
- Organizing Committee Member of 2010 AIAA SDM conference (2008-2010)
- Co-Chair of earth and Space Conference planned for 2018 in Cleveland

PROFESSIONAL PRESENTATIONS

1. "Fracture Due to a Kinked Crack in Unidirectional Fiber Reinforced Composites," December 1987, ASME-WAM, Boston, MA.
2. "A Criterion for Mixed-Mode Cracking in Graphite-Epoxy Composites," April 1988, ASTM 9th Symposium on Composite Materials, Reno, Nevada.
3. "Mixed-Mode Strain Energy Release Composite," June 1988, ASC, Japan-USA Symposium on Composite Materials, Washington, D.C.
4. "Creep and Relaxation Model for High Temperature Metal Matrix Composites," Fatigue and Fracture Branch at NASA Lewis Research Center, August 1989.
5. "Matrix Cracks in Composite Laminates," Guest Speaker for SAMPE Local Parent's Chapter on October 16, 1990.
6. "Finite Element Simulation of 0/90 Interface Delamination in Cross-Ply Laminates Initiated by Transverse Cracks," 22nd Annual Pittsburgh Conference on Modeling and Simulation, 2-3 May, 1991.
7. "Application of Symbolic Computations to Damage Growth in Multicracked Brittle Materials," 4th Annual HITEMP Review, October 1991.
8. "Influence of Fibers Angle on Contact Stresses and Strain Energy Release Rates in Four-Point Bend Testing of Composite Beams," 7-th Technical Conference on Composite Materials Proceedings, ASC, 1992.
9. "Stress Intensity Factors for Fully Interacting Cracks in a Multicrack Solid," ASME 12-th International conference OMAE proceedings, June 1993.
10. "Damage Growth in Multi-Cracked Materials," HITEMP conference, NASA Lewis Research Center, October 1993.
11. "Late Stage Damage in G30-500/PMR-15 Laminates," ASCE Conference Space-94, Albuquerque New Mexico, 1994.

12. "Influence of Material Parameters on Strain Energy Release Rates for Cross-Ply Laminates with Preexisting Transverse Crack," First International Conference on Composites Engineering, New Orleans, August 28-31, 1994.
13. "Cracks Interaction in Anisotropic Materials," Brittle Matrix Composites 4, Warsaw, Poland, September 13-15, 1994.
14. "Cracks Interaction in Brittle Anisotropic Materials," NIST, Building Materials Division, Gaithersburg, Maryland 20899, October, 1994.
15. "Pre-stressed filament winding process," Centron Corp., Mineral Wells, Texas 76068, February 1995.
16. "Advances in Analysis of BMC, MMC and FRP," CIRIM Shah Alam, Selangor, Malaysia, July, 1995.
17. "Design Aspects Applied to Components made using Composites in Off-Shore Platform Environment," Petronas Research, Ahah Alam, Selangor Darul Ehsan, Malaysia, July 1995.
18. "Aerospace Applications of Composite Materials," CTRM Kuala Lumpur, Malaysia, July, 1995.
19. "Pre-stressed filament winding process," Schuller Mats & Reinforcement, Toledo, OH 43697-0517, October 1995.
20. "Pre-stressed filament winding process," Owens-Corning Science & Technology Center, 2790 Columbus Rd., RT 16, Granville OH 43023-1200, November 1995.
21. “Advanced Technologies for the Natural Fiber Composites,” BICRON, Composites Review, 1996.
22. “FE/Analytical Life Prediction of Brittle Materials,” NASA Lewis Research Center, Structural Group Review, Feb 1997.
23. “Driving Force Analysis Given Complex Crack Interactions in Monolithic and Composite Materials,” HITEMP conference, Advanced Alloys and MMC’s, NASA Lewis Research Center, April 1997.
24. “Analysis of Multiple Cracks in Thick Interphase,” ICCE/5 International Conference on Composites Engineering, July 5-11, 1998.
25. “Fracture mechanics problems in materials with thick thermal barrier,” NASA Lewis Research Center, August 24, 1998.
26. “Fracture in ceramic thermal barrier coatings,” NASA Lewis Research Center, November 12, 1998.
27. “Probabilistic Residual Strength Model for Uni-Axial Fatigue of Composites,” 23rd Annual Conference on Composites, Materials & Structures Conference, Cocoa Beach, Fl, January 25-28, 1999.
28. “Photo-elastic Visualization of the Fracture Events in a Model of Functionally Graded Material,” ICCE/6 Orlando Florida, June 27 - July 3, 1999.
29. “Analysis of Driving Forces for Multiple Cracks in an Infinite non-homogeneous Plate,” ICTAM 2000, 20th International Congress of Theoretical and Applied Mechanics, August 27- September 2, 2000, Chicago.
30. “Explicit Finite Element Analysis of Composite Plate,” NASA Glenn Research Center, November 17, 2000.
31. “Design and Analysis of Composite Ring under Impact Conditions,” GE Cincinnati, OH, December 8, 2000.
32. “Active Vibration Damping of a Composite Beam using Smart Sensors and Actuators,” SDM Conference, April 16-19, 2001, Seattle.
33. “Analysis of High Energy Impact on Lightweight Composite (Sandwich) Structure,” SDM Conference, April 16-19, 2001, Seattle.

34. "Impact Testing of Composites for Aircraft Engine Fan Containment," SDM Conference, April 16-19, 2001, Seattle.
35. W. Z. Nie and W.K. Binienda, „Investigation on Oblique Impact Response of Composite Cylindrical Shells," Poster at 10-th International Conference of Fracture, 2-6 December, 2001 Honolulu, Hawaii.
36. X. Zhou, G. Song, and W. K. Binienda, "Thermal Deformation Compensation of a Composite Beam Using Piezoelectric Actuators," Smart Structures and Integrated Systems Conference, 2002.
37. S.A. Baraka, W.K. Binienda, and S. R. Tysl, „Evaluation of the Performance of Concrete Structures Strengthened with FRP Composites," EM 2002 Conference, Columbia University, 2002.
38. W.K. Binienda, W. Brostow, J.A. Hinze and R. Simões, "Computer Simulation of Mechanical and Tribological Properties of Materials," Proc. 4-th International Conference on Environment, Development & Engineering, 30-38, Krakow, 2002.
39. G.D. Roberts, J. M. Pereira, D.M. Revilock, and W.K. Binienda, "Analysis of Ballistic Impact of Composite Plates and Rings with Soft Projectile," SDM Conference, Norfolk VA, April, 2003.
40. S. Acharya, W.K. Binienda, and D. Robinson, "Numerical Modeling of Creep in Polymer matrix Composites with Transverse Isotropy," SDM Conference, Norfolk VA, April, 2003.
41. V. Dhruva, W.K. Binienda, G.D. Roberts, and D.W. Stresing, "FEA Modeling of a Bird High-Speed Impact Test," SDM Conference, Norfolk VA, April, 2003.
42. X. Zheng, R.K. Goldberg, W.K. Binienda, and G.D. Roberts, "LSDyna Implementation of Polymer Matrix Composite Model under High Rate Impact," SAMPE Conference, Dayton OH, 2003.
43. J. Cheng, G.D. Roberts, and W.K. Binienda, "Finite Element Simulation of Soft Projectiles Impacting Composite Targets," SAMPE Conference, Dayton, 2003.
44. W.K. Binienda, "Advances in Braided Composite Material Modeling," NASA workshop at NASA, July 2003.
45. W.K. Binienda, "Ls-Dyna Modeling and Material Model Implementation," NASA/UA workshop at The University of Akron, August 2003.
46. X. Zheng, R.K. Goldberg, W.K. Binienda, and G.D. Roberts, "Development and Implementation of Rate Dependent Composite Material Model for Shell Element Application in LSDYNA," Earth and Space Houston Conference, March 4-11, 2004.
47. W.K. Binienda, "High Energy Impact of Composite Structures – Ballistic Experiments and Explicit FE Analysis," Warsaw Technical University, SiMR, Warsaw Poland, June 9, 2004.
48. X. Zheng and W.K. Binienda, "Impact Modeling of Composite Materials with Strain Rate Effect," Crashworthiness of Light-Weight Automotive Structures, Trondheim Norway, June 17-18, 2004.
49. J. Cheng, M.J. Bennett, W.K. Binienda, and K.S. Carney, "Soft Projectiles Impacting Composite Targets – Experiment and Numerical Simulation," Light-Weight Automotive Structures, Trondheim Norway, June 17-18, 2004.
50. W.K. Binienda, "High Energy Impact of Composite Structures – Ballistic Experiments and Explicit FE Analysis," University of Lulea, Solid Mechanics Department, Lulea, Sweden, June 23, 2004.
51. W.K. Binienda, "Model development for Dynamic Behavior of Composites," Lvov Conference, September 2004.
52. Jingyun Cheng and W.K. Binienda, "Soft Projectile Impact of Composite Targets," Bristol UK Conference, September 2004.

53. Gary Roberts, Cheryl Bowman, Jingyun Cheng, Timothy Schmidt, and Michael Braley, "Deformation Analysis of Triaxial-Braided Carbon/Epoxy Composites," SEM Conference, June 7-9, 2005
54. William Arnold, Wieslaw Binienda, and Gary Roberts "Spring/Hydraulic Accelerated Projectile Experiment (SHAPE)," SEM Conference, June 7-9, 2005.
55. William Arnold, Wieslaw Binienda, Gary Roberts, Michael Pereira, Duane Revilock, and Tim Schmidt, "Motion of Wedge-Shape Projectiles during Gas Gun Impact Tests," SEM Conference, June 7-9, 2005.
56. Xiahua Zheng, Robert K. Goldberg, Wieslaw Binienda, and Gary Roberts, "Rate Dependent Shell Element Composite Material Model Implementation in LsDyna," SDM Conference 2005.
57. Wieslaw Binienda, "Application of 3D Braided Graphite/epoxy Composites for Jet Engine Containment Housing," Hamburg University 2005.
58. Wieslaw Binienda, "Composite Materials under High Energy Impact," Wroclaw University 2005.
59. Michael Bennett, Charles Ruggeri, Mike Braley, and Wieslaw Binienda, "Application of Braided Composites in Chassis Design of Super Mileage Vehicles," ASC Conference, 2005
60. Fengxia Ouyang, Sunil Acharya, Wieslaw Binienda, and David Robinson, "Creep Failure in Polymer Composites with Transverse Isotropy: Numerical Approach," ASC Conference 2005.
61. Jingyun Cheng and Wieslaw K. Binienda, "A modified State Variable Polymer Model Implementation in LsDyna", Earth and Space Conference, 2006.
62. Michael Bennett, Charles Ruggeri, Wieslaw Binienda and Timothy Schmidt, "Modeling and Testing of Gelatin with High Strain Rate Loading", SEM Annual Conference and Exhibition, St. Louis MI, 2006.
63. Jingyun Cheng and Wieslaw K. Binienda, "A Numerical Model for Tri-Axially Braided Composites Under High Velocity Soft Projectile Impact", 9-th International LsDyna Users Conference, Detroit MI, 2006.
64. Daihua Zheng, Jingyun Cheng and Wieslaw K. Binienda, "Numerical Modeling of Friction Effects on the Ballistic Impact Response of Single-Ply Tri-Axial Braided Fabric", 9-th International LsDyna Users Conference, Detroit MI, 2006.
65. Wieslaw Binienda, "Modeling of 3-D Braided Graphite/Epoxy Composite Plate Impacted by a Soft Projectile," Aerospace Group Meeting, LSTC Troy, 2006.
66. Wieslaw K. Binienda, "Closed-form Prediction of Delamination Threshold for Small Mass Impacts", EMD2007, 18-th Engineering Division Conference, Blacksburg VA, 2007.
67. Wieslaw K. Binienda, "Influence of Fiber Architecture of Tri-axially Braided Composite on Threshold Impact Velocity", EMD2007, 18-th Engineering Division Conference, Blacksburg VA, 2007.
68. Wieslaw K. Binienda, "Finite Element Modeling of Multilayer Fabric for Turbofan Engine Containment Systems", EMD2007, 18-th Engineering Division Conference, Blacksburg VA, 2007.
69. Wieslaw K. Binienda, "Modeling the Dynamic/Impact Behavior of Advanced Composites for Engine fan Containment Application", Aircraft Aging & Durability of NASA Aviation Safety Program Conference, St Louis, 2007.
70. Justin D. Littell, Wieslaw K. Binienda, Robert K. Goldberg, and Gary D. Roberts, "Full-Field Strain Methods for Investigating Failure Mechanisms in Triaxial Braided Composites", ASCE Earth and Space Conference, Long Beach CA, 2008.
71. Justin D. Littell, Wieslaw K. Binienda, Robert K. Goldberg, and Gary D. Roberts, "A Modeling Technique and Representation of Failure in the Analysis of Triaxial Braided Carbon Composites" FAA/NASA/DoD Aging Aircraft Conference, Phoenix AZ, 2008.

72. Justin D. Littell, Wieslaw K. Binienda, Robert K. Goldberg, and Gary D. Roberts, “A Modeling Technique and Representation of Failure in the Analysis of Triaxial Braided Carbon Fiber Composites”, NASA TM 215245, 2008.
73. Charles R. Ruggeri, Gary D. Roberts, Michael Pereira, Wieslaw K. Binienda, and William A. Arnold, “Composite Panel Impact Testing for Initial Material Screening”, ASCE Earth and Space Conference, Long Beach CA, 2008.
74. Wieslaw K. Binienda and Xuetao Li, “ A Modified Methodology for Modeling Tri-axial Composite with Trough Thickness Integration Points”, ASCE Earth and Space Conference, Long Beach CA, 2008.
75. Gary D. Roberts, Justin D. Littell, Robert K. Goldberg, and Wieslaw K. Binienda, “ Characterization of Failure Mechanisms in Triaxial Braided Composites using Optical Measurement Techniques”, ASCE Earth and Space Conference, Long Beach CA, 2008.
76. Daihua Zheng, and Wieslaw K. Binienda, “ A Semianalytical Solution of Wave-controlled Impact on Composite Laminates”, ASCE Earth and Space Conference, Long Beach CA, 2008.
77. Wieslaw Binienda, “Experimental and Numerical Investigations of Braided Composite Materials for Jet Engine Applications”, October 2-nd 2008, Warsaw University of Technology, Poland.
78. Gary D. Roberts, and Wieslaw K. Binienda, “Damage Evolution in Triaxial Braided Composites Under Quasistatic and Impact Loads”, NASA Aviation Safety Conference, Denver, CO October 21, 2008.
79. Justin D. Littell, Wieslaw K. Binienda, Robert K. Goldberg, and Gary D. Roberts, “A Modeling Technique and Representation of Failure in the Analysis of Triaxial Braided Carbon Fiber Composites” Aging Aircraft Conference, October 22, 2008.
80. Gary D. Roberts, Robert K. Goldberg, Justin D. Littell, Wieslaw Binienda , William Arnold,and Lee Kohlman, “Characterization of 2D Triaxial Braid Composite Material Properties for Impact Simulation” Crash and Safety Session of AHS International 65-th Annual Forum, May 27-29, 2009, Grapevine, TX.
81. Xuetao Li, Wieslaw K. Binienda, and Robert K. Goldberg, “Mesomechanical Modeling of Tri-axially Braided Composite”, The 2009 Joint ASCE-ASME-SES Conference on Mechanics and Materials, Blacksburg VA, June 24-27, 2009.
82. Lee W. Kohlman, Wieslaw K. Binienda, and Gary D. Roberts, “Damage and Failure Mechanisms in 2D Tri-axial Braided Carbon Fiber Epoxy Matrix Composites”, The 2009 Joint ASCE-ASME-SES Conference on Mechanics and Materials, Blacksburg VA, June 24-27, 2009.
83. Wieslaw K. Binienda, Lee Kohlman, and Gary Roberts, ”Impact Test Methods for Characterizing the Effect of Aging on Triaxial Braided Composites”, Aviation Safety, November 17-19, 2009
84. Wieslaw K. Binienda, Lee Kohlman, and Gary Roberts, “Effect of Hygrothermal Cycling on the Chemical, Thermal, and Mechanical Properties of 862/W Epoxy Resin”, Aviation Safety, November 17-19, 2009
85. Xuetao Li, and Wieslaw K. Binienda, “Mesomechanical Model of Triaxially Braided Composite”, NASA Multiscale Modeling Workshop , OAI, July 2009.
86. Xuetao Li, Wieslaw K. Binienda, W. Lee Kohlman, Robert K. Goldberg, and Gary D. Roberts, “Failure Mechanism Investigation of 2D Triaxially Braided Composite under Different Stress Status in Single Layer tensile Tests”, ASC and US-Japan Conference Proceedings, Dayton, September 2010.
87. Wieslaw Binienda, “Advances in Braided Composites - Analysis and Testing”, Universite du Main, at Le Mans, France, November 29, 2011.
88. Wieslaw K. Binienda, **Keynote Address**: Advances in Testing and Analysis of Aerospace materials and Structures, Special Plenary Session at ASCE Earth and Space Conference, April 17, 2012.

89. Zhoupei Hu and Wieslaw Binienda, "Simulating the behavior of Tri-axial Braided Composite Subjected to Uniaxial Loading using a Multi-scale model and Finite Element Method", ASCE Earth and Space Conference Proceedings, April 2012.
90. Wieslaw K. Binienda, **Keynote Address**: "Simulation of Tu154M airplane crash in Smolensk Russia", Polish-French Symposium on Mechanics, Warsaw, Poland, May 21, 2012.
91. Wieslaw K. Binienda, **Keynote Address**: "Modeling of Damage Progression in Braided Composite Materials subjected to Quasi Static or Impact Loading Conditions", ISATCA, Beijing China, August 23-24, 2012.
92. Wieslaw K. Binienda, **Invited Seminar:** "Explaining Complex Physical Events using Large Scale Simulations. Case Study: April 2010 Crash of Polish Government Airplane", Carnegie mellon University, November 30, 2012.
93. W. Binienda, C Zhao, R. Schilling, and Z.Hu, "Crashworthiness and Impact Simulation using Tabulated Viscoplastic material Model of Ls-Dyna", ASCE Earth and Space Conference, St. Louis , October 26-29, 2014.
94. W.Z. Nie, and W.K. Binienda, "Effective Mesomechanical Modelling of Triaxially Braided Composite for Dynamic Impact Analysis with Failure", ASCE Earth and Space Conference Proceedings, St. Louis, October 2014.
95. W.K. Binienda, "Advancement in Aerospace Materials" , March 27, 2015 RMIT Melbourne, Australia
96. W.K. Binienda, "Advancement in Aerospace Materials" , May 23, 2015 Northwestern University Xi'an China
97. W.K. Binienda, "Advancement in Aerospace Materials" , May 25, 2015 Dalian University Dalian China
98. W.K. Binienda, "Advancement in Aerospace Materials" , October 25, 2015 Warsaw Univerity, Poland
99. W.K. Binienda, "Advancement in Aerospace Materials" , October 27, 2015 Poznan Technical University, Poznan, Poland
100. W.K. Binienda, "Advancement in Aerospace Materials" , October 29, 2015 Warsaw Technical University, Warsaw, Poland
101. W.K. Binienda, "Crash of Polish Tu-154M, Flight 101, April 10, 2010 Smolensk – Technical Aspects of the Investigation", ISASI Conference, April 2-3, 2016, Reston VA USA.

REFEREE OF TECHNICAL ARTICLES AND EDITORIAL POSITIONS:

- Paper Reviewer, Journal of Engineering Materials and Technology
- Paper Reviewer, ASTM – STP
- Paper Review for AIAA journals.
- Paper Reviewer, International Journal of Fracture
- Paper Reviewer, NASA TM Review
- Paper Reviewer, Journal of Engineering Mechanics

- Paper Reviewer, Composites Science and Technology
- Paper Reviewer, Journal of Applied Mechanics
- Paper Reviewer, International Journal of Solids and Structures
- Paper Reviewer, Journal of Aerospace Engineering
- Paper Reviewer, Meccanica, International Journal of Italian Association of Theoretical and Applied Mechanics AIMETA
- Guest Editor, Journal of Aerospace Engineering (2000 – 2008)
- Member, Editorial Board, Journal of Aerospace Engineering (2005 – 2008).
- Associate Editor, Journal of Aerospace Engineering (2008 – 2011)

ORGANIZATION MEMBERSHIP:

- ASME (American Society of Mechanical Engineers)
- ASCE (American Society of Civil Engineers)
- AIAA (American Institute of Aeronautics and Astronautics)
- SAMPE (Society for the Advancement of Material and Process Engineering)
- Member of Lawrence Livermore National Laboratory Collaborator's Program
- Computational Mechanics (The University of Akron)
- Aerospace Consortium (LSTC, NASA, FAA, Aerospace Industry and Universities)
- Expert of the Steering Committee on **Digital Thread, Integrated Information Systems, Big Data, Analytics and Visualization,** and **High Performance Computing** under the US President's Council of Advisors on Science and Technology (PCAST), Advanced Manufacturing Initiative AMP 2.0 **http://www.whitehouse.gov/sites/default/files/microsites/ostp/PCAST/amp20_report_final.pdf**
- Member of the Government of Poland Investigation Commission for the Airplane Crash in Smolensk on April 10, 2010, appointed by Ministry of Defense of Poland on February 3, 2016
- Member of the Government of Poland Steering Committee for Scientific Research and Development in the area of Security and Defense, appointed by Ministry of Higher Education of Poland on March 29, 2016.
- Member of the International Society of Air Safety Investigators (ISASI) since May 11, 2016.