CURRICULUM VITAE
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Education

Ph.D. Materials Science and Engineering, 2005 GPA: 3.9 / 4.0
University of Tennessee, Knoxville, Tennessee
Dissertation: Fatigue Behavior of Zirconium-Based Bulk Metallic Glass (BMG)

M.S. Materials Science and Engineering, 2002, GPA: 3.9 / 4.0
University of Tennessee, Knoxville, Tennessee
Thesis: Corrosion and Corrosion Fatigue Behavior of a Zirconium-Based Bulk Metallic Glass (BMG)

B.E. Civil Engineering (Structures), 1996
Vanderbilt University, Nashville, Tennessee

Professional Experience

2008 to Present Leader, Materials Processing Group / Oak Ridge National Laboratory

Writing and Development of Proposals for New Work/Research and Development

- **Submitted Over 15 Proposals for Over $10M within Last Year**
- **Submitted and Awarded/Won over $7M in proposals for the development of low cost titanium including projects in the following areas**
    - OSD IBIF IP Project IMPACT (Fabrication of Low cost Ti Sheet) $2M 1 Year
    - OSD IBIF IP Project Warhead (Fabrication of Ti Warhead Casing) $1M 1 Year with potential for $1M in Year 2
    - DOE ITP EIP Titanium Net Shape $2M for 3 Years – FY09$300K, FY10$700K, FY11$1M
    - Lockheed Martin Black Ti, WFO, $400K
    - Boeing, WFO, $250K
    - DOE ITP Roll Compact Ti sheet, ORNL:$200K
- **Submitted and Awarded/Won over $1M in proposals for the development of wear resistant nanocomposite coatings and bulk components**
    - Tech Maturation of NanoSteel Powders $150K
    - DOE NanoManufacturing – Nanocomposite Coatings and WC replacement materials $1M for 3 Years
- **Supported DOE – Industrial Technologies Program, DOE – Vehicle Technologies Program, DOD, and equipment manufacturer collaborative programs for aerospace and vehicle technologies, specifically related to titanium application.**
    - Performed collaborative effort to consolidate and fabricate titanium door for JLTV from low cost powders with funding from VT and ITP.
    - Press+Sinter of titanium brake rotors form VT and ITP funding.
    - Development of titanium material for aerospace, vehicles, and industrial application including sheet, plate, and bar.

Development of Titanium Center of Excellence

- **Principal Investigator of 4 existing titanium projects and 3 additional projects going forward.**
- **Provided initial lab space plan equipment requirements for new titanium center.**
- **Provided the appropriate Principal Investigator of 4 existing titanium projects and 3 additional projects going forward.**
- **Provided initial lab space plan equipment requirements for new titanium center.**
- **Provided the appropriate the new hire of a post-doctoral candidate, covering three engineers, and two-three technicians funding levels to allow 7 FTEs for FY09 in the operations of the new titanium center.**
- **Provided vision/work plan for work to be performed in new titanium center.**
- **Established media release on the fabrication of low cost titanium JLTV door**
    - Cover of ORNL public website for two weeks or longer
    - International exposure with Royal Academy of Engineering Fellow stating "The Work at Oak Ridge is Leading the Way with Respect to Titanium for Low-Cost Powder" Materials World, 01, July 2008
    - Work was cited in over 4 journal, newspapers, etc.

2005 to 2008 **R&D Associate / Oak Ridge National Laboratory, Post Doctoral Fellow / Oak Ridge Associated Universities, Materials Processing Group, Materials Science & Technology Division, Oak Ridge National Laboratory**

Field investigator on more than eight different programmatic areas and on more than twelve projects during the course of the last three years. Leader in the solid state consolidation of new low cost titanium powders, and the laser fusing of bulk metallic glasses to steel substrates for improved wear resistance. Developed the process science of many alloys processed on major pieces of processing equipment in the Materials Processing Group, including rolling mills, plasma arc lamp, 4kW Nd:YAG laser, CO_2 laser, extrusion press, forging presses, powder attrition, powder blending, roll compaction (in collaboration with Ametek), pneumatic isostatic forging (in collaboration with Ametek), sintering operations with various VAC electric and IR furnaces, vacuum hot presses, swaging, shearing, and machining activities. Evaluated the materials' characteristics through mechanical testing, chemistry evaluation, microstructural analysis, EDX mapping, X-Ray Diffraction, wear evaluation, electrochemical behavior, etc. Modified processing and/or alloy chemistry to enhance structural and/or functional characteristics. Collaborated with large science teams including universities, government laboratories, original equipment manufacturers (OEMs), system integrators, production/suppy companies, Department of Energy, Department of Defense, Defense Advanced Research Project Agency, and other entities. Materials that were processed include: Ni-Cu alloys (Monel 400), Fe-Based bulk metallic glasses, titanium, titanium alloys, aluminum alloys, chromium, tantalum, steels, Fe-Co-Si alloys, ceramic-metallic composites, polymers, and ceramics. **Recent accomplishments include the development of Intellectual Property, the recognition of the 2007 R&D100 Technological Achievement, and significant collaborative efforts with prominent companies in the titanium industry.**

2000 to 2005 **Graduate Research Assistant, Department of Materials Science and Engineering, University of Tennessee, Knoxville, Tennessee, Advised by Dr. Raymond A. Buchanan and Dr. Peter K. Liaw; National Science Foundation (NSF), Integrative Graduate Education and Research Training (IGERT) Program on Materials Lifetime Science and Engineering.**

Fabricated and characterized monolithic bulk metallic glasses (BMGs). Determined the electrochemical behavior of Zr-based BMGs in aqueous solutions and compared the results with the stable crystalline phases of the same chemical systems. Explored pre-etching treatments to modify oxide chemistries in an effort to increase the corrosion resistance of alloys. Intensively investigated the fatigue behavior of BMG alloys. First scientist to report high fatigue-endurance-limits of Zr-Based BMGs (comparable to conventional high-strength alloys). Examined the variability in fatigue-endurance limits between various loading conditions and chemical compositions of BMGs. Studied the environmental effect on the

fatigue lifetime of Zr-Based BMGs. Investigated hydrogen charging of BMGs and the fatigue behavior. Determined the impact of surface roughness on the fatigue behavior of glassy alloys.

2001 to 2005 **Guest Researcher, Oak Ridge National Laboratory, Oak Ridge, Tennessee; Supervised by Dr. Chain T. Liu.**
Studied electrochemical and fatigue behaviors of Zr-Based, Monolithic BMGs. Developed extensive knowledge of the processing of bulk metallic glasses (e.g., melt spinning, drop casting, processing environments, suction/squeeze casting, etc.). Evaluated and modified new chemistries in determining glass forming ability, corrosion resistance, and mechanical behavior. Studied the crystallization behavior of vacuum annealed as-cast BMGs. Characterized inhomogeneities within monolithic BMGs. Collaborated on corrosion and fatigue studies.

Summer 2002 **Guest Researcher, Institute of Materials Research (IMR), Tohoku University, Sendai, Japan; Supervised by Dr. Akihisa Inoue and Dr. Dmitri Louzguine.**
Studied Japanese/IMR's fabrication technologies for the production of BMGs. Collaborated with IMR scientist on the production, evaluation, and alloying of BMGs. Investigated the glass forming ability and devitrification of Zr-Based BMG. Produced nano-composites (glassy matrix – crystalline precipitates) by varying chemical compositions and processing methods. Collaborated on mechanical behavior of the nano-composites.

Certifications, Awards, and Honors

2007 **Winner of R&D100 Award 2007, Development of Low Cost Titanium and Titanium Alloy Powder and Products, (Wrote the proposal that was submitted by company, 1 out of the 134 RD100 Awards received by ORNL over 44 years)**

2006 DOE-OCRWM-HPCRM Project - 2006 Outstanding Young Scientist Award

2000-2005 NSF IGERT Fellow, Integrative Graduate Education and Research Training (IGERT) Program on Materials Lifetime Science and Engineering, National Science Foundation.

2003-2004 "The Outstanding Graduate Research Assistant Award", University of Tennessee, College of Engineering, Honors Banquet.

2002 National Science Foundation, International Opportunities for Scientists and Engineers. **Wrote Proposal and Was Awarded 3 Month Internship in Japan** "International Collaborative Research for the Integrative Graduate Education and Research Training Program on Materials Lifetime Science and Engineering", Research Conducted at Institute of Materials Research (IMR), Tohoku University, Sendai, Japan. Studied the Devitrification of Amorphous Alloys.

1996 Engineer-In-Training Certification.

Intellectual Property

"In-Situ Composite Formation of Damage Tolerant Coatings Utilizing Laser", U.S. Patent Application No. 11/671,697, Projected Publication Date 8/7/2008

Others IP Currently Filed

Current Areas of Research

[1] Solid State Consolidation of New Low Cost Titanium (Ti) Powder
[2] Developed roll compaction and rolling of low cost titanium powders into wire stock.
[3] Developed pneumatic isostatic forging of plates that lead to the fabrication of a full size door (largest near net shape component of low cost titanium).
[4] Research and development of press and sinter near net shape components.
[5] Continued to evaluate the mechanical properties of solid state consolidated titanium powders.
[6] Initiated work on the Lockheed Martin Black Ti Project. Completed ~50% of tasks.
[7] Initiated work on Boeing's Low Cost Titanium Research. Completed ~40-50% of tasks.

[a] Development of solid state processing science and technologies for multiple industries including
  i) Roll compaction technology
  ii) Pneumatic isostatic forging
  iii) Vacuum got pressing of low cost titanium, Ti alloys, and metal - ceramic composites for wear resistance
  iv) Sinter, cold rolling, ageing, hot rolling, and annealing of titanium sheet and plate
  v) Extrusion development of low cost commercially pure Ti and Ti-6Al-4V powders
  vi) Press and sinter development of near net shape components including binders, pressures, temperatures, etc.
  vii) Upset forging of titanium
  viii) Development of hot isostatic pressing of low cost Ti and Ti alloy powders
  ix) Cold isostatic pressing, powder morphology modification, cold pressing, roll compaction, and attrition of low cost titanium powder to improve powder morphology

[b] Characterization (e.g., chemical, mechanical, thermal, microstructural, etc.) and evaluation of the above processes and modification of processes to enable superior structural and functional properties

[c] Mechanical behavior of powder metallurgy titanium and titanium alloy including reporting first ballistic and high cycle fatigue results of new Armstrong powders

[d] Titanium alloy and chemistry design for specific applications (meeting comparable properties of conventional wrought materials). Enabling implementation of new low cost titanium powders.

[e] Joining technologies of low cost titanium plates including TIG, E-Beam, and Laser Welding

[f] Development and processing of new low cost beta titanium alloys for heavy vehicle application

[g] Integrated production (solid state consolidation, hot rolling, annealing, joining, etc.) of a door for BAE Systems humvee replacment (JLTV) and other DOD applications

[h] Innovative heat exchanger concepts, condenser tubing, chemical piping, and other industrial applications

[i] Development of low cost titanium and titanium alloy processing for aerospace applications.

[8] Amorphous Alloys

[a] High Performance Corrosion Resistant Materials (HPCRM), synthesis development of Fe-Based amorphous coatings including atomization of over 5 tons of material, HVOF spraying of amorphous coatings for superior corrosion resistance for Yucca Mountain application and naval defense application

[b] Characterization (e.g., electrochemical, mechanical, microstructural, etc.) of amorphous materials

[c] In-depth study of the fatigue, tensile, wear, and hot hardness of metallic glasses

[d] Optimization of laser fusing parameters for amorphous powders to steel substrates including disc cutters for tunnel boring applications

[e] Field and laboratory evaluation of full sized laser fused disc cutters

[f] Wear evaluation of the new coatings, Fe-based amorphous alloys, devitrified nanocrystalline monolithic plates, and steels

[g] Laser fusing of multiple applications including mining bits, treads, plates, etc.

[h] Study of the devitrification of amorphous alloys, and the structural behavior of nanocrystalline materials

[i] Net shape production for corner cube identification and other applications

[j] Development of new processing methods for amorphous alloys to surpass previous geometry limits for glassy alloys

[9] Refractory Metal Cladding of Steel Components

[a] Optimization of plasma arc lamp processing parameters for the joining of refractory metals and other difficult to fuse elements/alloys to common steel and aluminum substrates (e.g., tantalum and chromium)

[b] Characterization and evaluation of microstructure, chemistry, bonding, thermal processing histories, interface condition, etc.

[c] Integrated approach with thermal modeling

[10] Super Hydrophoebic Materials

[a] Laser, T3 Halogen, and other IR processing of nanomaterials and superhydrophoebic powders on ceramic and polymer substrates

[11] Laser Fusing of Corrosion-Resistant Coatings to Steel Substrates for Corrosion Resistance

[a] Development of the joining practices for dissimilar materials
[b] Thermal processing of fused materials
[c] Characterization of new coatings

[12] Processing of Fe-Based Alloys
[a] Thermomechanical processing of the Fe based alloys
[b] Characterization of post-cold and hot rolling activities

[13] Processing of Ni-Cu Alloys
[a] Hot and cold working to enhance mechanical properties for specific applications
[b] Extrusion, swaging, and rolling of spinodal decomposition alloys
[c] Replacement alloy for beryllium-copper alloys

[14] Non-Skid Surfaces
[a] Bonding of complex coatings to steel substrates for non-skid

Presentations and Other Industrial & Academic Events

Average 3-4 Tours in Materials Processing Area from Industrial or Academic Visitors Per Month
Average 1-2 Trips with Industrial Partners to Discuss Future or Current Collaborations Per Month

- **Provided visitor tours of the ORNL-MSTD Materials Processing Group on an average of 1-2 times per week, including potential clients, collaborative organizations, program managers, etc. (e.g., Woolsey – former head of CIA, Alexander Karsner Assistant Secretary of Energy – EERE, Carl Kohrt – President of Battelle, Boeing, Lockheed, Expro, Baker Hughes, AquaChem, Millennium Chemicals, Hendrickson, NanoSteel, Carpenter, Southwire, general Motors, etc.)**
- **Responsible for/manned ORNL booth at <u>six conferences</u> as a representative of the laboratory to inform people of ORNL**
  - National Space & Missile Materials Symposium 2008, 23-27 June Henderson, NV
  - Tactical Vehicle Summit in Alexandria, VA, April 2008
  - SAE 2008 World Congress, Detroit, MI, April 2008
  - International Titanium Association 2008, Las Vegas NV, Sept. 2008
  - Defense manufacturing Conference in Las Vegas, Dec. 2007
  - R&D 100 Awards, October 18, 2007 Navy Pier, Chicago, IL
- **Increased contacts and working relationships with companies. Initiated work/interaction or new project with Baker Hughes, Carpenter, NanoSteel, SouthWire, Lockheed Martin, Ametek, LMC, BAE Systems, AquaChem, Boeing, Queen City Forging, etc.**
- **Author or coauthor of <u>4 peer reviewed papers</u> since last August**
  - Harlow DG, Liaw PK, Peter WH, Wang GY, Buchanan RA, Raymond A. An approach to modeling the S-N behavior of bulk-metallic glasses. Acta Materialia, Vol. 56, pgs. 3306-3311, Aug. 2008
  - W. H. Peter, C. A. Blue, C. R. Scorey, W. Ernst, J. M. McKernan, J. O. Kiggins, J.D.K. Rivard, and C. Yu. NON-MELT PROCESSING OF "LOW-COST", ARMSTRONG TITANIUM AND TITANIUM ALLOY POWDERS Proceedings of the Light Metals Technology Conference 2007, September 24-26, 2007
  - Blau, PJ., Jolly, BC., Qu, J, Peter, WH., Blue, CA. "Tribological Investigation Of Titanium-Based Materials For Brakes" Wear, Vol. 263, pgs. 1202-1211, September 2007
  - W.H. Peter, G.Y. Wang, P.K. Liaw, R.A. Buchanan, C.T. Liu, M.L. Morrison, and C.R. Brooks. "Variability in Fatigue behavior of a Zr-based Bulk Metallic Glass (BMG) as a Result of Average Surface Roughness and Pronounced Surface Defects", Key Engineering Materials. Vols. 345-346, pgs. 217-222 (2007). August 2007

[1] "Solid State Processing of New Low Cost Titanium Powders Enabling Afforable Automotive Components". Advance Lightweight Materials for Automotive 2008. June 19, 2008. Detroit MI.
[2] "Non-Melt Processing of "Low-Cost", Armstrong Titanium and titanium alloy Powders for DOD Applications" Tactical Vehicle Summit. April 2, 2008, Alexandria, VA
[3] Defense Manufacturing Conference, Hosted ORNL Booth and Interacted with Defense Manufactures at Conference to Inform Companies of ORNL's Materials Capabilities, December 3-6, 2007

[4] "Solid State Consolidation Processing of Armstrong Titanium and Pre-Alloyed Titanium Powders for Production of "Low Cost" Plate, Sheet, and Bar Components", Navy Metalworking Center: Advanced Materials and Manufacturing Technology for Naval Applications. November 14-15, 2007, Baltimore, MD.

[5] R&D 100 Awards Banquet, Presented Low Cost Titanium Effort for 2007 R&D 100 Award, October 18, 2007

[6] "Powder Metallurgy and Solid State Processing of Armstrong Titanium and Titanium Alloy Powders", International Titanium Association Annual Conference, 2007, Orlando, FL, October 8-9, 2007

[7] "Non-Melt Processing of Low-Cost, Armstrong Titanium and Titanium Alloy Powders" Light Metals Technology 2007 Invited Speaker Quebec, Canada, September 24-26, 2007

[8] "Powder Metallurgy Techniques to Consolidate Armstrong Titanium and Pre-Alloyed Titanium Powders for Potential Automobile Applications" Materials Science & Technology 2007 Conference and Exhibition, September 16-20, 2007, COBO Center, Detroit, MI

[9] "Thermomechanical Processing of "Low-Cost" Armstrong Titanium and Titanium Alloy Powders", Diesel Engine-Efficiency & Emissions Research, August 16, 2007

[10] "Powder Morphology Modification and Compaction Techniques of Armstrong Titanium Powder", 18th AeroMat Conference & Exposition, Baltimore, MD, June 28 2007

[11] "Thermomechanical Processing of "Low-Cost", Armstrong Titanium and Titanium Alloy Powders", TMS 2007 Annual Conference, February 26, 2007

[12] "Thermomechanical Processing of Low-Cost CP Ti and Ti-6Al-4V Bar, Sheet, and Plate: Armstrong Titanium Solid State Roll Compaction", International Titanium Association Annual Conference 2006, October 4 2006

[13] Presentation to DOE Golden, CO on Performance of Laser Fused Fe-Based Nanocrystalline Coatings onto TBM Disc Cutters,

[14] "High-Performance Corrosion-Resistant Materials: Synthesis of SAM1651 Powder & Ingots", HPCRM Annual Performance Review Conference, DOE & DARPA Review, Key West, FL 2006

[15] "High-Performance Corrosion-Resistant Materials: In-Situ Formation of Laser Fused Nanocrystalline Composite Coatings From FE-Based SAM Alloys to Improve Wear Resistance In TBM Disc Cutters", HPCRM Annual Performance Review Conference, DOE & DARPA Review, Key West, FL 2006

[16] W. H. Peter, P. K. Liaw, C. T. Liu, R. A. Buchanan, M. L. Morrison, and G. Y. Wang. "Effect of Surface Finish on the Variability in Fatigue Behavior of a Zr-Based Bulk Metallic Glass (BMG)". TMS Annual Meeting 2005, San Francisco, CA, February 15, 2005.

[17] W. H. Peter, P. K. Liaw, C. T. Liu, R. A. Buchanan, M. L. Morrison, G. Y. Wang, and B. Yang. "Scattered Results and Premature Overload Fracture of Zirconium Based Bulk Metallic Glass Fatigue Specimens Tested in Vacuum". TMS Annual Meeting 2004, Charlotte, NC, March 16, 2004.

[18] NSF-IGERT External Program Review Meeting, December 2003

[19] W. H. Peter, R. A. Buchanan, C. T. Liu, P. K. Liaw, M. L. Morrison, J. A. Horton, C.A. Carmichael, and J. L. Wright. "Localized Corrosion Behavior of a Zirconium-Based Bulk Metallic Glass Relative to Its Crystalline State", 2nd International Conference on Bulk Metallic Glasses, Keelung, Taiwan, March 24-28, 2002.

[20] W. H. Peter, P. K. Liaw, R. A. Buchanan, C. T. Liu, C. R. Brooks, J. A. Horton, Jr., C. A. Carmichael, Jr., and J. L. Wright. "The Fatigue Behavior of a Zirconium Based Bulk Metallic Glass in Vacuum and Air", 2nd International Conference on Bulk Metallic Glasses, Keelung, Taiwan, March 24-28, 2002.

[21] W. H. Peter, R. A. Buchanan, C.T. Liu, and P. K. Liaw. "The Fatigue Behavior of a Zirconium Based Bulk Metallic Glass in Vacuum and Air", TMS Annual Meeting 2002, Seattle, WA, February 20, 2002.

[22] W. H. Peter. "Comparison of the Corrosion Behavior and Properties of a Zirconium-Based Bulk Amorphous Alloy with Its Crystalline State", Graduate Seminar Series, University of Tennessee, Knoxville, Tennessee, "November 28, 2001.

[23] W.H. Peter, R. A. Buchanan, C.T. Liu, P. K. Liaw, J. A. Horton, C. A. Carmichael, and J. L. Wright. "Comparison of the Corrosion Behavior and Properties of a Zirconium Based Bulk Amorphous Alloy with Its Crystalline State", TMS Fall Meeting 2001, Indianapolis, IN, November 4-8, 2001.

Publications

Over 14 Publications, Over 240 Citations, Averaging 17 Citations per Publication

[1] W.H. Peter, C.A. Blue, C.R. Scorey, W. Ernst, J.M. McKernan, J.O. Kiggans, J.K. Rivard, and C. Yu. "Non-Melt Processing of "Low-Cost" Armstron

[2] W.H. Peter, G.Y. Wang, P.K. Liaw, R.A. Buchanan, C.T. Liu, M.L. Morrison, and C.R. Brooks. "Variability in Fatigue Behavior of a Zr-Based Bulk Metallic Glass (BMG) as a Result of Average Surface Roughness and Pronounced Surface Defects", Key Engineering Materials Vols. 345-346, pp 217-222 (2007).

[3] P.J. Blau, B.C. Jolly, J. Qu, W.H. Peter, C.A. Blue. "Tribological investigation of titanium-based materials for brakes", Wear, Vol. 263, pg. 1202-1211 (2007).

[4] G.Y. Wang, P.K. Liaw, Y. Yokoyama, W.H. Peter, B. Yang, M. Freels, R.A. Buchanan, C.T. Liu, C.R. Brooks. Influence of air and vacuum environment on fatigue behavior of Zr-based bulk metallic glasses. JOURNAL OF ALLOYS AND COMPOUNDS, 434: 68-70 Sp. Iss. SI MAY 31 2007

[5] Wang, G (Wang, G. Y.); Liaw, PK (Liaw, P. K.); Yokoyama, Y (Yokoyama, Y.); Peker, A (Peker, A.); Peter, WH (Peter, W. H.); Yang, B (Yang, B.); Freels, M (Freels, M.); Zhang, ZY (Zhang, Z. Y.); Keppens, V (Keppens, V.); Hermann, R (Hermann, R.); Buchanan, RA (Buchanan, R. A.); Liu, CT (Liu, C. T.); Brooks, CR (Brooks, C. R.). Studying fatigue behavior and Poisson's ratio of bulk-metallic glasses. INTERMETALLICS, 15 (5-6): 663-667 MAY-JUN 2007

[6] Wang, GY; Liaw, PK; Peker, A; Freels, M; Peter, WH; Buchanan, RA; Brooks, CR. Comparison of fatigue behavior of a bulk metallic glass and its composite. INTERMETALLICS, 14 (8-9): 1091-1097 Sp. Iss. SI AUG-SEP 2006. Times Cited: 11

[7] G. Y. Wang, P. K. Liaw, A. Peker, B. Yang, M. L. Benson, W. Yuan, W. H. Peter, L. Huang, M. Freels, R. A. Buchanan, C. T. Liu, and C. R. Brooks. "Fatigue Behavior of Zr-Ti-Ni-Cu-Be Bulk Metallic Glasses", Intermetallics, 13, 3-4, pp.429-435 (2005). Times Cited: 29

[8] M. L. Morrison, R. A. Buchanan, A. Peker, W. H. Peter, J. A. Horton, P. K. Liaw. "Cyclic-Anodic-Polarization Studies of a $Zr_{41.2}Ti_{13.8}Ni_{10}Cu_{12.5}Be_{22.5}$ Bulk Metallic Glass", Intermetallics, 12, pp. 1177-1181 (2004). Times Cited: 13

[9] G. Y. Wang, P. K. Liaw, W. H. Peter, B. Yang, Y. Yokoyama, M. L. Benson, B. A. Green, M. J. Kirkham, S. A. White, T. A. Saleh, R. L. McDaniels, R. V. Steward, R. A. Buchanan, C. T. Liu, C. R. Brooks. "Fatigue Behavior of Bulk-Metallic Glasses", Intermetallics, 12, 7-9, pp. 885-892, Sp. Iss. SI (2004). Times Cited: 35

[10] G. Y. Wang, P.K. Liaw, W. H. Peter, B. Yang, M. Freels, Y. Yokoyama, M. L. Benson, B. A. Green, T. A. Saleh, R. L. McDaniels, R. V. Steward, R. A. Buchanan, C. T. Liu, C. R. Brooks. "Fatigue Behavior and Fracture Morphology of $Zr_{50}Al_{10}Cu_{40}$ and $Zr_{50}Al_{10}Cu_{30}Ni_{10}$ Bulk-Metallic Glasses", Intermetallics, 12, 10-11, pp. 1219-1227 (2004). Times Cited: 33

[11] B. Yang, P. K. Liaw, G. Wang, W. H. Peter, R.A. Buchanan, Y. Yokoyama, J. Y. Huang, R. C. Kuo, J. G. Huang, D. E. Fielden, D. L. Klarstrom. "Thermal-Imaging Technologies for Detecting Damage During High-Cycle Fatigue", Metallurgical and Materials Transactions A-Physical Metallurgy and Materials Science, 35A, 1, pp. 15-23 (2004). Times Cited: 10

[12] W. H. Peter, R. A. Buchanan, C. T. Liu, and P. K. Liaw. "The Fatigue Behavior of a Zirconium-Based Bulk Metallic Glass in Vacuum and Air," Journal of Non-Crystalline Solids, 317, pp. 187-192 (2003). Times Cited: 33

[13] W. H. Peter, P. K. Liaw, R. A. Buchanan, C. T. Liu, C. R. Brooks, J. A. Horton, Jr., C. A. Carmichael, Jr., and J. L. Wright. "Influence of Water Vapor on the Fatigue Behavior of a Zirconium-Based Bulk Metallic Glass", Intermetallics, 10, pp.1125-1129 (2002). **Times Cited: 47**

[14] W. H. Peter, R. A. Buchanan, C. T. Liu, P. K. Liaw, M. L. Morrison, J. A. Horton, C. A. Carmichael, Jr., and J. Wright. "Localized Corrosion Behavior of a Zirconium-Based Bulk Metallic Glass Relative to Its Crystalline State", Intermetallics, 10, pp.1157-1162 (2002). Times Cited: 32

Teaching Experience

[1] Student Advisor/Mentor, Seth Lawson, Compression Studies of Nano-Composite Bulk Metallic Glasses, Undergraduate NSF-IGERT Intern, The University of Tennessee, 2004-Present.

[2] MSE 476: Intermetallic Compounds and Composites, Instructed 3 Lectures on "Bulk Metallic Glasses: Concepts and Fabrication Techniques", Fall 2004.

[3] MSE 628: Bulk Metallic Glass Literature Review Seminar, 1 Credit Hour, Organized and Conducted Bi-Monthly Seminar, Fall 2004.

[4] MSE 150: Introduction to Materials Science and Engineering, Teaching Assistant, Dr. Jim Davidson, Vanderbilt University, Spring 1995.

Technical Reviewer

[1] Intermetallics
[2] Applied Physics Letters