Haiying Huang, Ph.D.
Professor, Dept. of Mechanical and Aerospace Engineering, University of Texas at Arlington

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Arlington, TX 76019 huang@uta.edu

EMPLOYMENT HISTORY

Professor	University of Texas at Arlington	2014-present
Associate Professor	University of Texas at Arlington	2010-2014
Assistant Professor	University of Texas at Arlington	2006-2010
Assistant Professor	Purdue University	2004-2006
Member of Technical Staff	Bell Labs, Lucent Technology/OFS	2000-2003
Mechanical Engineer	FMC Corporation	1998-1999

EDUCATIONAL BACKGROUND

Ph.D.	1998	Georgia Institute of Technology	Aerospace Engineering
M. S.	1997	Georgia Institute of Technology	Electrical Engineering
B. S.	1991	Beijing University of Aeronautics and Astronautics (BUAA)	Design of Aircraft Engine

CURRENT RESEARCH PROJECTS

- Passive wireless antenna sensors for smart medical devices and high temperature monitoring
- Optical fiber sensor for simultaneous strain and temperature measurement
- Smart medical devices (smart prosthetic sockets, smart shoes, smart walkers, etc.)
- Battery-free wireless ultrasound/Acoustic Emission sensors
- 3-D surface profiling for material damage diagnosis and prognosis

GRANTS

1. (Current) Acquisition of an In-situ Micro/nano Mechanical Characterization System for Quantitative Study of Fatigue-induced Microplasticity, **lead PI**, AFOSR DURIP, 9/15/2014-9/14/2015.
2. (Current) Smart Sensing and Dynamic Fitting for Enhanced Comfort and Performance of Prosthetics, **lead PI**, CDMRP Orthopedic program, 9/30/2014-9/29/2017.
3. (Current) Integrated Experimental-numerical Framework for the Study of Early Fatigue Damage, **lead PI**, AFOSR Structural Mechanics program, 9/15/2014-9/14/2017.
4. (Current) Distributed Wireless Antenna Sensors for Boiler Condition Monitoring, **lead PI**, DOE University Core Research Program, 1/1/2015-12/30/2017.
5. (Current) Simultaneous Strain and Temperature Measurement Using a Single Fiber Bragg Grating with a Thermochromic Coating, **lead PI**, Office of Naval Research, 7/1/2014-12/31/2015.
6. (Current) SmartWalker – a New Design of Rolling Walkers to Reduce Falls and Walker-use Related Side Effects, **site-PI**, Texas Medical Research Consortium (TxMRC), 6/1/14-5/31/15.
7. (Current) Remote Generation and Steering of Ultrasound Using Microwave, **single PI**, Office of Naval Research, 3/2012-2/2015.
8. (Expired) SmartShoes for Real-time Shear and Pressure Sensing, **single PI**, UT Transform, 7/2013-8/31/2014.

9. (Expired) **CAREER**: Passive Wireless Sensor Networks for Bio-inspired Sensor Skins, **single PI**, CMMI-0846074, National Science Foundation, 07/01/2009-06/30/2014.
10. (Expired) Unpowered Wireless Ultrasound Generation and Sensing for Structural Health Monitoring of Composites, **site-PI**, NASA SBIR Phase I, 3/2012-8/2012.
11. (Expired) Embedding passive wireless shear/pressure sensors in shoes for diabetic foot diagnostics and ulcer prevention, **lead PI**, Texas Medical Research Collaborative (TxMRC) program, 6/1/2011-5/31/2012.
12. (Expired) Breast Cancer Detection Based on Ultrasonic Grating and Whitelight Reflectometry, **single PI**, DOD Breast Cancer Concept Award, 9/1/2010-8/31/2011.
13. (Expired) Unpowered wireless Acoustic Emission sensor for Structural Health Monitoring, **single PI**, Texas Norman Hackerman Advanced Research Program (NHARP), 07/2010-06/2012.
14. (Expired) Repair and upgrade Instron test frame for fatigue loading, **lead PI**, UTA College of Engineering Research Equipment fund, 04/2010, $65,000.
15. (Expired) Unpowered wireless ultrasound sensor, **single PI**, Texas Ignite Fund, 02/01/2010-01/31/2011.
16. (Expired) Exploiting conformal wireless patch antenna for Integrated Vehicle Health Monitoring (IVHM), **single PI**, Texas Space Grant Consortium New Investigation program, 09/01/2008-08/31/2010.
17. (Expired) Quantification of multiple cracks using MM-wave antenna sensing network, **lead PI**, Air Force Office of Scientific Research Structural Mechanics program, 6/1/2008-05/31/2011.
18. (Expired) Exploratory study of MM-wave patch antennas for strain measurement and crack detection, **lead PI**, Air Force Office of Scientific Research Structural Mechanics program, 6/1/2007-05/30/2008.
19. (Expired) Exploiting material microstructural changes at high temperature for sensor development, **site PI**, Air Force Office of Scientific Research STTR program, 8/1/2006-3/31/2007.
20. (Expired) Curriculum modules in Product Lifecycle Management (PLM) for engineering and engineering technology students and industrial practitioners, **Senior Personnel**, Society of Manufacturing Engineers Educational Foundation, 1/1/2006-12/31/2008.
21. (Expired) Development of in-fiber whitelight interferometric sensor for absolute distance measurement and characterization of micro/nano scale structures, **single PI**, Civil and Mechanical Systems, National Science Foundation, 8/15/2005-8/15/2008.
22. (Expired) In-fiber white-light interferometry for sub-nanometer distance measurement, **single PI**, Technology Innovation Award, Purdue Research Foundation, 4/1/2005-3/31/2006.
23. (Expired) Feasibility study of machine vision for plastic pharmaceutical products, **single PI**, Faculty Incentive Grant, Purdue Alumni Association, 1/2005-6/2005
24. (Expired) Sensor data fusion for automated precision assembly, Purdue University, Center for Advanced Manufacturing, **single PI**, 11/2004-10/2005.

JOURNAL PUBLICATIONS (34 PUBLISHED, 1 IN PRINT, 1 UNDER REVISION)

1. Islam, M. and **Huang, H.**, "Understanding the effects of adhesive layer on the electromechanical impedance (EMI) of bonded piezoelectric wafer transducer", under revision, *Smart Materials and Structures* (July 2014)
2. **Huang, H.** and Bednorz, T., "Introducing S-parameters for ultrasound-based Structural Health Monitoring", in print, IEEE Ultrasonics, Ferroelectrics, and Frequency Control

3. Zahedi, F. and **Huang, H.**, 2014, "A wireless acoustic emission sensor remotely powered by light", *Smart Materials and Structures*, v23, p035003.
4. **Huang, H.**, 2013, "Flexible wireless antenna sensor: a review", *IEEE Sensors Journal*, Special Issue on Flexible Sensors and Sensing Systems, v13, n10, p3865-3872 (Cited: 5, Top 25 downloaded in Feb. 2013).
5. Wang, Y., Meletis, E.I. and **Huang, H.**, 2013, "Quantitative study of surface roughness evolution during low-cycle fatigue of 316L stainless steel using Scanning Whitelight Interferometric (SWLI) Microscopy", *International Journal of Fatigue*, v48, p280-288.
6. Xu, X. and **Huang, H.**, 2012, "Battery-less wireless interrogation of microstrip patch antenna for strain sensing", *Smart Materials and Structures*, v21, p125007.(Cited: 7)
7. Mohammad, I. and **Huang, H**., 2012, "Shear sensing based on microstrip patch antenna", *Measurement Science and Technology*, v23, p105705 (5pp). (Cited: 2)
8. Xu, X. and **Huang, H.**, 2012, "Multiplexing passive wireless antenna sensors for multi-site crack detection and monitoring", *Smart Materials and Structures*, v21, p015004. (Cited: 5)
9. Mohammad, I., Gowda, V., Zhai, H. and **H. Huang**, 2012, "Detecting crack orientation using patch antenna sensors", *Measurement Science and Technology*, v23, p015102. (Cited: 12)
10. **Huang, H.** and Paramo, D., 2011, "Broadband electrical impedance matching of piezoelectric ultrasound transducer", *IEEE Ultrasonics, Ferroelectrics, and Frequency Control*, v58, n12, p2699-2707. (Cited: 8)
11. Hew, Y., Deshmukh, S. and **Huang, H.**, 2011, "A wireless strain sensor consumes less than 10 mW", *Smart Materials and Structures*, v20, p105032 (Cited: 8).
12. Deshmukh, S., Xu, X., Mohammad, I. and **Huang, H.**, 2011, "Antenna sensor skin for fatigue crack detection and monitoring", *Smart Structures and Systems*, Special Issue on Bio-inspired Sensing and Actuation, v8, n1, p93-106.
13. Erdmann, J. and **Huang, H.**, 2011, "Microwave antenna sensors for fatigue crack Monitoring under lap-joints", *Studies in Applied Electromagnetics and Mechanics*, v35, p456 -465. (Cited: 1)
14. Wang, Y. and **Huang, H.**, 2011, "Optical fiber corrosion sensor based on laser light reflection", featured article, *Smart Materials and Structures*, 20, p085003. (Cited: 7)
15. Mohammad, I. and **Huang, H.**, 2011, "An antenna sensor for crack detection and monitoring", *Advances in Structural Engineering*, 14, p47-53 (Cited: 9).
16. **Huang, H.**, Paramo, D. and Deshmukh, S., 2011, "Unpowered wireless transmission of ultrasound signals", featured article, *Smart Materials and Structures*, 20, p015017. (Cited: 12).
17. Mohammad, I. and **Huang, H.**, 2010, "Monitoring fatigue crack growth and opening using antenna sensors", *Smart Materials and Structures*, 19, p055023. (Cited:17)
18. Deshmukh, S. and **Huang, H.**, 2010, "Wireless interrogation of passive antenna sensor", *Measurement Science and Technology*, v21, p035201. (Cited: 33)
19. Tata, U., Deshmukh, S., Chiao, J.C., Carter, R., and **Huang, H.,** 2009, "Bio-inspired sensor skins for structural health monitoring", *Smart Materials and Structures*, Special issue, v18, p104026. (Cited: 22)
20. Majumdar, A. and **Huang, H.**, 2009, "Compact optical fiber whitelight interferometric distance sensor for arbitrary small distance measurement", *Applied Optics*, v48, n19, p3702–3708. (Cited: 10)
21. Tata, U., **Huang H.**, Chiao, J.C., and Carter, R., 2009, "Exploiting patch antenna for strain measurement", *Measurement Science and Technology*, v20, p015201. (Cited: 39)

22. **Huang, H.**, Majumdar, A., and Cho, J., 2009, "Fabrication and evaluation of hybrid silica/polymer optical fiber sensors for large strain measurement", *Transactions of the Institute of Measurement and Control*, 31, 4, p247–257. (Cited: 9)
23. **Huang, H.**, Pamphile, T., and Derriso, M., 2008, "The effect of actuator bending on Lamb wave displacement fields generated by a piezoelectric patch", *Smart Materials and Structures*, v17, p055012. (Cited: 18)
24. Majumdar, A. and **Huang, H.**, 2008, "Development of an in-fiber white-light interferometric distance sensor for absolute measurement of arbitrary small distances", *Applied Optics*, v47, n15, p2821-2828. (Cited: 12)
25. **Huang, H.** and Tata, U., 2008, "Simulation, implementation, and analysis of an optical fiber bundle distance sensor with single mode illumination", *Applied Optics*, v47, n9, p1302-1309. (Cited: 28)
26. **Huang, H.** and Kardomateas, G. A., 2004, "Dislocation-based boundary element method for crack problems in anisotropic half planes", *AIAA Journal*, v42, n3, p650-657. (Cited: 3)
27. Kardomateas, G. A. and **Huang, H.**, 2003, "The initial post-buckling behavior of face-sheet delaminations in sandwich composites", *Journal of Applied Mechanics*, Transactions ASME, v70, n2, p191-199 (Cited: 11)
28. **Huang, H.** and Kardomateas, G. A., 2002, "Buckling and initial postbuckling behavior of sandwich beams including transverse shear", *AIAA Journal*, v40, n11, p2331-2335. (Cited: 43)
29. **Huang, H.** and Kardomateas, G. A., 2001, "Stress Intensity Factors for a mixed mode center crack in an anisotropic strip", *International Journal of Fracture*, v108, n4, p367-381. (Cited: 4)
30. **Huang, H.** and Kardomateas, G. A., 2001, "Mixed-mode stress intensity factors for cracks located at or parallel to the interface in bi-material half planes", *International Journal of Solids & Structures*, v38, n21, p3719-3734. (Cited: 14)
31. Kardomateas, G. A. and **Huang, H.**, 2000, "An asymptotic solution for the response of face-sheet delaminations/debonds under compression", *ASME, Applied Mechanics Division*, v 245, p 133-140. (Cited: 1)
32. **Huang, H.** and Kardomateas, G. A., 1999, "Single-edge and double-edge cracks in a fully anisotropic strip", *Journal of Engineering Materials and Technology*, ASME Special Issue, v121, n4, p422-429 (Cited: 4)
33. La Saponara, V., **Huang, H.**, and Kardomateas, G. A., 1999, "Crack branching off an interface between anisotropic thin Strips", *ASME, Materials Division*, v86, p115-123
34. **Huang, H.,** Kardomateas, G.A., La Saponara, V., 1999, "Mixed mode interface cracks in a bi-material half plane and a bi-material strip", *ASME, Applied Mechanics Division*, v 235, p 21-32
35. **Huang, H.** and Kardomateas, G.A., 1998, "Buckling of orthotropic beam-plates with multiple central delaminations", *International Journal of Solids and Structures*, v35, n13, p1355-1362. (Cited: 40)
36. **Huang, H.** and Kardomateas, G. A., 1997, "Post-buckling analysis of multiple delaminated composite plates", *Journal of Applied Mechanics*, ASME, p842-846

CONFERENCE PRESENTATIONS

1. Huang, H., Yao, J. and Shonkwiler, B., "Detecting impact damage in composite materials using microwave patch antennas", presented at the 19th International Workshop on Electromagnetic NonDestructive Evaluation (ENDE2014), Xi'an China, Jun 2014.

2. Sheibani, S., Roshan, M., Huang, H., Banerjee, B. and Henderson, R., "Single Chip Interrogation System for A Smart Shoe Wireless Transponder", 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, EMBC'14.
3. Yao, J. and Huang, H., "Dynamic Interrogation of Wireless Antenna Sensor", presented at SPIE-Smart Structures and Materials and NDE for Health Monitoring and Diagnostics, San Diego, CA, March 2014.
4. Islam, M. and Huang, H., "The effects of adhesive layer on lamb wave generation and sensing using bonded PWAS", presented at SPIE-Smart Structures and Materials and NDE for Health Monitoring and Diagnostics, San Diego, CA, March 2014.
5. Jiang, H., Sanders, J., Jun, Y. and Huang, H., "Patch antenna based temperature sensor", presented at SPIE-Smart Structures and Materials and NDE for Health Monitoring and Diagnostics, San Diego, CA, March 2014.
6. Islam, M. and Huang, H., "Effect of bonding layer on admittance of a PWAS bonded on a beam: correlation between measurements and simulation", presented at International Workshop on Structural Health Monitoring, Stanford University, Sept. 2013
7. Zahedi, F. and Huang, H., "Wireless Acoustic Emission sensor powered by microwave energy", presented at International Workshop on Structural Health Monitoring, Stanford University, Sept. 2013.
8. Huang, H. and Tran, N, "A smart shoe for simultaneous shear and pressure monitoring during walking", poster presentation at the Gait and Clinical Movement Analysis Society (GCMAS) 2013 Conference, Cincinnati, OH, May, 2013.
9. Huang, H., "Unpowered wireless generation and sensing of ultrasound", SPIE-Smart Structures and Materials and NDE for Health Monitoring and Diagnostics, San Diego, CA, March 2013.
10. Islam, M., Zahedi, F. and Huang, H., "Battery-less PWAS-based wireless Acoustic Emission sensor", SPIE-Smart Structures and Materials and NDE for Health Monitoring and Diagnostics, San Diego, CA, March 2013.
11. Bhuiyan, R., Islam, M. and Huang, H., "Wireless excitation and electrical impedance matching of piezoelectric wafer active sensors", ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems (SMASIS), Stone Mountain, GA, Sept. 2012.
12. Hew, Y. and Huang, H., "Wireless vibration sensing without a battery", ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems (SMASIS), Stone Mountain, GA, Sept. 2012.
13. Hew, Y. and Huang, H., "Wireless strain sensing system for spacecraft health monitoring", 63rd International Astronautical Congress, Naples, Italy, Sept. 2012.
14. Mohammad, I. and Huang, H., "Plantar pressure sensing using loop antenna sensors", The 5th ACM International Conference on Pervasive Technologies Related to Assistive Environments (PETRA), Heraklion, Crete, Greece, June 6-8, 2012.
15. **Huang, H.** and Castillo, E., "Wireless interrogation of microwave transmission line for distributed sensing", IEEE 2012 5th Global Symposium on Millimeter Waves (GSMM 2012), Harbin China, May 2012.
16. Mohammad, I. and **Huang, H.**, "Wireless Interrogation of Antenna Sensor to Detect Hidden Cracks", IEEE Wireless and Microwave Technology Conference: WAMICON 2012, April 2012.
17. Mohammad, I. and **Huang, H.**, "Pressure and shear sensing based on microstrip antennas", SPIE-Smart Structures and Materials and NDE for Health Monitoring and Diagnostics, San Diego, CA, March 2012.

18. Xu, X. and **Huang, H.**, "Wireless interrogation of antenna sensors for strain monitoring", SPIE-Smart Structures and Materials and NDE for Health Monitoring and Diagnostics, San Diego, CA, March 2012.
19. **Huang, H.** and Islam, M., "PWAS-based wireless Acoustic Emission sensor", SPIE-Smart Structures and Materials and NDE for Health Monitoring and Diagnostics, San Diego, CA, March 2012.
20. Mohammad, I. and **Huang, H.**, "Improving the reliability of sensor skins for fatigue crack monitoring", 9th International Workshop on Structural Health Monitoring, Stanford University, Sept. 2011.
21. Hew, Y., Yu, A. and **Huang, H., "**A wireless strain sensor powered by microwave energy", 9th International Workshop on Structural Health Monitoring, Stanford University, Sept. 2011.
22. Xu, X. and **Huang, H.**, "Multiplexing wireless antenna sensors for crack growth monitoring", SPIE-Smart Structures and Materials and NDE for Health Monitoring and Diagnostics, San Diego, CA, March 2011.
23. Mohammad, I. and **Huang, H.**, "Detecting crack orientation using antenna sensor", SPIE-Smart Structures and Materials and NDE for Health Monitoring and Diagnostics, San Diego, CA, March 2011.
24. Erdmann, J., Deshmukh, S. and **Huang, H.**, "Conformal microwave sensors for fatigue crack monitoring under lap joints", ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems (SMASIS), Philadelphia, PA, Sept. 2010.
25. Paramo, D. and **Huang, H.**, "Unpowered wireless ultrasound sensor", presented at ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems (SMASIS), Philadelphia, PA, Sept. 2010.
26. Xu, X., Deshmukh, S., Mohammad, I. and **Huang, H.**, "Passive wireless sensor skin for crack detection and monitoring", *invited paper*, 5th World Conference on Structural Control and Monitoring, Shinjuku, Tokyo, July 2010.
27. **Huang, H.** and Paramo, D., "Unpowered wireless transmission of ultrasound signals", 5th edition of European Workshop on Structural Health Monitoring, Sorrento, Italy, June 2010.
28. Erdmann, J. and **Huang, H.,** "Microwave antenna sensors for fatigue crack monitoring under lap-joints", the 15th International Workshop on Electromagnetic Nondestructive Evaluation, Szczecin, Poland, June 2010.
29. Shenoy, M. and **Huang, H.**, "An optical fiber corrosion sensor based on laser light reflection", SPIE-Smart Structures and Materials and NDE for Health Monitoring and Diagnostics, San Diego, CA, March 2010.
30. Deshmukh, S., Mohammad, I., Xu, X., and **Huang, H.**, "Unpowered antenna sensor for crack detection and measurement", SPIE-Smart Structures and Materials and NDE for Health Monitoring and Diagnostics, San Diego, CA, March 2010.
31. Deshmukh, S., Mohammad, I., Wu, T., Tentzeris, M., and **Huang, H.**, "Crack detection and monitoring using passive wireless antenna sensor", ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems, SMASIS2009, California, 2009.
32. **Huang, H.**, Pamphile, T. and Derriso, M, "Directionality of Lamb wave field excited by circular piezoelectric wafer actuators", 8th International Workshop on Structural Health Monitoring, Stanford University, Sept. 2009.
33. Mohammad, I., and **Huang, H.**, "Passive wireless patch antenna sensor for crack detection", 8th International Workshop on Structural Health Monitoring, Stanford University, Sept. 2009.

34. Incel, D. and **Huang, H.,** "Exploiting polymer tip FPI Sensor for temperature measurements", 5th ANCRISST workshop, Boston, 2009.
35. Mohammad, I. and **Huang, H.**, "An antenna sensor for crack detection and monitoring", ANCRISST workshop, Boston, 2009.
36. Tata, U., **Huang, H.**, Debb, S., Wang, J., and Chiao, J.-C., "A patch antenna-based strain sensor for structural health monitoring", SPIE Micro/MEMS, 2008.
37. **Huang, H.**, Pamphile, T. and Derriso, M., "Effect of bending dynamics of piezoelectric patch actuator on Lamb wave displacement field", ASME International Mechanical Engineering Congress and Exposition, Boston, Massachusetts, Oct. 31-Nov. 6, 2008.
38. Tata, U., **Huang H.**, Chiao, J.C., and Carter, R., "Bio-inspired sensor skins for structural health monitoring", ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems, SMASIS2008, Ellicott City, Maryland , Oct. 28-30, 2008.
39. Gupta, N. and **Huang, H.**, "Development of an optical fiber corrosion sensor based on light reflection", invited paper, the Fourth International Conference on Bridge Maintenance, Safety, and Management, Seoul, Korean, July 13-17, 2008.
40. **Huang, H.**, Pamphile, T., and Derriso, M, "Signal processing for Lamb wave signals excited by piezoelectric patches", Sensor, Signal, and Information Processing (Sensip) workshop, Sedona, Arizona, May 11-14, 2008.
41. Majumdar, A., and **Huang, H.**, "Development of an in-fiber whitelight interferometric distance sensor for small distance measurement", SPIE-Smart Structures and Materials and NDE for Health Monitoring and Diagnostics, San Diego, CA, March 2008.
42. **Huang, H.**, Majumdar, A., "Development of an in-fiber whitelight interferometric distance sensor for small distance measurement", NSF CMII grantee's conference, Knoxville, TN, January, 2008.
43. **Huang, H.**, Tata, U., Majumdar, A., "A novel all-fiber surface roughness sensor based on laser scattering", The 6th International Workshop on Structural Health Monitoring, Stanford University, September 2007.
44. **Huang, H.**, "Course material development for a graduate course on structural health monitoring", invited talk, World Forum on Smart Materials & Smart Structure Technology, Chongqing, China, May 2007.
45. **Huang, H.**, "Fabrication and evaluation of hybrid silica/polymer optical fiber sensors for large strain measurement", SPIE-Smart Structures and Materials and NDE for Health Monitoring and Diagnostics, San Diego, CA, March 2007.
46. **Huang, H.** and Majumdar, A., "Fabrication and evaluation of a LPFG-based whitelight interferometric distance sensor", SPIE-Smart Structures and Materials and NDE for Health Monitoring and Diagnostics, San Diego, CA, March 2007.
47. **Huang, H.**, "Optical Fiber Sensor for Structure Health Monitoring: What is Next?", invited talk, the US-Taiwan Workshop on Smart Structural Technology for Seismic Hazard Mitigation (SST/SHM), October 12-14, 2006.
48. **Huang, H**. and Zanwar, S., "An inexpensive technique to fabricate hybrid glass/plastic optical fiber sensors for large strain measurement", 4th International Conference on Earthquake Engineering, Taipei, Taiwan, October 12-13, 2006.
49. **Huang, H**., "Data interrogation for whitelight Fabry-Perot distance sensor", SPIE-Smart Structures and Materials and NDE for Health Monitoring and Diagnostics, San Diego, CA, March 2006.
50. **Huang, H.** and Veazie, D., "In-Situ tensile test of NiFe thin films by an AFM-based micro/nano-Scale mechanical testing dystem", presented at SECTAM XXII--22nd

Southeastern Conference on Theoretical and Applied Mechanics, Tuskegee, Alabama, August 15-17, 2004.

51. **Huang, H.**, Kardomateas, G. A., and Saponara, V., "Mixed-mode interface cracks in a bi-material half plane and a bi-material strip", symposium on Applied Mechanics, the Winter Annual Meeting of ASME, Nashville, Tennessee, November 14-19, 1999.
52. **Huang, H.** and Kardomateas, G. A., "Stress intensity factor calculation for finite anisotropic rectangular plates using continuous dislocation method and conformal transformation", Symposium on Durability and Damage Tolerance of Heterogeneous Materials, ME'98, the International Mechanical Engineering Congress and Exposition, Winter Annual Meeting of ASME, Anaheim, California, November 15-20, 1998.
53. **Huang, H.** and Kardomateas, G. A., "Mixed-mode stress intensity factors for composite plates with single delamination under compression", Symposium on Compressive Failure of Composite Materials and Composite Structures, SES'98, Washington State University, Pullman, WA, September 27-30, 1998, p102-E2.
54. **Huang, H.** and Kardomateas, G. A., "Buckling and post-buckling of composite beam-plates with multiple central delaminations", Proceedings of 1997 38th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, Materials Conference, v4, AIAA, Kissimmee, FL, April 1997, p2621-2628.
55. **Huang, H.** and Kardomateas, G. A., "Post-buckling analysis of multiple delaminated composite plates", Proceedings of the 1996 11th Technical Conference of the American Society for Composites, Atlanta, GA, October 1996, p168-177.

INVITED TALKS

1. School of Power and Propulsion, Beijing University of Aeronautics and Astronautics, Jun. 2014
2. Distinguish Speaker Series, IEEE-Electronic Devices Society Dallas Section, Nov. 2012
3. Dept. of Materials Science and Engineering, University of Texas Arlington, Nov. 2012
4. Harbin Institute of Technology, May 2012
5. Dept. of Mechanical Engineering, South Methodist University, Match 2012
6. Physics Colloquium, University of Texas Arlington, Feb. 2012
7. Dept. of Mechanical and Aerospace Engineering, North Carolina State University, May 2011
8. NSF workshop on bio-inspired sensing and actuation, June 2010
9. NIA-Airbus workshop on Smart Structures, Jan. 2010
10. Hong Kong Polytechnic University, Jan. 2010
11. Department of Aeronautics and Astronautics, Air Force Institute of Technology, July 2007
12. Education session at World Forum on Smart Materials & Smart Structure Technology, Chongqing, China, May 2007
13. Workshop on Piezoelectric Energy Harvesting, University of Texas at Arlington, Jan. 30-31, 2007
14. the US-Taiwan Workshop on Smart Structural Technology for Seismic Hazard Mitigation (SST/SHM), October 12-14, 2006
15. NSF young researcher forum on structural control and Monitoring, 2006, Hangzhou, China

PATENTS

1. US patent #8345264, "Laser reflection optical fiber sensor"
2. US patent #8215834, "Optical fiber based polymer core sensor"
3. US patent #7187816, "In-fiber whitelight interferometry using long-period fiber grating"
4. US patent #6717659, "Method and apparatus for detecting airlines in optical fibers"

5. US patent #6791678, "System and Method for obtaining spin and mechanical twist data during optical fiber draw"
6. US provisional patent application, "Smart shoe with shear and pressure sensor for diabetic foot ulcer diagnostics and prevention", Feb. 2013.
7. US patent application No. 12753115, "Unpowered wireless sensor systems and methods", May 2012.
8. US provisional patent application #61226347, "System, method, and apparatus for passive wireless structural health monitoring", July 2009
9. US patent application, "Passive wireless sensor for strain, temperature, crack, and fatigue measurement", February 2009

TEACHING EXPERIENCE

Graduate Courses: Sensor Technologies for Structural Health Monitoring, Fracture mechanics
Undergraduate Courses: Experiment methods and instrumentation, Solid Mechanics, Machine Vision, Finite Element Method, Engineering Materials,

AWARDS

2009 NSF CAREER award
2009 Research Incentive Award, University of Texas at Arlington
2007 Air Force Summer Faculty Fellowship

STUDENT AWARDS

2014 Air Force Summer Intern Scholarship
2013 NASA Flight Opportunity Award
2013 UTA ACES Competition (Undergraduate Sustainability Award and Undergraduate Afternoon Oral Presentation)
2012 Boeing Undergraduate Engineering Student of the Year
2012 Goldwater Scholarship
1st place in the undergraduate category at 2012 AIAA Region IV Student Conference
1st prize winner of 2010 UTA McNair Scholar Program
1st place in the undergraduate category at 2011 AIAA Region IV Student Conference
3rd prize of poster session at World Best Technologies (WBT) Innovation Marketplace

PROFESSIONAL SERVICES

- ***Editor***, Series in Sensors, CRC Press, Taylor & Francis Group
- ***Proposal Review***: National Science Foundation, Air Force Office of Scientific Research, NASA Space Technology Research Fellowships, Netherlands Organization of Scientific Research, Singapore National Science Foundation, Korea Research Foundation, Hong Kong Innovation and Technology Commission, Kentucky Science & Engineering Foundation
- ***Conference Organizer***: the 5th Asia-Pacific Network of Centers for Research in Smart Structures Technology (ANCRiSST) workshop, 2009
- ***Committee Member:*** Program committee of 2013 International Symposium on Optomechatronic Technologies (ISOT2013), Program Committee of SPIE-Smart Structures and Materials and NDE for Health Monitoring and Diagnosis Conference, since 2006, Education Committee of the Asia-Pacific Network of Centers for Research in Smart Structures Technology (ANCRiSST)
- ***Session Chairs***: SPIE 2013, SPIE 2012, IWSHM 2011, SMASIS 2010, 5th ANCRISST workshop 2009, ASME International Mechanical Engineering Congress and Exposition

2008, SPIE-Smart Structures and Materials and NDE for Health Monitoring and Diagnosis Conference, 2006, 4th International Conference on Earthquake Engineering, 2006, 2008, The 4th China-Japan-US Symposium on Structural Control and Monitoring, 2006

- ***Journal review***: IEEE sensors journal, Smart Materials & Structures, Ultrasonics, Journal of the Optical Society of America B, Applied Optics, Optical Letter, Optical Express, Photonics Technology Letter, Sensors and Actuators A, Sensors and Actuators B, IEEE Aerospace, Chinese Optics Letter, IEEE Transaction on Instrumentation and Measurement, International Journal of Fatigue, International Journal of Manufacturing Technology and Management, Journal of Intelligent Material Systems and Structures, Journal of Lightwave Technology, Modern Applied Science, Smart Structures and Systems, Composite Science and Technology, Journal of ASME, AIAA Journal, International Journal of Solids and Structures, International Journal of Fracture, International Journal of Non-Linear Mechanics, Computer Methods in Biomechanics and Biomedical Engineering
- ***Consulting***: Consultant CTO of AFOS Technology-China

PROFESSIONAL AFFILIATIONS

Lifetime Member, American Institute of Aeronautics and Astronautics (AIAA)
Lifetime Member, International Society for Optics and Photonics (SPIE)
Member, American Society of Mechanical Engineers (ASME)
Member, Institute of Electrical and Electronics Engineers (IEEE)