

Associate Professor
College of Science & Engineering
Seattle University

fshih(at)seattleu.edu
(206) 296-5689

Ph.D., Mechanical Engineering, UCLA 2002
Dissertation title: Lamb Wave Characterization of Impact Damage in Composite Plates
Advisor: Professor Ajit K. Mal
M.S., Mechanical Engineering, UCLA 1997
M.S., Materials Science & Engineering, UCLA 1995
B.S., Mechanical Engineering, UC Irvine 1993

Associate Professor, Mechanical Engineering, Seattle University 9/09 – Present
Assistant Professor, Mechanical Engineering, Seattle University 9/03 – 6/09
Visiting Associate Professor, Bioengineering, UCLA 9/10 – 6/11
Lecturer, Mechanical & Aerospace Engineering, UCLA 9/02 – 6/03
Lecturer, Chemical Engineering & Materials Science, UC Irvine 4/03 – 6/03

Consulting Engineer, Composite Solutions, Sumner, WA 7/18 – 8/18
Visiting Professor/Visiting Researcher, Bioengineering, UCLA 9/10 – 9/11
Welliver Faculty Fellow, The Boeing Company, St. Louis, MO & Seattle, WA 6/10 – 8/10
Associate Staff Scientist, Lasson Technologies, Inc., Culver City, CA 2/00 – 2/01
Consultant, Rockwell Science Center, Thousand Oaks, CA 2/98 – 1/00

PACCAR Professor 2020 – 22
Thomas Bannan Chair of Engineering & Computer Science 2019 – 21
Spirit of Community Faculty Award 2014
Boeing Welliver Faculty Fellowship 2010
Best Paper Award, SPIE 2003
Tau Beta Pi – The Engineering Honor Society
Sigma Xi – The Scientific Research Society
Fellowship, UCLA 1993 – 94

American Society of Mechanical Engineering (ASME) 1991 – Present

Courses Taught at Seattle University

MEGR 181: Innovative Design	Fall 2003
MEGR 2100 (210): Statics	Fall 2004
MEGR 2300 (230): Dynamics	Winter 2004, Spring 2004, 2017
MEGR 3500 (350): Materials Science	Winter 2005 – 7, Fall 2008 – 9, 2011 – 19
MEGR 3710 (371): Machine Elements	Fall 2005 – 6, Winter 2008 – 10, 2012 – 18
MEGR 3720 (372): Machine Elements II	Winter 2005 – 7, Spring 2008 –

Erica Goodman, BSME 2020, Mechanical Engineer, Boeing
Owen Van Valkenburgh, BSME 2020, Field Engineer, Lasertec
Nathan Yasuda, BSME 2019, Robotic Engineer, TigerStop
DJ Traina, BSME 2018, Simulation Scientist/Engineer, CREST-UW Medicine
Jean-Paul R. Wallis, BSCE 2018, MSCE 2019, UC Berkeley, Associate, Exponent
Emily Mather, BSME 2018, Peace Corp Volunteer, Tanzania
Michael Lo, BSME 2018, R&D Engineer, OMAX
Ken Weaver, BSME 2018, Mechanical Engineer, Schweitzer Engineering Laboratories
Kirstin Schauble, BSEE 2017, NSF GRFP, MSEE 2019, PhD Candidate, Stanford
Kerry Lane, BSME 2017, NSF GRFP, MSME 2020, PhD Candidate, UCSB
Alaina Bever, BSME 2016, MD-PhD Candidate, Harvard-MIT
Peter Brown, BSME 2016, Program Manager II, Microsoft
Ben Levy-Wendt, BSME 2015, NSF GRFP, MSME 2017, PhD Candidate, Stanford
James Pentz, BSME 2015, Hargis Engineers
Nick Wright, BSME 2015, Lead Software Engineer, Picnic
Vit del Rosario, BSME 2015, Business Analyst, Union Bank
Tim Venable, BSME 2013, Mechanical Engineer III, Blue Origin
J D Dally, BSME 2012, MSME 2014, U. Washington, R&D Tech Lead, Phillips

Patents

- T1 McKie, A. D. W., Klein, M. B., Pouet, B., & [redacted], (2002) Laser-based glass thickness measurement system and method, U.S. Patent No. 6,496,268. Washington, DC: U.S. Patent and Trademark Office

Book Chapters

- B1 Banerjee, S., Ricci, F., [redacted], & Mal, A., (2007) Health monitoring of composite structures using ultrasonic guided waves. In Kundu, T., (Eds.), *Advanced Ultrasonic Methods for Material and Structure Inspection* (pp 43-88). Wiley-ISTE Publishing. (ISBN: 978-1-905209-69-9)

Peer-Reviewed Journal Articles (undergraduate students underlined>

- J7 [redacted], Bratzel, G. H., Enke, A. D., Pang, C., Nicoln, J. L., Lee, J. H., & Beach, A. E. (2010) Geometric dependence of interlaminar tensile strength in L-shaped composite specimens. *Journal of Advanced Materials*, 42(2), 41-48.
- J6 Mal, A., Ricci, F., Banerjee, S., & [redacted] (2005). A conceptual structural health monitoring system based on vibration and wave propagation. *Structural Health Monitoring*, 4(3), 283–293. <https://doi.org/10.1177/1475921705055254>
- J5 Mal, A. K., [redacted], & Prosser, W. H. (2003). Lamb Waves from Impact Damage in Composite Plates. *Instrumentation Mesure Métrologie, Special Issue on Ultrasonic Methods for Material Characterization*, 3, 11-37.
- J4 Ogawa, T., Ozawa, S., [redacted], Ryu, K. H., Sukotjo, C., Yang, J. M., & Nishimura, I. (2000). Biomechanical evaluation of osseous implants having different surface topographies in rats. *Journal of Dental Research*, 79(11), 1857–63. <https://doi.org/10.1177/00220345000790110701>
- J3 [redacted], Mal, A. K., & Vemuri, M. (1998). Plate wave characterization of stiffness degradation in composites during fatigue. *Research in Nondestructive Evaluation*, 10(3), 147–162. <https://doi.org/10.1080/09349849809410023>
- J2 Wolfenstine, J., & [redacted]. (1994). Creep behaviour and dislocation substructure evolution in the Kbr-KI system. *Journal of Materials Science*, 29(23), 6199–6206. <https://doi.org/10.1007/BF00354560>

- C1 Mal, A. *, , & Banerjee, S. (2003). Acoustic emission waveforms in composite laminates under low velocity impact. *Proceedings - SPIE the International Society for Optical Engineering*, 5047(1), 1-12. <https://doi.org/10.1117/12.484448> (Best Paper Award)

Non-Refereed Conference Publications

- N3 Mal, A. *, Banerjee, S., , Ricci, F., & Gibson, S. (2003) Damage detection in structural components from vibration and wave propagation data. In Chang, F. K., (Eds.), *Proc. of the 4th International Workshop on Structural Health Monitoring*. (pp. 675-85)
- N2 *, Pouet, B. F., Klein, M. B., & McKie, A. D. W. (2001) Determination of glass thickness using laser based ultrasound. In Thompson D. O. and D. E. Chimenti, D. E. (Eds.) *Rev. of Progress in QNDE*, Vol. 20A. (pp. 287-92) <https://doi.org/10.1063/1.1373771>
- N1 & Mal, A. K.* (1999) Acoustic emission from impact damage in crossply composites. In Chang, F. K., (Eds.), *Proc. of the 2nd International Workshop on Structural Health Monitoring*, (pp. 209-17)

Conference Presentations (*presenting author, undergraduate students underlined)

- P10 Beach, A. E., Bratzel, G. H., Jahner, B. A., & *, "In-situ damage monitoring of GLARE 5 under tensile loading using Lamb waves," American Institute of Aeronautics and Astronautics (AIAA) Technical Symposium 2008, Seattle, WA (October 25, 2008)

Seattle Science EXPO Committee (Co-Chair)	2012 – 13
College Curriculum Committee	2004 – 10
Community College Visits (Edmunds, Everett, Green River, Bellevue)	2004 – 07, 16

Department

Tenure Review Committee	2018, 19
MSME Program Development Support	2017 – 18
ABET Review Support	2011, 2017 – 18
RED Grant Support	2017 – 20
Faculty Hiring Committee	2004, 14, 15, 19
Kogakuin University Japanese Exchange Program Mentor	2008, 09, 10
Machine Shop Supervisor Search Committee	2005

Search

University Presidential Search Committee	2019 – 20
CFO Search Committee	2019
Associate Provost for Global Engagement	2009 – 10
VP of Enrollment Search Committee	2019 – 20
CSE Dean Search Committee	2006 – 07
Academic Affairs Program Manager (AAPM) Search Committee	2019 – 20
Naef Scholar Director Search Committee	2019
OMA Director Search Committee	2014

Professional

Community

STEM Afterschool Program at Bailey Gatzert Elementary, Seattle, WA	2011 – 18
Impactathon Planning	2018 – 19
CCE/CSE Work Group Member	2018 – 19
First Robotics Volunteer Judge	2008 – 10
PSEC Engineering Fair	2005 – 09
Weekly Tutor, Prairie Vista Middle School, Hawthorne, CA	2003
Volunteer, Camp Footprint, Yucaipa, CA	1997 – 99 9(ro)-3(u)3(p)3