

**Michelle S. Hoo Fatt**  
**Department of Mechanical Engineering**  
**The University of Akron**  
**Akron, OH 44325-4325-AE ( g2 6(4.3 (si)81A.)Me)8.9 -1.4Bnr.m(m)- ce04**

- 9/10-Present Professor of Mechanical Engineering, The  
Teach courses in structural mechanics.
- 9/01-8/10 Associate Professor of Mechanical Engine
- 9/95-8/01 Assistant Professor of Mechanical Engine
- 9/93-8/95 Postdoctoral Associate/Lecturer, Ocean En  
Taught marine and ship structures. Condu  
survivability and composite structures.
- 9/92-8/93 Lecturer/Postdoctoral Fellow, Naval Arch  
Taught ship structures. Developed rigid-p  
survivability.
- 6/91-8/91 Graduate Student Analyst, Naval Surface V  
Collaborated with Damage and Explosion  
development of a rigid-plastic model for s

**EDUCATION:**

1992

4900:336 *Aerospace Structures*: junior-level course covering theory and methods for analysis and design of aerospace structures. Topics include torsion, shear flow, buckling, fracture and fatigue of beams and plates.

4600:431/531 *Fundamentals of Mechanical Vibrations*: senior/graduate-level; free and forced vibrations; damping; single and multi-degree(s)-of-freedom. (er)-2 (o)2g.1 (. (e1.152 Tdfl (ng)10)2t)-2.e0.3

-

7. Hoo Fatt, M.S. and Sirivolu, D., "Marine Composite Sandwich Plates under Air and Water Blasts," *Marine Structures*, Vol. 56, pp. 163-185, 2017.
8. Li, B. and Hoo Fatt, M.S., "Impact Damage and Residual Strength Predictions of 2D Woven SiC/SiC Composites," *Finite Elements in Analysis & Design*, Vol. 113, pp. 30-42, 2016.
9. Li, B. and Hoo Fatt, M.S., "Use of a Cohesive Zone Model to Predict Dynamic Tearing of Rubber," *Tire Science and Technology*, Vol. 43, No. 4, pp. 297-334, 2015. (*Won Best Student Paper Award at Tire Science and Technology Conference in 2014.*)
10. Sirivolu, D. and Hoo Fatt, M.S., "Dynamic Stability of Double-Curvature Composite Shells under External Blast," *Intern(-)Tj0.3.)-6 1 T{706,(014.9)TJT3 37 -)102810.*  
**Pt2.26 el-1.3n(e)11.-TJ0 er-(B75 (oml-1.3)1as)-2.6 ( D)6.6 (,26 6 (**

**21.** Hoo Fatt, M.S and Pothula, S.G., "Dynamic Pulse

35.







7. Hoo Fatt, M.S., Alkhtany, M. and Sirivolu, D., "Underwater Blast Resistance and Energy Absorption of PVC Foams in Sandwich Panel Constructions," in the Proceedings of the 11<sup>th</sup> International Conference on Sandwich Structures, Ft. Lauderdale, FL, March 20-22, 2016.
8. Hoo Fatt, M.S., "Water Blast Response of Foam-Core Composite Sandwich Panels," in the Proceedings of the 2015 ONR Solid Mechanics Program Review, Marine Composites and Sandwich Structures, Arlington, VA, December 2-4, 2015.
9. Hoo Fatt, M.S. and Sirivolu, D., "Blast Mitigation Effects of Foam-Core, Composite Sandwich Structures," in Indo-USA Workshop on Recent Advances in Blast Mitigation Strategies in Civil and Marine Structures, Bangalore, India, August 16-19, 2015.
10. Hoo Fatt, M.S. and Sirivolu, D., "A Fluid-Solid Model for Composite Sandwich Plates under Water Blast," in the Proceedings of the 20<sup>th</sup> International Conference on Composite Materials, Copenhagen, Denmark, July 19-24, 2015.
11. Hoo Fatt, M.S., "Blast Response of Composite Shells and Sandwich Panels in Air and

19. Hoo Fatt, M.S., "Blast Resistance and Energy Absorption in Foam-Core Composite Sandwich Panels," in the Proceedings of the 2011 ONR Solid Mechanics Program Review, Marine Composites and Sandwich Structures, University of Maryland University College, Adelphi, MD, September 12-14, 2011.
20. Chen, L. and Hoo Fatt, M.S., "Developing Constitutive Equations for Hysteresis in Polymer Foams" in ASME Applied Mechanics and Materials Conference McMat 2011, Chicago IL, May 30-June 1, 2011.
21. Hoo Fatt, M.S., Surabhi, H. and Gao, Y., "Blast Response of Sandwich Shells with Crushable Foam Cores," in the Proceedings of IMPLAST 2010, Providence, RI, October 12-14, 2010.

30. Hoo Fatt, M.S., Al-Quraishi, A.A., "High Strain Rate Constitutive Modeling for Natural Rubber," presented at the 5<sup>th</sup> European Conference on Constitutive Models for Rubber, Paris, France, September 4-7, 2007, and in Constitutive Models for Rubber V, edited by A. Boukamel, L. Laiarinandrasana, S. Meo, E. Verron, Taylor and Francis, London, 2007, pp. 53-60.
31. Hoo Fatt, M.S., and Sirivolu, D., "Impact Perforation of Composite Sandwich Panels" in the Proceedings of the 16<sup>th</sup> International Conference on Composite Materials, Kyoto, Japan, July 8-13, 2007.
32. Al-Quraishi, A.A. and Hoo Fatt, M.S., "Dynamic Fracture of Natural Rubber," presented at the 25<sup>th</sup> annual meeting and conference on Tire Science and Technology, Akron, Ohio, September 11-12, 2006.
33. Hoo Fatt, M.S. and Ouyang, X., "The Behavior of Elastomers at High Strain Rate of 6 (t)-4.704nM a

41. Hoo Fatt, M.S. and Park, K.S., "Ballistic Impact of Fiber-Reinforced Laminates," presented at the 8th International Conference on Composites Engineering, Tenerife, Canary Islands, August 5-11, 2001.
42. Hoo Fatt, M.S. and Park, K.S., "Static Indentation and Low-Velocity Impact Damage of Composite Sandwich Panels," presented at the Symposium on Design and Manufacturing of Composite Structures, IMECE, Orlando, FL, November 5-10, 2000.
43. Hoo Fatt, M.S. and Park, K.S., "Low-Velocity Impact Damage of Composite Sandwich Panels," in the Proceedings of the 7th International Conference on Composites Engineering, Denver, CO, July 2-8, 2000, pp. 337-338.
44. Hoo Fatt, M.S., Liu, Y.L. and Xue, J., "Steady-State Buckle Propagation in Corroded Pipelines," in the Proceedings of the 10th International Symposium of Offshore & Polar Engineering, Seattle, WA, May 28- June 2, 2000, Vol. II, pp. 197-204.
45. Hoo Fatt, M.S. and Park, K.S., "Perforation of Honeycomb Sandwich Plates by Projectiles at Normal Incidence," in the Proceedings of the 1999 ASME Mechanics & Materials Conference, Blacksburg, VA, June 27-30, 1999, pp 107-108.
46. Hoo Fatt, M.S., "Plastic Failure of Pipelines," in the Proceedings of the 8th International Offshore & Polar Engineering Conference, Montreal, Canada, May 24-29, 1998, Vol. II, pp. 119-126.
47. Turk, M.H. and Hoo Fatt, M.S., "Localized Damage Response of Composite Sandwich Plates," in the Proceedings of the 5th International Conference on Composites Engineering, Las Vegas, Nevada, July 5-11, 1998, pp. 899-900.
48. Hoo Fatt, M.S., Moussouros, M., Wierzbicki, T. and Koenig, J., "Rigid-Plastic Approximations for Predicting Plastic Deformation of Cylindrical Shells Subject to Dynamic Loading," in the Proceedings of the 66th Shock & Vibrations Symposium, Biloxi, Mississippi, October 30-November 3, 1995, pp. 165-185.
49. Wierzbicki, T., de Lacruz Alvarez, A. and Hoo Fatt, M.S., "Impact Energy Absorption of Sandwich Plates with Crushable Core," in the Proceedings of the Joint ASME Applied Mechanics and Materials Summer Meeting, Los Angeles, CA, June 28-30, 1995, AMD-Vol. 205, pp. 391-411.
50. Hoo Fatt, M.S. and Fux, E., "Fracture of Stiffened Structures Subject to High-Intensity Pressure Loads," in the Proceedings of the Symposium on Structural Dynamics Produced by High Energy Excitations at the ASME Joint Pressure Vessel and Piping Conference, Honolulu, Hawaii, July 23-27, 1995, pp. 1-8.
51. Hoo Fatt, M.S. and Louie, T., "Detachment of Stiffeners from Ring-Stiffened Shells Subject to Pressure-Pulse Loading," in the Proceedings of 65th Shock & Vibrations Symposium, San Diego, October 31- November 3, 1994, pp. 3-18.
52. Hoo Fatt, M.S., "Plastic Tripping and Fracture of Ring-Stiffened Cylindrical Shells Subject to Explosive Loading," in the Proceedings of the 1994 ASME Pressure Vessel and Piping Conference, Minneapolis, June 19-23, 1994, PVP-Vol. 272, pp. 153-165.

53. Hoo Fatt, M.S. and Liao, S.-W., "Plastic Failure of Cylindrical Shells Subject to Air-Blast Loading," in the Proceedings of the 64th Shock & Vibration Symposium, Fort Walton Beach and Eglin Air Force Base, October 25-28, 1993.
54. Hoo Fatt, M.S., "Plastic Deformation and Rupture of Ring-Stiffened Cylinders Under Localized Pressure Pulse Loading," in the Proceedings of the 63rd Shock and Vibrations Symposium, Las Cruces, October 27-29, 1992, Vol. 1, pp. 474-494.
55. Hoo Fatt, M.S. and Wierzbicki, T., "Damage of Ring-Stiffened Cylinders Under Dynamic Pressure Loading," in the Proceedings of the Second International Offshore and Polar Engineering Conference, San Francisco, June 14-19, 1992, Vol. IV, pp. 587-595.
56. Hoo Fatt, M.S. and Wierzbicki, T., "Deformation and Perforation of a Circular Membrane Due to Rigid Projectile Impact," in the Proceeding of the ASME Winter Annual Meeting, Atlanta, December 1-6, 1991, PVP-Vol. 225, pp. 73-83.
57. Hoo Fatt, M.S. and Wierzbicki, T., "Impact Damage of Long Plastic Cylinders," in the Proceeding of the First International Conference of Offshore and Polar Engineering, Edinburgh, Scotland, 11-15 August, 1991, Vol. IV, pp. 172-182.
58. Hoo Fatt, M.S. and Wierzbicki, T., "Denting Analysis of Ring-Stiffened Cylindrical Shells," in the Proceedings of the First European Offshore Mechanics Symposium, Trondheim, Norway, 20-22 August, 1990, pp. 153-177.

#### Technical Reports

1. Hoo Fatt, M.S. "Composite Sandwich Structures for Shock Mitigation and Energy Absorption,," DTIC Report, September 8, 2016,  
<http://www.dtic.mil/dtic/tr/fulltext/u2/a526995.pdf> Hoo Fatt, M.S. and Liao, S.-W. http://www.dtic.mil/dtic/tr/fulltext/u2/a526995.pdf

Ma

7. Hoo Fatt, M.S. and Bekar I., "Analysis of High Pressure Rubber Seals," Schlumberger 14

20. Hoo Fatt, M.S., "Literature Review on the Damage of Cylindrical Shells Subject to Underwater Explosive (UNDEX) Loading," Technical Report for the Naval Surface Warfare Center (White Oak), University of California, Berkeley, June, 1993.
21. Moussouros, M. and Hoo Fatt, M.S., "Static Rigid-plastic Analysis of Unstiffened Cylindrical Shells. Part 4: Model No. 4 for the Cylinder," NSWC Technical Report No. NSWCDD/TR-92/188, Naval Surface Warfare Center, White Oak,