

CURRICULUM VITAE

NAME:

Lewis T. Wheeler

EDUCATION

Ph.D.	California Institute of Technology	1969	Applied Mechanics
M.S.	University of Houston	1964	Mechanical Engineering
B. S.	University of Houston	1963	Mechanical Engineering

PROFESSIONAL EXPERIENCE

2009-present	Visiting Professor, UT Health Science Center Houston
1976-present	Professor, Departments of Mechanical Engineering and Mathematics, University of Houston
1989, Dec.	Visiting Professor, Institute of Construction Sciences, University of Pisa, Italy
1983-84	Shell Foundation Visiting Research Scholar, Department of Mechanical Engineering, University of California, Berkeley, CA.
1972-76	Associate Professor, Departments of Mechanical Engineering and Mathematics, University of Houston
1969-72	Assistant Professor, Departments of Mathematics and Mechanical Engineering, University of Houston
1968-69	Assistant Professor, Department of Mechanical Engineering, University of Houston
1968	Research Assistant, California Institute of Technology
1963	Engineering Intern, NASA, Houston
1960-63	Engineering Trainee, General Foods Corp., Houston

Professional Organizations:

Sigma Xi, Member
American Society of Mechanical Engineers, Member, Fellow
American Academy of Mechanics, Member, Director, Region 1B 1986-91, Fellow, Pres. '03-'04
Society for Natural Philosophy, Member, Treasurer 1982-84
Society of Engineering Science, Member Director (1994-96)

SUPERVISION OF RESEARCH

John M. Finn, "Finite Propagation Speeds in a Theory of Linear Isotropic Heat

Conduction," 1971, MS MTH.

Shien-Liang Fu, "Stress Bounds for Bars in Torsion," 1972, PhD.

Jerome E. Cunningham, "On the Pipe-flow Torsion Analogy," 1973, MSME.

Simon Sheng, "Crack Path Prediction for Kinked & Forked Cracks in the Neighborhood of a Circular Inclusion in an Infinite Medium," 1979, PhD.

Mohamed G. Abdalah, "Prediction of Component Survival Time by Application of the Asymptotic Theory of Extreme Order Statistics," 1982, PhD.

Kunio Matsui, "Effect of Wave Action on a Pipe Buried in an Elastic Seabed," 1982, PhD.

Bahir H. Eldiwany, "Shape Optimization for Minimal Stress Concentration," 1984, PhD.

Ren-Jieh Shih, "Optimization of Stress Concentration for Two-Dimensional Inhomogeneities," 1984, MSME.

Luc Graux, "Study of Multiple Equilibria for Pressurized Elastic Membranes," 1987, MSME.

Didier Theret, "Application of a Homogeneous Halfspace Model in the Analysis of Micropipette Measurements of Cultured Bovine Aortic Endothelial Cells Which Have Been Exposed to Shear Stress," MS Bioengineering, 1987.

Ren-Jieh Shih, "Finite Cavity Growth and Bifurcation in Elastic and Plastic Media," 1989, PhD.

Chiajui Sheng, "Three Dimensional Bifurcations of Pressurized Rubber-like Spherical Membranes," 1989, MSME.

Chiajui Sheng, "The Evolution and Stability of Bulges in Tubular Elastic Membranes," 1992, PhD.

Sergio R. Turteltaub, "Internal Stress Concentration in Elastic Solids," 1992, MSME.

Robert D. Moser, "Wrinkling of an Elastic Halfspace," 1992, MSME.

Yi Guo, "Stress Functions for the Analysis of Surface Instabilities," 1995, MSME.

Chen Luo, "Interface Strains in 3 Dimensions," 1997, MSME.

Goran Majkic, "Creep of Polycrystalline $\text{SrCo}_{0.8}\text{Fe}_{0.2}\text{O}_{3-\delta}$ Mixed Ionic-Electronic Conductor Perovskite Oxide," 1999 MSME, 2002 PhD.

Mai Doan, "Effect of an Elastic Layer in Reducing the Stresses Transmitted to A Brittle Solid," 2000, MSME.

Anil Ganagupati, "First Principles Determination of the Cauchy Deviation in the Elastic Constants of Materials," 2004, MSME.

Yi Guo, "Extreme Poisson's Ratios and Related Elastic Crystal Properties," 2006, PhD.

Nizar Aouni, "On Auxeticity and its Acoustic Signature in Elastic Crystals," 2009 PhD

AWARDS

Claude Wilson Award for Life Time Achievement as an Engineering Educator, South Texas Section of ASME, 2002

2004 ASME Dedicated Service Award

2006 ASME Applied Mechanics Division Award

RECENT PUBLICATIONS:

Chen, Y. C., Rajagopal, K. R. and Wheeler, L. T., "Homogenization and global responses of inhomogeneous spherical nonlinear elastic shells," *Journal of Elasticity*, **82**, 193-214 (2006).

Guo, C. Y. and Wheeler, L. T., "Extreme Poisson's ratios and related elastic crystal properties," *JMPS*, **54**, 690-707, 2006.

Guo, C. Y., Pettitt, B. Montgomery and Wheeler, L. T., "Force Field Comparison of Heat Capacity of Carbon Nanotubes," *Molecular Simulation*, **32**, No 10-11, 839-848, 2006.

Sharma, P. and Wheeler, L.T., "Size-dependent Elastic State of Ellipsoidal Nano-inclusions Incorporating Surface/Interface Tension", *Journal of Applied Mechanics*, **74**, 447-454 2007.

Marangati, R., Sharma, P. and Wheeler, L.T., "Quantum Notions of Stress," *ASCE Journal of Aerospace Engineering*, **20**, 22-37 (2007).

Wheeler, L. and Guo, C. Y., "Symmetry analysis of extreme areal Poisson's ratio in anisotropic crystals, *Journal of Mechanics of Materials and Structures*," **2**, No. 8, 1471-1500 (2007).

Wheeler, L., "Extreme Lamé compliance in crystals of trigonal symmetry – the case of alpha-quartz," *Mathematics and Mechanics of Solids*, **14**, No. 1-2, 135-147 (2009).

Guo, Cliff Y. and Wheeler L., "Extreme Lamé compliance in anisotropic crystals," *Mathematics and Mechanics of Solids*, **14**, No. 4, 403-420 (2009).

Aouni N. and Wheeler L., "Decompositions of the compliance operator for analyzing extreme elastic properties," *Mathematics and Mechanics of Solids* **15**, No. 1, 114-136 (2010).

Aouni N. and Wheeler L., "Auxeticity of Calcite and Aragonite polymorphs of CaCO₃ and crystals of similar structure," *physica status solidi (b)* **245** No. 11, 2454-2462 (2008).

Ranganathan, S. I., Decuzzi, P., Wheeler, L.T., Ferrari, M., "Geometrical anisotropy in biphasic particle reinforced composites," *ASME Journal of Applied Mechanics*, **77**, 041016, July 2010.

Wheeler, Lewis T and Casey, James, "Fréchet Differentiation of the Stretch and Rotation Tensors," *Mathematics and Mechanics of Solids* 1081286510387972, first published on April 28, 2011 as doi:10.1177/1081286510387972

Wheeler, L. "On the Spectral Decomposition of the Elasticity Tensor for the Cubic Crystal System," *International Journal of Engineering Science* **49**, (2011) 727-731.