

## Guillermo Ramirez, Ph.D.



Associate Professor

Department: Civil & Environmental Engineering

[GRamirez@tntech.edu](mailto:GRamirez@tntech.edu)

Prescott Hall (PRSC) 415

PO Box: 5015

(931) 372-3261

Theoretical and computational mechanics, mathematical formulation and corresponding computer implementation to describe the electro-mechanical behavior of solids under different types of environments.

### More Information

#### Educational Background:

Ph.D., Civil Engineering, Colorado State University, 1998

M.S., Civil Engineering, Colorado State University, 1994

B.S., Civil Engineering, Universidad Nacional de Colombia, 1985

#### Recent Publications:

Ramirez, G., "Frictionless Contact in a Layered Piezoelectric Medium Characterized by Complex Eigenvalues," *Journal of Smart Materials and Structures*, Vol. 15, No 5, 1287-1295, 2006.

Joseph, J., J. Peddieson and G. Ramirez, "Boundary Layer Analysis of Large Deflections of Rotationally Symmetric Membrane Caps," *AIAA Journal*, Vol. 44, No 7, 1402-1410. 2006.

Ramirez, G. and K. Prakash, "magneto-electro-elastic laminated plates: Statics and Dynamics Modeling using Discrete-layer Finite Elements," *International Journal of Structural Stability and Dynamics* (in review).

Ramirez, G. and G. Buchanan, "Free Vibrations of Homogeneous and Layered Piezoelectric Hollow Spheres," *International Journal of Structural Stability and Dynamics*, 4, 443-458, 2004.

Ramirez, G. and P. Heyliger, "Frictionless Contact in a Layered Piezoelectric Half-Space," *Journal of Smart Materials and Structures*, **12**, 612-625, 2003.

Buchanan, G. and G. Ramirez, "A note on the Vibration of Transversely Isotropic Solid Spheres," *Journal of Sound and Vibration*, 254 (3), 724-732, 2002.

Buchanan, G., J. Peddieson, G. Ramirez, and S. Idem, "Solid-State Friction Stir Welding," NCAM-NASA quarterly report.

Buchanan, G. and G. Ramirez, "Comment on paper "Free Vibration Analysis of Laminated Piezoceramic Hollow Spheres," Letters to the Editor, *Journal of the Acoustical Society of America*, 110(2), 1188-1189, 2001.

Helyliger, P and G. Ramirez, "Free Vibration of Laminated Circular Piezoelectric Plates and Discs," *Journal of Sound and Vibration*, 229(4), 935-956, 2000.

Ramirez, G. and P. Heyliger, "Frictionless Contact in a Layered Piezoelectric Half-Space with Complex Eigenvalues," *Proceedings 20 th Iberian Latin-American Congress on Computational Methods in Engineering*, November-1999, Brazil.

G. Ramirez and P. Heyliger, "Contact Problems in Layered Piezoelectric Half-Planes," presented in *The International Conference on Computational Engineering science*, Atlanta, October 1998.

Heyliger, P. and G. Ramirez, "A Local/Global Matrix Formulation for Laminated Piezoelectric Media," *Mechanics Research Communications*, Vol. 25, 701-708, 1998.