

Ankit Srivastava

Postdoctoral Researcher

Mechanical and Aerospace Engineering
University of California San Diego
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— EDUCATION

- Ph.D. **Structural Engineering** Sept. 2005 – Dec. 2009
University of California San Diego (UCSD)
- B.Tech **Civil Engineering** Aug. 2000 – Jun. 2004
Indian Institute of Technology (IIT) Guwahati

— RESEARCH EXPERIENCE

- Postdoctoral Researcher** Jan. 2010 – present
Department of Mechanical and Aerospace Engineering, UCSD
Research Area: Metamaterial Behavior and Multiscale Homogenization
Advisor: Prof. Sia Nemat-Nasser
- Graduate Student Researcher** Sept. 2005 – Dec. 2009
Department of Structural Engineering, UCSD
Research Area: NDE and SHM using Ultrasonic Guided Waves
Advisor: Prof. Francesco Lanza di Scalea
- Undergraduate Researcher** Aug. 2003 – Jun. 2004
Department of Civil Engineering, IIT Guwahati
Research Area: Active Vibration Control
Advisor: Prof. Anjan Dutta
- Research Intern** May 2003 – Aug. 2003
Department of Aerospace Engineering, IISc Bangalore
Research Area: Active Vibration Control
Advisor: Prof. Seetharama Bhat

— TEACHING EXPERIENCE

- Teaching Assistant** Fall 2007
University of California San Diego
SE 110B - Solid Mechanics

— PH.D. THESIS

Quantitative structural health monitoring using ultrasonic guided waves, University of California San Diego, 2009.

— JOURNAL ARTICLES —

IN COMMUNICATION

- 2011 Srivastava A. and Nemat-Nasser S., 'Simultaneously negative effective properties for 1-D elastic wave propagation', *Physical Review Letters*.
- 2011 Srivastava A. and Nemat-Nasser S., 'Overall dynamic properties of 3-D periodic elastic composites', *Proceedings of the Royal Society A*.

PUBLISHED/ACCEPTED

- 2011 Nemat-Nasser S. and Srivastava A., 'Overall dynamic constitutive relations of layered elastic composites', *Journal of the Mechanics and Physics of Solids* [<http://arxiv.org/abs/1105.5434>].
- 2011 Srivastava A. and Nemat-Nasser S., 'Universal theorems for total energy of the dynamics of linearly elastic heterogeneous solids', *Mechanics of Materials* [doi: <http://dx.doi.org/10.1016/j.mechmat.2011.06.011>].
- 2011 Nemat-Nasser S., Willis J.R.W, Srivastava A., and Amirkhizi A.V., 'Homogenization of periodic elastic composites and locally resonant sonic materials', *Physical Review B* Vol. 83, 104103.
- 2010 Srivastava A., Bartoli I., Salamone S., and Lanza di Scalea F., 'Higher harmonic generation in nonlinear waveguides of arbitrary cross-section', *The Journal of the Acoustical Society of America* Vol. 127, 2790.
- 2010 Srivastava A. and Lanza di Scalea F., 'On the existence of longitudinal or flexural waves in rods at nonlinear higher harmonics', *Journal of Sound and Vibration* Vol. 329, 1499.
- 2010 Srivastava A. and Lanza di Scalea F., 'Quantitative structural health monitoring by ultrasonic guided waves', *ASCE Journal of Engineering Mechanics* Vol. 136, 937.
- 2009 Srivastava A. and Lanza di Scalea F., 'On the existence of antisymmetric or symmetric Lamb waves at nonlinear higher harmonics', *Journal of Sound and Vibration* Vol. 323, 932.
- 2009 Salamone S., Fasel T., Bartoli I., Srivastava A., and Lanza di Scalea F., 'Health monitoring approach for adhesively bonded joints', *Materials Evaluation* Vol. 67, 828.
- 2008 Sabra, K., Srivastava A., Lanza di Scalea F., Bartoli I., and Rizzo P., 'Structural health monitoring by extraction of coherent guided waves from diffuse fields', *The Journal of the Acoustical Society of America* Vol. 123, EL8.

- 2005 Srivastava A., Agarwal A., Chakraborty D., and Dutta A., 'Control of smart laminated FRP structures using artificial neural networks', *Journal of Reinforced Plastics and Composites* Vol. 24, 1353.

— CONFERENCE PUBLICATIONS

Hossein S., Srivastava A., Ryan G., and Nemat-Nasser S., 'Wave propagation in two dimensional periodic composites', *IMECE*, 2011.

Lanza di Scalea F., Srivastava A., Nucera C., Bartoli I., and Phillips R., 'Non-linear higher harmonic generation of ultrasonic guided waves and applications to structural diagnosis', *ENOC*, 2011.

Srivastava A. and Nemat-Nasser S., 'Overall dynamic constitutive relations for layered elastic composites', *SPIE*, 2011.

Srivastava A., Amirkhizi A., and Nemat-Nasser S., 'Numerical and analytical determination of frequency dependent effective mechanical constants for layered media', *IMECE*, 2010.

Srivastava A. and Lanza di Scalea F., 'Behavior of nonlinear higher harmonics in plate and rod guided waves', *IWSHM*, 2009.

Srivastava A. and Lanza di Scalea F., 'On the existence of antisymmetric or symmetric Lamb waves at nonlinear higher harmonics', *SPIE*, 2009.

Srivastava A., Bartoli I., and Lanza di Scalea F., 'Quantitative detection of bond defects in composite ultrasonic panels by Global-Local method', *SAMPE*, 2008.

Srivastava A., Bartoli I., and Lanza di Scalea F., 'Global-Local modeling of guided waves for quantitative damage detection', *IMAC*, 2008.

Sabra K., Srivastava A., and Lanza di Scalea F., 'Structural health monitoring from random noise', *IMAC*, 2008.

Srivastava A., Bartoli I., Coccia S., and Lanza di Scalea F., 'Wave propagation models for quantitative defect detection by ultrasonic methods', *SPIE*, 2008.

Sabra K., Duroux A., Srivastava A., Lanza di Scalea F., and Bartoli I., 'Passive-only wave-based structural health monitoring from ambient noise', *SPIE*, 2008.

Srivastava A., Bartoli I., and Lanza di Scalea F., 'Global-Local ultrasonic method applied to the quantitative detection of bond defects in composite aircraft panels', *IWSHM*, 2007

Sabra K., Srivastava A., and Lanza di Scalea F., 'Structural health monitoring by extraction of coherent guided waves from ambient noise', *IWSHM*, 2007.

— SELECTED TALKS —

Wave propagation in two dimensional periodic composites

To be given at IMECE, Denver, Colorado. Nov. 2011

Behavior of nonlinear higher harmonics in plate and rod guided waves

IWSHM, Stanford. Sept. 2009

Ultrasonic Guided Waves for NDE & SHM Applications

Indian Institute of Technology Guwahati, India. Aug. 2009

Passive-only wave-based structural health monitoring from ambient noise

SPIE, San Diego. 2008

Global-Local ultrasonic method applied to the quantitative detection of bond defects in composite aircraft panels

IWSHM, Stanford. 2007

— REVIEWING SERVICES —

Mechanics of Materials

Wave Motion

ASME-IMECE

Journal of the Acoustical Society of America

— REFERENCES —

Available upon request