

HARMEET SINGH

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Norris Hall, Room 231-B, 495 Old Turner Street, Blacksburg, VA 24060

RESEARCH INTERESTS

Classical mechanics, geometry, dynamics of thin bodies, elasticity.

EDUCATION

Virginia Tech, Blacksburg, VA. Ph.D., Engineering Mechanics, *Expected*: Fall 2018.

Thesis: *Dynamics of Propagating Discontinuities*. Advisor: James Hanna.

I.I.T. Kharagpur, West Bengal, India. M.Tech., Structural Engineering, Aug 2012.

Thesis: *Nonlinear Vibrations of Circular Cylindrical Shells*. Advisor: Lingadahally Ramachandra.

G.B.P.U.A&T, Uttarakhand, India. B.Tech., Civil Engineering, May 2010.

Senior project: *Design of an R.C.C. T-Beam bridge for a single lane of 18 meters span on Bhakra river*.

Advisor: Virendra Kumar.

PROFESSIONAL EXPERIENCE

Airbus India, Bangalore, Associate Engineer, Structures, July 2012 to July 2014.

Nonlinear finite element analysis on parts of *A320* and *A350* aircraft.

Received quarterly and annual awards for contributions to the *A350-900 Virtual Full Scale Testing* project.

PUBLICATIONS

N. A. Corbin, J. A. Hanna, W. R. Royston, **H. Singh**, and R. B. Warner, “Impact-induced acceleration by obstacles”, *New Journal of Physics* (2018), <http://iopscience.iop.org/article/10.1088/1367-2630/aac151>.

J. A. Hanna, **H. Singh**, and E. G. Virga, “Partial constraint singularities in elastic rods”, *Journal of Elasticity* (2018), <https://doi.org/10.1007/s10659-018-9673-6>.

H. Singh, and J. A. Hanna, “On the planar elastica, stress, and material stress”, [arXiv:1706.03047].

H. Singh, and J. A. Hanna, “Pick-up and impact of flexible bodies”, *Journal of the Mechanics and Physics of Solids*, 106:46–59, 2017.

PRESENTATIONS

Invited Talks

Indian Institute of Technology, Department of Mechanical Engineering, Kanpur, “Pick-up and impact”, Dec 2016.

Talks

American Physical Society March Meeting, “Material symmetry and conservation laws”, Los Angeles, CA, 2018.

Society of Engineering Science, “Geometric singularities in the mechanics of rods”, Boston, MA, July 2017.

American Physical Society March Meeting, “Geometric singularities in the mechanics of strings and rods”, New Orleans, LA, 2017.

Society of Engineering Science, “Pick-up, impact, and peeling”, College Park, MD, Oct 2016.

International Congress of Theoretical and Applied Mechanics, “Pick-up, impact, and peeling”, Montreal, Aug 2016.

American Physical Society March Meeting, “Pick-up, impact, and peeling”, Baltimore, MD, 2016.

Virginia Soft Matter Workshop, “Pick-up, impact, and peeling”, Charlottesville, VA, Nov 2015.

Posters

Soft Matter and Complex Fluids, “Pick-up, impact, and peeling”, Amherst, MA, May 2016.

Dynamics Days, “Pick-up, impact, and peeling”, Durham, NC, Jan 2016.

AWARDS

The Amir Chand and Dewki Bai Batra Scholarship, Engineering Science and Mechanics program, Virginia Tech. Spring 2018

TEACHING EXPERIENCE

Teaching Assistant

ESM 2104 - Statics, Department of Biomedical Engineering and Mechanics, Virginia Tech, Fall 2014.

ESM 2304 - Dynamics, Department of Biomedical Engineering and Mechanics, Virginia Tech, Spring 2015.

Lectures

Delivered a guest lecture entitled *Noether's theorem in classical mechanics* for a senior level class on nonlinear dynamics and chaos, March 2017.

ADDITIONAL INFORMATION

Member of the American Physical Society.

Regular attendee if the Society of Engineering Science Technical Meeting and the American Physical Society March Meeting.

Attended a summer school on Soft Solids and Complex Fluids at the University of Massachusetts, Amherst, 2016.