

## HANEESH KESARI

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### (a) Professional Preparation

Indian Institute of Technology Guwahati	Guwahati, India	Mechanical Engineering	B.Tech. 2005
Stanford University	Stanford, CA, USA	Mechanical Engineering	M.S. 2007
Stanford University	Stanford, CA, USA	Mechanical Engineering	Ph.D. 2011
Brown University	Providence, RI, USA	Theoretical & Computational Solid Mechanics	2011– 2012

### (b) Appointments

January 2013-present	Asst. Professor of Engineering	Brown University
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### (c) Publications

#### *Publications Most Closely Related*

1. Michael A. Monn, James C. Weaver, Tianyang Zhang, Joanna Aizenberg, and Haneesh Kesari, "New functional insights into the internal architecture of the laminated anchor spicules of *Euplectella aspergillum*," *Proceedings of the National Academy of Sciences*, 112(16) 4976–4981 (2015), DOI: 10.1073/pnas.1415502112
2. David A. Stout, Eyal Bar-Kochba, Jonathan B. Estrada, Jennet Toyjanova, Haneesh Kesari, Jonathan S. Reichner, and Christian Franck, "Mean deformation metrics for quantifying 3D cell–matrix interactions without requiring information about matrix material properties," *Proceedings of the National Academy of Sciences*, 113(11) 2898–2903 (2016), DOI: 10.1073/pnas.1510935113
3. Michael A. Monn and Haneesh Kesari, "A new structure-property connection in the skeletal elements of the marine sponge *Tethya aurantia* that guards against buckling instability," *Scientific Reports*, 7 (2017), DOI: 10.1038/srep39547
4. Sohan Dharmaraja, Haneesh Kesari, Eric Darve, and Adrian J. Lew, "Time integrators based on approximate discontinuous hamiltonians," *International Journal for Numerical Methods in Engineering*, 89(1) 71–104 (2012), DOI: 10.1002/nme.3236
5. Weilin Deng and Haneesh Kesari, "Molecular statics study of depth-dependent hysteresis in nano-scale adhesive elastic contacts," *Modelling and Simulation in Materials Science and Engineering*, 25(5) (2017)

#### *Other Significant Publications*

1. Michael A. Monn and Haneesh Kesari, "Enhanced bending failure strain in biological glass fibers due to internal lamellar architecture," *Journal of the Mechanical Behavior of Biomedical Materials*, in press (2017), DOI: 10.1016/j.jmbbm.2017.05.032

2. Haneesh Kesari and Adrian J. Lew, "Effective macroscopic adhesive contact behavior induced by small surface roughness," *Journal of the Mechanics and Physics of Solids*, 59(12) 2488–2510 (2011), DOI: 10.1016/j.jmps.2011.07.009
3. Haneesh Kesari and Adrian J. Lew, "Adhesive frictionless contact between an elastic isotropic half-space and a rigid axis-symmetric punch," *Journal of Elasticity*, 106(2) 203–224 (2012), DOI: 10.1007/s10659-011-9323-8
4. Haneesh Kesari, Joseph C. Doll, Beth L. Pruitt, Wei Cai, and Adrian J. Lew, "Role of surface roughness in hysteresis during adhesive elastic contact," *Philosophical Magazine Letters*, 90(12) 891–902 (2010), DOI: 10.1080/09500839.2010.521204
5. Lampros C. Kourtis, Dennis R. Carter, Haneesh Kesari, and Gary S. Beaupré, "A new software tool (VA-BATTS) to calculate bending, axial, torsional, and transverse shear stresses within bone cross sections having inhomogeneous material properties," *Computer Methods in Biomechanics and Biomedical Engineering*, 11(5) 463–476 (2008), DOI: 10.1080/10255840801930728

**(d) Synergistic Activities**

1. Journal article reviewer for: *Journal of the Mechanics and Physics of Solids*, *Journal of Applied Mechanics*, *Thin Solid Films*, *Journal of Biomechanics*, *Annals of Biomedical Engineering*, *ACS Applied Materials & Interfaces*, *Mechanics Research Communications*, *Meccanica*, *Scientific Reports*, *International Journal of Fracture*, *Proceedings of the Royal Society A*, *Scripta Materialia*.
2. Faculty research mentor/advisor of students who belong to underrepresented groups in STEM fields (African American (Brian Williams, Summer 2015), Hispanic (Horacio Ferrandiz, Fall 2014)). Specifically, the PI has participated in the following activities:
  - i. Faculty advisor for the Undergraduate Teaching and Research Awards program at Brown (2013–16).
  - ii. SPIRA, annual four-week summer camp on STEM topics hosted at Brown for high school age girls (2015–17).
  - iii. Faculty observer for the Reginald D. Archambault Award for Teaching Excellence at Brown (2015). This award program aims to train graduate students in teaching high school age students in STEM subjects.
3. Extracurricular teaching activities
  - i. Faculty instructor for the course: *Material Science and Engineering: where would the world be without it*, (2015). This course is aimed at high school age students.
  - ii. Instructor for Summer Institute for Middle School Teachers, Stanford, 2007, 2008.
  - iii. Instructor for National Hispanic University Workshop, Stanford, 2007.
4. Organization of the Society of Engineering Science, Annual Technical Conference, 2013
  - i. Judge for the student paper competition in the Structures/Solids track that was organized as part of the SES Annual Technical Meeting 2013.
  - ii. Member of local organizing committee, SES Annual Technical Meeting 2013.