Jessica K. Shang

Mechanical & Aerospace Engineering
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Education

Princeton University — Princeton, NJ
PhD, Mechanical and Aerospace Engineering, in progress

- GRE General: 800 Quantitative, 750 Verbal, 5.0 Writing

University of Cambridge — Cambridge, United Kingdom
MPhil, Engineering, in progress

- Supervisor: Dr Holger Babinsky

Harvard University — Cambridge, MA
AB, Engineering Sciences, June 2008 – cum laude with Highest Honors in a Field

- Option: Mechanical and Material Sciences and Engineering
- Overall GPA: 3.70/4.00, Concentration GPA: 3.79/4.00
- Honors Thesis: Design and Fabrication of a Four-Winged Micro Air Vehicle. Advisor: Rob Wood.
- Teaching Fellow: Computer Aided Machine Design; Introduction to Fluid Mechanics and Transport Processes

Experience

Lawrence Livermore National Laboratory — Livermore, CA
Summer 2006

- Glenn T Seaborg Nuclear Science Summer Program
- Research in geomaterials transport in the Earth's mantle. Advisor: Rick Ryerson.

The ASCII Group — Bethesda, MD
Summer 2005

- Project lead on web-based sales reporting application.

Weizmann Institute of Science — Rehovot, Israel
Summer 2004

- Experimental studies in properties of CdSe nanocrystalline thin films.

Carnegie Institution of Washington — Washington, DC
Summers 2002-2003

- Experimental research on high-temperature and pressure behavior of igneous rock of Earth's upper mantle.
- Intel Science Talent Search Semifinalist: Element Partitioning Between Olivine and Melt at 1400-1450°C

Publications

Journal Articles

Shang, J.K., Finio, B.M., Combes, S.A., and Wood, R.J. 2009. Artificial insect wings of arbitrary morphology for flapping wing MAVs. J. Bioinspir. Biomim. vol. 4 pp. 036002.

Mysen, B.O. and Shang, J. 2005. Evidence from olivine/melt element partitioning that nonbridging oxygen in silicate melts are not equivalent. Geochim. Cosmochim. Acta vol. 69, pp. 2861-2875.

Mysen, B.O. and Shang, J. 2003. Fractionation of major element between co-existing H_2O silicate melt and silicate-saturated aqueous fluid in aluminosilicate systems at 1-2 GPa. Geochim. Cosmochim. Acta vol. 67, pp. 3925-3936.

Proceedings

Finio, B.M., Shang, J.K., and Wood, R.J. May 2009. Body torque modulation of a microrobotic fly. IEEE International Conference on Robotics and Automation, Kobe, Japan.

Presentations

Shang, J., Sullivan, M., and Stone, H.A. Nov 2007. Hydrodynamic Cavitation: A Demonstration Suitable for the Classroom. 60th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society, Salt Lake City.

Exhibits

Robotic fly prototype displayed at "Ecological Urbanism: Alternative and Sustainable Cities of the Future" symposium and exhibition. Harvard University Graduate School of Design, 3/30/09-5/17/09.

Flybot robotic fly, in "Design and the elastic mind", New York Museum of Modern Art, 2/24/08-5/12/08.

Honors and Awards

Princeton University Francis Upton Graduate Fellow
National Science Foundation Graduate Research Fellow
Gates Cambridge Scholar
John Harvard Scholar
Harvard Program for Research in Science and Engineering (PRISE) Fellow
Sigma Xi
Robert C. Byrd Honors Scholar

Activities

University of Cambridge – Churchill College Boat Club
Harvard College Engineers Without Borders
Harvard College in Asia Program
Harvard Yearbook Photography Board