#### Howard A. Stone

## Address Department of Mechanical & Aerospace Engineering, School of Engineering & Applied Science, Princeton University, Princeton, NJ 08544; Fax: 609 258-6109

## Professional Preparation

## University California at Davis, BS, Chemical Engineering, 1982

Caltech, PhD, Chemical Engineering, 1988; Thesis advisor: L.G. Leal

University of Cambridge, England, Postdoctoral Fellow, 1988, Dept of Applied Mathematics and Theoretical Physics (Supervisor: E.J. Hinch)

## Appointments

# Chair and Donald R. Dixon ’69 and Elizabeth W. Dixon Professor, Dept of Mechanical & Aerospace Engineering, School of Engineering & Applied Science, Princeton Univ., 2009-present; Chair MAE, 2014-present; faculty affiliate: Chemical and Biological Engineering, Program in Applied and Computational Mathematics, Princeton Center for Theoretical Science

Professor, Engineering & Applied Sciences, Harvard University 1996-2009, including Vicky Joseph Prof. of Engineering and Applied Mathematics (2004-9), Harvard College Professor (2000-5), Prof. of Chemical Engineering (1996-2004), Associate Dean of Academic Programs (2004-7), Associate Dean for Physical Sciences and Engineering (2007-8)

Assistant then Associate Professor, Engineering & Applied Sciences, Harvard University 1989-1992, 1992-1996

## Awards (since 2009)

G.K. Batchelor Lecturer, Department of Applied Mathematics and Theoretical Physics, Cambridge, University, May 2014.

Elected to membership in the National Academy of Sciences, 2014

Kobayashi-Morrison Lecture, Department of Mechanical Engineering, Univ. Washington, May 2012

Disquisitiones Mechanicae, Mechanical Science & Engineering, Univ. Illinois, Feb 2012

BSL Lecture, Dept of Chemical and Biological Engineering, University of Wisconsin, May 2011

Elected to membership in the American Academy of Arts and Sciences, April 2011

Pollack Lectures, Technion – Israel Institute of Technology, Haifa Israel, March 2011

Liviu Librescu Memorial Lecture, Department of Engineering Science and Mechanics, Virginia Tech, March 2011

Engineering Council Teaching Award, School of Engineering and Applied Sciences, Princeton University, February 2011

Invited speaker, Distinguished Seminar Series, Department of Chemical Engineering, Imperial College, London, January 2011

Elected to membership in the National Academy of Engineering, 2009

Distinguished Engineering Alumni Award, UC Davis, June 2009

**Selected recent pulbications (from >350 publications):**

1. F. Boulogne, A. Sauret, B. Soh\*, E. Dressaire and H.A. Stone 2015 Mechanical tuning of the evaporation rate of liquid on crossed fibers. *Langmuir* **31**, 3094-3100.
2. D. Vigolo, S. Radl and H.A. Stone 2014 Unexpected trapping of particles at a T junction. *PNAS* **111**, 4770-4775.
3. E. Um, J. Nunes, T. Pico\* and H.A. Stone 2014 Multicompartment microfibers: fabrication and selective dissolution of composite droplet-in-fiber structures. *J. Materials Chem. B* **2**, 7866-7871.
4. A. Sauret, A.D. Bick\*, C. Duprat and H.A. Stone 2014 Wetting of crossed fibers. *Euro. Phys. Lett.* **105**, 56006.
5. J.S. Wexler, T.M. Heard\* and H.A. Stone 2014 Capillary bridges between soft surfaces. *Phys. Rev. Lett.* **112**, 066102.
6. K. Drescher, Y. Shen, B. Bassler and H.A. Stone 2013 Biofilm streamers cause catastrophic disruption of flow with consequences for environmental and medical systems. *PNAS* **110**, 4345-4350. Highlighted in the issue and on the NSF website.
7. C. Duprat, S. Protiere, A.Y. Beebe\* and H.A. Stone 2012 Critical drop sizes for manipulating mist with flexible fiber arrays. *Nature* **482**, 510-513.
8. W.D. Ristenpart, A.L. Belmonte, J.C. Bird, F. Dollar\* and H.A. Stone 2009 Non-coalescence of oppositely charged drops. *Nature*. **461**, 377-380.
9. E. Dressaire, R. Bee, D.C. Bell, A. Lips and H.A. Stone 2008 Interfacial polygonal nanopatterning of stable microbubbles. *Science* **320**, 1198-1201.
10. H.A. Stone, A.D. Stroock and A. Ajdari 2004 Engineering flows in small devices: Microfluidics towards a lab-on-a-chip. *Ann. Rev. Fluid Mech.* **36,** 381-411.

**Synergistic Activities** (since 2002)

1. Formerly Co-PI (with C. Friend), then PI of NSF-REU Program at Harvard (2004-9).

2. Holiday lecture for the public (held at Harvard every December since 2002), Dec. 2002: *Scratching the Science of Surfaces;* Dec. 2003: *A Peek at Printing: From Papyrus to Electronic Paper*; Dec. 2004: *A Playground of Polymers: From Strings & Worms to Bouncing Balls & Glowing Goo;* Dec. 2005 and April 2006: *It’s Elementary, My Dear Einstein: A Celebration of the 100th Anniversary of Einstein’s Miraculous Year*; Dec. 2006 (given twice due to demand): *Science by Candlelight;* Dec. 2007: *Squishy, Gooey, Stretchy: The Science of Making Pizza* (given twice due to demand)*;* Dec. 2008 *From Bean to Bar: The Sweet Science of Chocolate* (given twice; also at Cambridge Science Festival, Univ. New Mexico, May 2009; version for 3rd grade class, Lawrence School, Brookline MA); Dec. 2009 *Germs: A Detective Story* (2009, twice at Harvard,once at Princeton). Dec. 2010 *Good Vibrations: How We Communicate* (twice at Harvard, twice at Princeton, once at Columbia); Dec. 2011 *Powerful Potential: The Gift of Energy* (twice at Harvard, twice at Princeton); Dec. 2012 *Let There Be Light: A Celebration of Color* (twice at Harvard, twice at Princeton); Dec. 2013 *Faster than the Blink of an Eye* (twice at Harvard, twice at Princeton); Dec. 2014 *DNA: A Detective Story (*twice at Harvard, twice at Princeton).

3. Advisory or editorial boards: New Journal of Physics, Physics of Fluids, Soft Matter, Langmuir, Philosophical Transactions A, Acta Mechanica, Editorial Board of Comptes-Rendus Mecanique, Comité éditorial (Mécanique) des Éditions de l'École Polytechnique, and Book Series on Soft Matter published by the Royal Society of Chemistry