

Biographical Information for L. Mahadevan – May, 2011

Principal Fields of Interest

Applied mathematics. Macroscopic physics. Biological dynamics.

Experience

Harvard University Cambridge, MA, USA	England de Valpine Prof. of Applied Mathematics, School of Engineering and Applied Sciences, Professor of Organismic and Evolutionary Biology	2003 2009	-present -present
Oxford University Oxford, UK	Professor of Physics Schlumberger Visiting Professor in Applied Mathematics	2010 2004	-present -present
University of Cambridge, Cambridge, UK	Schlumberger Professor of Complex Physical Systems, Dept of Applied Mathematics and Theoretical Physics	2001	-2003
Trinity College, Cambridge UK	Professorial Fellow in Natural Sciences	2001	-2003
Massachusetts Institute of Technology, Cambridge MA, USA	Assistant, then (tenured) Tassel Associate Professor Department of Mechanical Engineering	1996	-2000

Visiting positions

Woods Hole Oceanographic Institution, Woods Hole, USA	Faculty	summer 2003,2004,2008,2009	
Marine Biological Laboratories Woods Hole, USA	Faculty	summer 2003, 2004	
École Supérieure de Physique et de Chimie Industrielles, Paris, France	Professeur Associé Lab. de Physique et Méc. de Milieux Hétérogènes	June 1998 May 2001	July 1998 June 2001
Université de Provence Marseille, France	Professeur Invité IUSTI	March 1998	March 1998
École Normale Supérieure Paris, France.	Professeur Invité Dept. de Physique	June, 1997 Feb 2001	July, 1997 April 2001
University of Chicago	Research Associate, Mathematics and Physics (mentor: L. Kadanoff, Physics)	Oct., 1995	Aug., 1996
Université de Nice, Nice, France	CNRS Poste Rose, Inst. Non-Linéaire de Nice	July, 1995	Aug., 1995
Univ. of Cambridge, U. K. Appl. Math. & Theor. Phys.	EPSRC Visiting Scientist	July, 1994	Aug., 1994
U. Illinois at Urbana-Champaign Theor. & Appl. Mech.	Visiting Asst. Prof.	Aug., 1993	May, 1995

Education

Indian Inst. of Technology, Madras	B. Tech., Engineering	1986
University of Texas at Austin	M. S., Mechanics	1987
Stanford University	M.S., Mathematics	1992
Stanford University	Ph.D. (Advisor: J.B. Keller, Mathematics)	1995

Awards and Honors

Karl van Tassel Career Development Chair, M.I.T.		1998 --2001
Inaugural SIGEST (best paper award) paper in SIAM Review – Periodic folding of thin sheets (with J. B. Keller)		1999
Young Investigator medal, Society for Engineering Science (inaugural recipient)		1999-2000
ONR Young Investigator Award		2000-2003
Edgerton Award, MIT (highest award given to untenured faculty for achievement in teaching and research at MIT)		2000
Chaire Condorcet, Ecole Normale Superieure		Jan-April 2001
Chaire Paris Sciences, Ecole Superieure de Physique et de Chimie, Paris, France		May – Jun 2001
G I Taylor Lecturer, Cambridge Philosophical Society Cambridge, UK		2001
Inaugural holder of the (endowed) Schlumberger Chair in Complex Physical Systems, Cambridge University, UK		2001 - 2003
Alan Tayler Lecturer, Smith Institute and Oxford University, UK		2003
Schlumberger Visiting Professor in Mathematics, Oxford University, UK		2004-present
ASME Young Investigator Award in Applied Mechanics		2005
Midwest Mechanics Lecturer		2006-07
John Simon Guggenheim Memorial Fellowship		2006
Francois Frenkiel Prize awarded for the paper “Soft lubrication,” in Physics of Fluids (with J. Skotheim) American Physical Society		2006
George Ledlie Prize, Harvard University		2006

(awarded biennially to someone “who has by research, discovery or otherwise made the most valuable contribution to science, or in any way for the benefit of mankind”)

Visiting Miller Professor, Departments of Integrative Biology, Chemistry, and Mathematics, University of California, Berkeley, CA	2007
Distinguished Visiting Professor, National Center for Biological Sciences – TIFR, Bangalore, India	2007-present
Penner Lecturer University of California, San Diego	2008
Distinguished Alumnus Award IIT-Madras, India	2009
MacArthur Fellow	2009-14
Laufer Lecturer University of Southern California	2010
Singleton Lectures M.I.T.	2010
Amick Lectures University of Chicago	2011

Professional Service

Editorial boards:

<i>Proceedings of the Royal Society of London (A)</i> <i>Mathematical, Physical and Engineering Sciences</i>	2004 - 2009
<i>Chaos (published by the American Institute of Physics)</i>	2004 – 2009.
<i>Nonlinearity (published jointly by the London Mathematical Society and the Institute of Physics, UK)</i>	2008 - present
<i>American Journal of Physics</i>	2009 - 2011

Advisory boards:

<i>Schlumberger Private Ltd. Technology Committee</i>	<i>January 2001 – present</i>
<i>OCCAM: Oxford Centre for Collaborative Applied Mathematics</i>	<i>July 2008 – present</i>
<i>Max Planck Institute for Complex Physical Systems</i> <i>Dresden, Germany;</i>	<i>June 2010 – present</i>

National Center for Biological Sciences – Tata Institute for
Fundamental Research, Bangalore, India Jan 2010 - present

NSF Mathematical Biosciences Institute, Columbus, OH Jan 2010 - present

Conferences/symposia:

Organizer:

Society for Engineering Science:

**Symposium on Singularity and Similarity in
Mechanics to honor G.I. Barenblatt**

Oct. 1999

Co-organizer:

Workshop on *Statistical Dynamics of Continua* at
Aspen Center for Physics

June-July 2000

Co-organizer and main lecturer:

Workshop on *Materials in Motion*,
James Franck Institute, University of Chicago,

July 2001

Organizer:

Continuum Seminar at MIT and Cambridge University
A weekly seminar on Applied Mathematics/Mechanics broadly interpreted

Oct 1996 – July 2003

Co-organizer:

Mathematics and materials; soft matter
Max Planck Gesellschaft, Castle Ringberg, Germany.

Oct 2002

Co-organizer:

Workshop on *Extreme mechanics of fluids and continua*
Aspen Center for Physics

Aug 2006

Co-organizer:

Geometrical singularities and singular geometries
**Institute for Mathematics and its Applications,
Minneapolis, MN**

Jul 2008

Referee for approx. 30 papers per year in Mathematics, Physics, Biology, Engineering journals
*e.g. Nature, Science, Proceedings of the Royal Society of London (A), Comptes Rendus de l'Academie
des Sciences Paris, Series II, Physical Review Letters, Physics of Fluids, Journal of Cell Biology,
Nature- Cell Biology, Current Biology, Physical Review E, SIAM Journal on Applied Mathematics
Proceedings of the US National Academy of Science, Europhysics Letters, Biochemistry, American
Journal of Botany, Journal of Fluid Mechanics, PLoS, etc.*

Teaching Experience

Stanford University

Numerical Analysis

Univ. Of Illinois, Urbana-Champaign

Advanced Dynamics
Perturbation Methods

Massachusetts Institute of Technology

Dynamics (2 years)
Molecular, cell and tissue biomechanics (4 years)
Experimental and theoretical molecular biophysics (graduate seminar)
Mechanics and materials I (2 years)
Applied elasticity (jointly with Harvard's "Solid Mechanics I") (2 years)
Physics of sliding friction (graduate seminar)

Cambridge University

Molecular and cellular biomechanics (2 years)
Introduction to physics (1 year)
Mathematical methods for natural sciences (2 years)

Harvard University

Science of everyday life – freshman seminar
Physics and physiology of the senses – freshman seminar
Sustainable energy and climate change – freshman seminar
Chance – freshman seminar
Mathematical methods in the sciences AM21a - undergraduate
Complex and Fourier analysis AM105a– undergraduate
Mathematical modeling AM115- undergraduate (4 years)
Systems cell biology BPS242– graduate
Physical mathematics I AM201– graduate (3 years)
Physical mathematics II AM202– graduate
Biological dynamics ES216/ AP263 – graduate (3 years)

Summer Schools etc.

June 95	Lectures on Classical Mechanics & Elasticity Institut Non-Linéaire de Nice, France
June 97	Lectures on Elasticity – Workshop on Elasticity and Viscoelasticity, Cargese, France
Dec 97	Lectures on Mechanics of Granular Matter International Conference on Instabilities and Non equilibrium Systems, Valparaiso, Chile
March 98	Lectures on the Mechanics of Granular

June 99	Materials, Univ. de Provence, France Director, Summer Graduate Program, Geometry and Dynamics of Low Dimensional Continua , Mathematical Sciences Research Institute, Berkeley, California.
Dec 99	Lectures on Molecular and Cellular Biomechanics University of Santiago, Chile
June 01	Lectures on Fluid-Structure Interaction, Summer School on Nonlinear Physics, Peyresq, France
July 01	Lectures on Structural Elasticity, Workshop on Materials In Motion, MRSEC, University of Chicago
Sep 02	Lectures on biomechanics; from molecules to morphogenesis Peyresq, France.
Mar 04	Lectures on cell mechanics, International winter school, Les Houches, France.
July 04	Faculty, Physiology Program, Marine Biological Laboratory, Woods Hole, USA.
Jan 05	Shape, flow and motion. Lectures at MIT's Center for Theoretical Physics Retreat, New Hampshire, USA
July 06	Faculty, Boulder School on Condensed Matter Physics Boulder, Co, USA.
July 09	Lecturer, London Mathematical Society School on Mathematics and Materials Science, Oxford, UK.

Publications

1. "The shape of a Möbius band," Mahadevan, L., and J.B. Keller, *Proceedings of the Royal Society of London, Series A*, **1440**, no. 409, pp. 149-162, 1993.
2. Comment on "Behavior of a falling paper," Mahadevan, L., H. Aref, and S.W. Jones, *Physical Review Letters*, **75**, p. 1420, 1995.
3. "Periodic folding of thin sheets," Mahadevan, L., and J.B. Keller, *SIAM Journal on Applied Mathematics*, **55**, no. 6, pp. 1609-1624, 1995.
See also: *SIAM Review*, 41, no. 1, pp. 113-31, 1999, where this article is reprinted as the inaugural SIGEST article on the basis of "exceptional quality and potential significance to the entire SIAM community.")
4. "Coiling of flexible ropes," Mahadevan, L., and J.B. Keller, *Proceedings of the Royal Society of London, Series A*, **1452**, no. 1950, pp. 1679-1694, 1996.
5. "Shark-teeth patterns in coating flow inside a horizontally-rotating cylinder," Thoroddsen, S.T., and L. Mahadevan, *Physics of Fluids*, **8**, no. 9, p. S10, 1996.
6. "Tumbling of a falling card," Mahadevan, L., *Comptes Rendus de l'Academie des Sciences, Paris, Series II*, t. 323, pp. 729-736, 1996.
7. "Experimental study of instabilities in a partially-filled horizontally-rotating cylinder," Thoroddsen, S.T., and L. Mahadevan, *Experiments in Fluids*, **23**, pp. 1-13, 1997.

8. "Colliding waves in an excitable medium: preservation, annihilation and bifurcation," Argentina, M., P. Couillet, and L. Mahadevan, *Physical Review Letters*, **79**, pp. 2803-07, 1997.
9. "Fluid rope trick investigated," Mahadevan, L., W. Ryu, and A.D.T. Samuel, *Nature*, **v. 391**, no. 6672, p. 140, 1998. Corrigendum; *ibid.*, v. 403, p. 502, 2000.
Commentaries and press reports: *The Daily Telegraph*, London, March 12, 1998; *Le Figaro*, Paris, March 24, 1998; *The New York Times*, New York, April 7, 1998; interview on "Sounds Like Science," National Public Radio, March 14, 1998; *Pour la Science*, Paris, September, 1998; CHEMTALK (published by the American Chemical Society), September 1998, etc.
10. "Conical surfaces and crescent singularities in crumpled sheets," Cerda, E., and L. Mahadevan, *Physical Review Letters*, **80**, pp. 2358-61, 1998.
Commentary: *Physics World*, July, 1998, p.19-20.
11. "Tumbling cards," Mahadevan, L., W. Ryu, and A.D.T. Samuel, *Physics of Fluids*, **11**, pp. 1-3, 1999.
Commentary: *Science News*, Oct. 31, 1998, pp. 285-7.
12. "Axial instability of a free-surface front in a partially-filled horizontal rotating cylinder," Hosoi, A.E., and L. Mahadevan, *Physics of Fluids*, **11**, pp. 97-106, 1999.
13. "Propagating fronts on sandpile surfaces," Mahadevan, L. and Y. Pomeau, *Europhysics Letters*, **46**, pp. 595-601, 1999.
14. "Rolling droplets," Mahadevan, L., and Y. Pomeau, *Physics of Fluids*, **11**, pp. 2449-53, 1999.
15. "Conical dislocations in crumpling," Cerda, E., S. Chaieb, F. Melo and L. Mahadevan, *Nature*, **401**, pp. 46-49, 1999.
Commentary and press reports: *Dallas Morning News*, Sep. 6, 1999; *The Daily Telegraph* (London), Sep. 15, 1999; *Bild der Wissenschaft* (Germany), Mar. 2000; *Facts* (Switzerland), Nov. 1999; American Mathematical Society *What's new in mathematics*, Nov. 1999 etc.
16. "Elastic model of a DNA loop in the lac operon," Balaeff, A., L. Mahadevan, and K. Schulten, *Physical Review Letters*, **83**, pp. 4900-03, 1999
17. "Rippling instability of a collapsing Bubble" da Silveira, R., S. Chaieb and L. Mahadevan, *Science*, **287**, pp. 1468-71, 2000.
Commentary and press reports: *Canadian Discovery Channel*, Feb 25, 2000; *New Scientist*, March 2000; *Physics World*, March 2000.
18. "Motility driven by macromolecular springs and ratchets," Mahadevan, L. and P. Matsudaira, *Science*, **288**, pp. 95-99, 2000.
Commentary and press reports: Featured on "Mysteries of the Universe," MSNBC, May 2000. http://www.msnbc.com/news/myst_front.asp
19. "Chaotic dripping from a faucet," Couillet, P., L. Mahadevan and C. Riera, *Progress in Theoretical Physics Supplement*, **139**, pp. 507-516, 2000.
20. "Folding of viscous filaments and sheets," Skorobogatiy, M., and L. Mahadevan, *Europhysics Letters*, **52**, pp. 532-38, 2000.

21. "Non-stick water," Mahadevan, L., *Nature*, **411**, pp. 895-96, 2001.
22. "Shocks in sand flowing in a silo," Samadani, A., L. Mahadevan and A. Kudrolli, *Journal of Fluid Mechanics*, **452**, pp. 293-301, 2002.
23. "Four-phase merging in compound drops," Mahadevan, L., M. Adda Bedia and Y. Pomeau, *Journal of Fluid Mechanics*, **451**, pp. 411-20, 2002.
24. , "How aphids lose their marbles," Pike, N., D. Richard, W. Foster and L. Mahadevan, *Proceedings of the Royal Society of London, Series (B), Biological Sciences*, **269**, pp. 1211-15, 2002.
Commentary and press reports " *Science: random samples*", June 21, 2002, article in *American Natural History magazine*, July 2002.
25. " Wrinkling of a stretched elastic sheet," Cerda, E., K. Ravi-Chandar and L. Mahadevan, *Nature*, **419**, pp. 146-7, 2002.
26. " The viscous catenary," Teichman, J. and L. Mahadevan, *Journal of Fluid Mechanics*, **478**, pp. 71-80, 2003.
27. "Geometry and physics of wrinkling," Cerda, E. and L. Mahadevan, *Physical Review Letters*, **90** (7) 074302, 2003 (Physical Review Focus Article).
Commentary in the following: Perspective article in *Science*, **300**, p. 441, 2003, Nature Physics Online, Science Online, New Scientist, Naturwissenschaft, Frankfurter Allgemeine Zeitung, Discover magazine, Allure magazine, Interview with German radio, Korean Broadcasting Service etc.
28. "The force-velocity relationship for the actin-based motility of *Listeria-Monocytogenes*", McGrath, J., J. Eungdamrong, C. Fisher, F. Peng, L. Mahadevan, T. Mitchison and S. Kuo, *Current Biology*, **13** (1-20), 1-6, 2003.
29. "Rings, rackets and kinks in filamentous assemblies," Cohen, A. and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **100**, 12141-46, 2003.
30. "Confined elastic developable surfaces: cylinders, cones and the elastica," Cerda, E. and L. Mahadevan, *Proceedings of the Royal Society of London (A)*, **461**, 671-700, 2005.
31. "Stored elastic energy powers the 60-micron extension of the *Limulus polyphemus* sperm actin bundle," Shin, J., L. Mahadevan, G. Waller, K. Langsmo and P. Matsudaira, *Journal of Cell Biology*, **162**(7), 1183-88, 2003.
32. "Dynamics of poroelastic filaments," Skotheim, J. and L. Mahadevan, *Proceedings of the Royal Society of London (A)*, **460**, 1995-2020 (2004).
33. "Multiscale methods for modeling protein-DNA complexes," Villa, E. , Balaeff, A., L. Mahadevan and K. Schulten, *SIAM Multiscale Modeling and Simulation*, **2**, 527-553 (2004).
34. "Structural model for cooperative DNA binding by CAP and *Lac* repressor, " L. Mahadevan and K. Schulten, *Structure*, **12**, 123-32, 2004.
35. "Biomimetic ratcheting motion of lubricated hydrogel filaments," Mahadevan, L., S. Daniel and M. Chaudhury, *Proceedings of the National Academy of Sciences (USA)*, **101**, 23-26, 2004.

Commentary in the following: Science – random samples, Science News, MIT - Technology Review, Technology Research News, Frankfurter Allgemeine Zeitung, Scientific American etc.

36. “Popliteal instability of bent multi-walled elastic tubes,” Mahadevan, L., J. Bico and G. McKinley, *Europhysics Letters*, **65** (3), 323-29, 2004.

37. “Elements of Draping,” Cerda, E., L. Mahadevan and J. Passini, *Proceedings of the National Academy of Sciences (USA)*, **101** (7), 1806-10, 2004.

Commentary in: Nature – physics portal.

38. “Crack street: the cycloidal wake of a cylinder ripping through a thin solid sheet,” Ghatak, A. and L. Mahadevan, *Physical Review Letters*. **91**, 215507, 2003. Erratum, 2005.

Commentary in: Nature – physics portal.

39. “Modeling DNA loops using continuum and statistical mechanics,” Balaeff, A., C. Koudella, L. Mahadevan and K. Schulten, *Philosophical Transactions of the Royal Society of London (A)*, **362**, 1355-71, 2004.

Invited paper as part of a theme on DNA mechanics.

40. “ Bending stiffness of a crystalline actin bundle,” Shin, J., L. Mahadevan, P.T. So and P. Matsudaira, *Journal of Molecular Biology*, **337**, 255-61, 2004.

41. “Capillarity-induced zippering of a flexible train floating on an air-water interface,” Vella, D., H-Y. Kim and L. Mahadevan, *Journal of Fluid Mechanics*, **502**, 89-98, 2004.

42. “Photo-induced deformation of beams, plates and films,” Warner, M. and L. Mahadevan, *Physical Review Letters*, **92**, 134302, 2004.

43. “Elastic behavior of cross-linked and bundled networks,” Gardel, M., J. Shin, F. Mackintosh, L. Mahadevan, P. Matsudaira and D. Weitz, *Science*, **304**, 1301-5, 2004.

Commentary in: The Scientist.

44. “Relating microstructure to rheology of a bundled and cross-linked F-actin network in-vitro,” Shin, J., M. Gardel, L. Mahadevan, P. Matsudaira and D. Weitz, *Proceedings of the National Academy of Sciences (USA)*, **101** (26), 9636-41, 2004.

45. “Peeling from a patterned thin elastic film,” Ghatak, A., L. Mahadevan, J. Yun, M. Chaudhury and V. Shenoy, *Proceedings of the Royal Society of London (A)*, **460**, 2725-35, 2004.

46. “Hydrodynamical models of the dripping faucet,” L. Mahadevan and C. Riera, *Journal of Fluid Mechanics*, **526**, 1-17, 2005.

47. “Scaling of F-actin rheology to probe single filament elasticity and dynamics,” Gardel, M., J. Shin, F. Mackintosh, L. Mahadevan, P. Matsudaira and D. Weitz, *Physical Review Letters*, **93** (18), 188102, 2004.

Featured and reprinted in *Virtual J. Biological Physics*, 2004.

48. “Fluid-flow induced flutter of a flag,” Argentina, M. and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **102**, 1829-34, 2005.

Press coverage in Guardian (UK), Die Zeit (Germany), ...

49. "Soft lubrication," Skotheim, J. and L. Mahadevan, *Physical Review Letters*, **92 (24)**, 245509, 2004.
50. "Elasticity of interfacial particle rafts," Vella, D., P. Aussillous and L. Mahadevan, *Europhysics Letters*, **68 (2)**, 212-18, 2004.
51. "How the Venus flytrap snaps," Forterre, Y., J. Skotheim, J. Dumais and L. Mahadevan, *Nature*, **433**, 421-25, 2005.
Press coverage in : National Public Radio (Morning Edition, Jan 27, 2005), Canadian Broadcasting Corporation (As it happens, Jan 30, 2005), Boston Globe, Guardian (UK), Daily Telegraph (UK), International Herald Tribune
52. "Peeling, healing and bursting in lubricated elastic sheets," Hosoi, A. and L. Mahadevan, *Physical Review Letters*, **93**, 137802, 2004.
Featured and reprinted in *Virtual J. Nanoscale Science and Technology*, **10(15)**, Oct. 11, 2004.
53. "Spontaneous folding of planar surfaces into three-dimensional objects by magnetic self-assembly," M. Boncheva, S. Andreev, L. Mahadevan, A. Winkelman, D. Reichman, M. Prentiss, S. Whitesides and G. Whitesides, *Proceedings of the National Academy of Sciences (USA)*, , **102**, 3924-29, 2005.
54. "Self-similar nested wrinkling patterns in skins," K. Efimenko, M. Rackaitis, E. Manias, A. Vaziri, L. Mahadevan and J. Genzer, *Nature-Materials*, **4**, 293, 2005.
Press coverage in : San Jose Mercury News, Aberdeen News, ...
55. , "Gravitational collapse of colloidal gels," S. Manley, J.M. Skotheim, L. Mahadevan, D. Weitz, *Physical Review Letters* **94**, 218302, 2005.
56. "Using the peel test to measure the work of adhesion in a confined elastic film," A. Ghatak, L. Mahadevan and M. Chaudhury, *Langmuir*, **21(4)**, 1277-81, 2005.
57. " Non-equilibration of hydrostatic pressure in blebbing cells," G. Charras, J. Yarrow, M. Horton, L. Mahadevan and T. Mitchison, *Nature*, **435**, 95, 2005.
58. "Buckling of drying droplets of colloidal suspensions", N. Tsapis, E. Dufresne, S. Sinha, C. Riera, J. Hutchinson, L. Mahadevan, D. Weitz, *Physical Review Letters*, **94**, 018302, 2005.
59. "Self-organized Origami," L. Mahadevan and S. Rica, *Science*, **307**, 1740, 2005.
Press coverage in : New York Times (22 Mar, 2005), Geoskop, Die Welt, National Geographic...
60. " Physical limits and design principles for plant and fungal movements," J. Skotheim and L. Mahadevan, *Science*, **308**, 1308, 2005.
Cover article of Science. Press coverage in a variety of sources such as : National Geographic, Christian Science Monitor, Scientific American etc. ...
61. "The 'Cheerios' effect'", D. Vella and L. Mahadevan, *American Journal of Physics* **73**, 817, 2005.
Press coverage in: AIP Physics News, MSNBC, Die Zeit, CBS radio ...
62. "Soft lubrication: the elasto-hydrodynamics of conforming and non-conforming contacts," J. Skotheim and L. Mahadevan, *Physics of Fluids*, **17**, 092101, 2005.
Awarded the 2006 Francois Frenkiel Prize by the American Physical Society.

63. "Solenoids and plectonemes in stretched, twisted elastomeric filaments," A. Ghatak and L. Mahadevan, *Physical Review Letters*, **95**, 057801, 2005.
64. "Powerful curves," L. Mahadevan and T. Mitchison, *Nature*, **435**, 895, 2005.
65. "Non spherical bubbles," A. B. Subramaniam, M. Abkarian, L. Mahadevan and H. Stone, *Nature*, **438**, 930, 2005.
66. "A simple model for the dynamics of adhesive failure," D. Vella and L. Mahadevan, *Langmuir*, **22**, 163, 2006.
67. "Capillary rise between elastic sheets," H-Y Kim and L. Mahadevan, *Journal of Fluid Mechanics*, **548**, 141, 2006.
68. "Superficial wrinkles in stretched, drying gelatin films," R. Rizzieri, L. Mahadevan, A. Vaziri and A. Donald, *Langmuir*, **22**, 3622, 2006.
69. "Transitions to nematic states in homogeneous suspensions of high aspect ratio magnetic rods," A. Gopinath, L. Mahadevan and R.C. Armstrong, *Physics of Fluids*, **18**, 028102, 2006.
70. "Dynamics of surfactant-driven fracture of particle rafts," D. Vella, H-Y Kim, P. Aussillous and L. Mahadevan, *Physical Review Letters*, **96**, 178301, 2006.
71. "Compressive buckling of reinforced microtubules and composite network behavior of living cells," C. Brangwynne, F.C. MacKintosh, S. Kumar, N. Geisse, L. Mahadevan, K. Parker, D. Ingber, D. Weitz, *Journal of Cell Biology*, **173**, 733, 2006.
Featured commentary in *Current Biology* by J. McGrath.
72. "Crack-front instability in a confined film," Adda Bedia and L. Mahadevan, *Proceedings of the Royal Society of London, series A*, 2006.
73. "Dynamics of fracture in drying suspensions," Dufresene, D. Stark, N. Greenblatt, J. Cheng, J. Hutchinson, L. Mahadevan and D. Weitz, *Langmuir*, **22**, 7144, 2006.
74. "Modeling DNA loops using the theory of elasticity," A. Balaeff, L. Mahadevan and K. Schulten, *Physical Review E*, **73**, 031919, 2006.
75. "Fall and rise of a viscoelastic filament," A. Roy, L. Mahadevan and J-L Thiffeault, *Journal of Fluid Mechanics*, **563**, 283, 2006.
76. "A dynamic fate map of the forebrain shows how vertebrate eyes form and explains two causes of cyclopia," S.J. England, G. Blanchard, L. Mahadevan and R. Adams, *Development*, **133**, 4613, 2006.
77. "Mechanics of interfacial composite materials," A.B. Subramaniam, M. Abkarian, L. Mahadevan and H.A. Stone, *Langmuir*, **22**, 10204, 2006.
78. "Sensorimotor control during isothermal tracking in *Caenorhabditis Elegans*," L. Luo, D.A. Clark, D. Biron, L. Mahadevan and A. Samuel, *Journal of Experimental Biology*,

209, 4652, 2006.

79. "Nonlinear mechanics of fibrous networks," A. Kabla and L. Mahadevan, *J. Roy. Soc. Interface*, **4**, 99, 2007.

80. "Persistence of a pinch in a pipe," L. Mahadevan, A. Vaziri and M. Das, *Europhysics Letters*, **77**, 40003, 2007.

81. "Curvature condensation and bifurcation in an elastic shell," M. Das, A. Vaziri, A. Kudrolli and L. Mahadevan, *Physical Review Letters*, **98**, 014301, 2007.

82. "Universal dynamics of cell spreading," Cuvelier, M. Thery, Y. Shu, S. Dufour, J-P. Thiery, M. Bornens, P. Nassoy and L. Mahadevan, *Current Biology*, **17**, 1, 2007.
Featured commentary in *Current Biology* by J. McGrath.

83. , "Force of an actin spring," J. Shin, B. Tam. R. Brau, M. Lang, L. Mahadevan and P. Matsudaira, *Biophysical Journal*, **92**, 3729, 2007.

84. "Mechanosensation and mechanical load modulate the locomotory gait of swimming *Caenorhabditis Elegans*," J. Korta, D. Clark, C. Gabel, L. Mahadevan and A. Samuel, *Journal of Experimental Biology*, **210**, 2383, 2007.

85. "Gravitational stability of suspensions of attractive colloidal particles," C. Kim, Y. Liu, A. Kuhnle, S. Hess, S. Viereck, T. Danner, L. Mahadevan, and D. Weitz, *Physical Review Letters*, **99**, 028303, 2007.

86. "Settling and swimming of flexible fluid-lubricated foils," M. Argentina, J. Skotheim, and L. Mahadevan, *Physical Review Letters*, **99**, 224503, 2007.

Featured and reprinted in *Virtual J. Biological Physics*, 2007. Commentary in the following: Perspective article in *Nature* by P. Ball, Nature Physics Online, Science Online, New Scientist, Naturwissenschaft, Daily Telegraph (London), Times of India etc. Radio interview on Irish radio ORTE- Dublin etc.

87. "Collective sickle cell vaso-occlusion and rescue in a microfluidic device," J. Higgins, D. Eddington, S. Bhatia and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **104**, 20496, 2007.

88. "Power-limited contraction of *Vorticella convallaria*: an ultrast biological spring," A. Upadhyaya, M. Baraban, J. Wong, P. Matsudaira, A. van Oudenaarden and L. Mahadevan, *Biophysical Journal*, **94**, 265, 2008.

Perspective article in *Biophysical Journal*, **94**, 4, 2008.

89. "Life and times of a cellular bleb," G. Charras, M. Coughlin, T. Mitchison, and L. Mahadevan, *Biophysical Journal*, **94**, 1836, 2008.

90. "Undulatory propulsion on land," Z.V. Guo and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **105**, 3179, 2008.

91. "A quantitative analysis of contractility in active cytoskeletal protein networks, P. Bendix, G. Koenderink, D. Cuvelier, Z. Dogic, D. Koelman, W. Briehar, C. Field, L. Mahadevan and D. Weitz," *Biophysical Journal*, **94**, 3126, 2008.

92. "Elasticity of floppy and stiff random networks," M. Wyart, H. Liang, A. Kabla and L. Mahadevan, *Physical Review Letters*, **101**, 215501, 2008.
93. , "Equilibrium of an elastically confined drop," H-M Kwon, H-Y. Kim, J. Puell and L. Mahadevan, *J. Applied Physics*, **103**, 093519, 2008.
94. "Signal processing by the HOG MAP Kinase pathway," Hersen, M. McClean, L. Mahadevan and S. Ramanathan, *Proceedings of the National Academy of Sciences (USA)*, **105**, 7165, 2008.
95. "Optimal vein density in real and artificial leaves," X. Noblin, L. Mahadevan, I. Coomaraswamy, D. Weitz, N. Holbrook, M. Zwienecki, *Proceedings of the National Academy of Sciences (USA)*, **105**, 9140, 2008.
96. "Localized and extended deformations of elastic shells," A. Vaziri and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **105**, 7913, 2008.
97. "Dynamics of chromatin decondensation reveals the structural integrity of a mechanically prestressed nucleus," A. Mazumder, T. Roopa, A. Basu, L. Mahadevan, G. V. Shivashankar,, *Biophysical Journal*, **95**, 3028, 2008.
98. "How kelp produce blade shapes suited to different flow regimes: a new wrinkle," M. Koehl, W. Silk, H. Liang and L. Mahadevan, *Integrative and Comparative Biology*, **48**, 834, 2008.
99. "Implications of a poroelastic cytoplasm for the dynamics of animal cell shape," T. Mitchison, G. Charras and L. Mahadevan, *Seminars in Cell and Developmental Biology*, **19**, 215, 2008.
100. "Polymer science and biology: structure and function at multiple scales," L. Mahadevan, *Faraday Discussions*, **139**, 9, 2008.
Inaugural/Opening lecture of the Faraday Discussions on Polymer Science and Biology.
101. "Quantifying the relation between bond number and myoblast proliferation," T. Boonthekul, H-J Kong, S. Hsiong, Y-C Huang, L. Mahadevan, H. Vandenburgh and D. Mooney," *Faraday Discussions*, **139**, 53, 2008.
102. "Non-equilibrium scale selection mechanism for columnar jointing," L. Goehring, L. Mahadevan and S. Morris, *Proceedings of the National Academy of Sciences (USA)*, **106**, 387, 2009.
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103. "Self-organization of a meso-scale bristle into ordered hierarchical helical assemblies," B. Poakroy, S. Kang, L. Mahadevan and J. Aizenberg, *Science*, **323**, 237, 2009.
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Higgins, D. Eddington, S. Bhatia and L. Mahadevan, *PLoS Computational Biology*, **5(2)**, e1000288, 2009.

105. "Botanical ratchets," I. Kulic, M Mani, H Mohrbach, R Thaokar and L Mahadevan *Proceedings of the Royal Society (B)*, **276 (1665)** 2243, 2009.

Subject of various articles and interviews in popular press, e.g. commentary in *Current Biology*, *Natural History Magazine* etc.

106. "Tissue tectonics: morphogenetic strain rates, cell shape change and intercalation," G. Blanchard, A. Kabla, N. Schultz, L. Butler, B. Sanson, N. Gorfinkiel, L. Mahadevan and R. Adams, *Nature Methods*, **6(6)**, 458, 2009.

107. "Cell shape changes cause the fast phase of *Drosophila* germ-band extension," L. Butler, G. Blanchard, A. Kabla, N. Lawrence, D. Welchman, L. Mahadevan, R. Adams and B. Sanson, *Nature Cell Biology*, **11(6)**, 859, 2009.

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110. "Calcium regulation of an actin spring," B. Tam, J. Shin, E. Pfeiffer, P. Matsudaira and L. Mahadevan *Biophysical Journal*, **97**, 1125, 2009.

111. "Animal cell hydraulics," G. Charras, T. Mitchison, and L. Mahadevan, *Journal of Cell Science*, **122**, 3233, 2009.

112. "Infochemistry: encoding information as optical pulses using droplets in a microfluidic device," M. Hashimoto, J. Feng, R. York, A. Ellerbee, G. Morrison, S. Thomas, L. Mahadevan and G. Whitesides, *Journal of the American Chemical Society*, **131**, 12420, 2009.

113. "A generalized theory of viscous and inviscid flutter," S. Mandre and L. Mahadevan, *Proceedings of the Royal Society of London (A), Mathematical, Physical and Engineering Sciences*, doi:10.1098/rspa.2009.0328, 2009.

114. "The shape and motion of a ruck in a rug," J. Kolinski, P. Aussillous and L. Mahadevan, *Physical Review Letters*, **103**, 174302, 2009.

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115. "Controlling the orientation and synaptic differentiation of myotubes with micropatterned surfaces," J. Gingras, R. Rioux, D. Cuvelier, N. Geisse, J. Lichtman, G. Whitesides, L Mahadevan, J. Sanes, *Biophysical Journal*, **97**, 2771, 2009.

116. "Flip-flop induced relaxation of bending energy: implications for membrane remodeling," R. Bruckner, S. Mansy, A. Ricardo, L. Mahadevan, J. Szostak, *Biophysical Journal*, **97**, 3113, 2009.

117. "The shape of a long leaf," H. Liang and L. Mahadevan, *Proceedings of the National*

Academy of Sciences (USA), **106**, 22049, 2009.

Subject of various articles and interviews in popular press, e.g. Harvard University press release, Science Daily, etc.

118. "Shape and dynamics of tip-growing cells," O. Campas and L. Mahadevan, *Current Biology*, **19**, 2102, 2009.

119. "Influence of feedback on the stochastic evolution of simple climate systems," L. Mahadevan and J. Deutch, *Proceedings of the Royal Society of London (A), Mathematical, Physical and Engineering Sciences*, **466**, 993, 2010.

120. "Cooperative adhesion and friction of compliant nanohairs," L. Ge, A. Goyal, R Shi, L. Mahadevan, P. Ajayan and A. Dhinojwala, *Nanoletters*, **10**, 4509, 2010.

121. "Statistical mechanics of developable ribbons," L. Giomi and L. Mahadevan, *Physical Review Letters*, **104**, 238104, 2010.

122. "Nanopottery: coiling of electrospun nanofibers," H-Y Kim, M Lee, K Park, S Kim and L. Mahadevan, *Nanoletters*, **10**, 2138, 2010.

123. "The Foppl-von Karman equations for plates with incompatible strains" M. Lewicka, L. Mahadevan and M. Pakzad, , *Proceedings of the Royal Society of London (A), Mathematical, Physical and Engineering Sciences*, doi:10.1098/rspa.2010.0138, 2010.

124. "Why subduction zones are curved," L. Mahadevan, R. Bendick and H. Liang, *Tectonics*, **29**, TC6002, 2010.

125. "Control of shape and size of nanopillar assembly by adhesion-mediated elastocapillary interaction," S Kang, B Pokroy, L Mahadevan and J. Aizenberg, *American Chemical Society Nano*, **4**, 6323, 2010.

126. "Physiological and pathological population dynamics of circulating red blood cells," J. Higgins and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **107**, 20587, 2010.

Perspective in *New England Journal of Medicine*, January 2011.

127. "Geometry, mechanics and electronics of singular structures and wrinkles in graphene," V. Periera, A. Castro-Neto, H Liang and L Mahadevan, *Physical Review Letters*, **105**, 156603, 2010.

128. "The shallow turn of the worm," D. Kim, S Park, L. Mahadevan, and J. Shin, *Journal of Experimental Biology*, **214**, 1554-59, 2011.

129. "Elastohydrodynamics of bristles and brushes," A. Gopinath and L. Mahadevan, *Proceedings of the Royal Society, Lond. Ser. A*, doi:10.1098/rspa2010.0228.

130. "Unfolding the sulcus," E. Hohlfeld and L. Mahadevan, *Physical Review Letters*, **106**, 105702, 2011.

Physical Review Focus Article + Cover.

131. "Structural dynamics of an actin spring," L. Mahadevan, C. Riera and J. Shin, *Biophysical Journal*, **100**, 839, 2011.

132. "Growth, geometry and mechanics of the blooming lily," H. Liang and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **108**, 5516-21, 2011.

Subject of various articles and interviews in popular press, e.g. Nature Physics, New Scientist, Harvard University Press Release, etc.

133. "Network connectivity using weighted harmonic averages," G. Morrison and L. Mahadevan, *Europhysics Letters*, **93**, 40002, 2011.

134. "How wet paper curls," E. Reyssat and L. Mahadevan, *Europhysics Letters*, **93**, 54001, 2011.

135. "Excitable patterns in active nematics," L. Giomi, L. Mahadevan, B. Chakraborty, M. Hagan, *Physical Review Letters*, in press.

136. "Dynamic instability of a growing adsorbed polymorphic filament," S. Zapperi and L. Mahadevan, *Biophysical Journal*, in press.

137. "Painting with drops, jets and sheets," A. Hercyuznski, C. Cernuschi and L. Mahadevan, *Physics Today*, in press.

Recent Invited Lectures (of more than 120 in the last decade)

January 2001, "Buckling phenomena in fluids," G I Taylor Lecture, Cambridge Philosophical Society, Cambridge, UK

May 2002, "A search for structure: from molecules to morphogenesis" Inaugural Lecture of the Schlumberger Professor of Complex Physical Systems, Cambridge University, UK.

February 2003, "Size, shape and structure: mechanics of macromolecular assemblies", Frontiers in Science Seminar, Whitehead Institute for Biomedical Research, Cambridge, USA

May 2003, "Geometry and physics in biology," Inaugural lecture on the opening of the Corfield Institute of Applied Mathematics, Cambridge University, UK.

November 2003, "Physical packing problems: from DNA to origami," Alan Tayler Lecture, Oxford University, UK.

March 2004, 4 lectures on "Physics of the cell," International Winter School, Les Houches, France.

January, 2005, "Shape, flow, motion and locomotion," 3 lectures at the MIT Center for Theoretical Physics Retreat – Common Man Inn, NH

May 2005, "Mechanics in extreme geometries," Exxon-Mobil Frontiers in Soft Matter Conference, Clinton, NJ

June 2005, "Particulate interfaces," Invited talk at Conference on Granular Physics, Kavli Institute for Theoretical Physics, Santa Barbara, CA

July 2005, "Draping, wrinkling and crumpling: geometry and physics," Plenary Lecture, Society for Industrial and Applied Mathematics Annual Meeting, New Orleans, LA

April 2006, "Mathematics, mechanics and motility," DARPA DSRC Outlook speaker, Washington, D.C.

September 2006 – April 2007, Midwest Mechanics Lecturer. Lectures on 5 different topics at 10 Universities (Illinois, Wisconsin, Iowa, IIT, Northwestern, Purdue, Notre Dame, Michigan, MSU, Minnesota) : 1. Extreme elasto-hydrodynamics: flags, fishes and flying carpets. 2. Draping, wrinkling and crumpling: geometry and physics. 3. Surface tension shorts: from A(phids) to Z(ippers). 4. Macromolecular assemblies: order, disorder, statics and dynamics. 5. Soft adhesion and lubrication: glues, cells and joints.

February 2007, "Mathematics, mechanics and motility," NIH Director's Lecture Series, National Institutes of Health, Bethesda, MD.

July 2007, "Soft Hydraulics: physics and physiology," Invited Speaker, StatPhys 21, International Conference on Statistical Physics, Genoa, Italy.

October 2007, "Mathematics, mechanics and motility," Plenary Lecture, International conference on Bio-inspired engineering, Dead Sea, Israel.

December 2007, "Cellular hydraulics," Invited lecture, American Society of Cell Biology Symposium on "Building a cell", Washington, DC

July 2008, "Mechanochemistry and motility," Plenary lecture, Society for Mathematical Biology Annual Meeting, Toronto, CA.

April 2009, "Motility: mathematics, mechanics, mimetics," German-American Frontiers in Engineering Symposium sponsored by the US National Academy of Engineering, Potsdam, Germany.

July 2009, "Extending the material," Inauguration of the Oxford Center for Collaborative Applied Mathematics, Oxford, UK.

April 2010, "Morphogenesis," Plenary Lecture, British Mathematics Colloquium, British Applied Mathematics Colloquium, Edinburgh, UK.

Nov 2010, "Geometry and the brain," Singleton lectures, Department of Brain and Cognitive Sciences, MIT, Cambridge, MA, USA.

May 2011, "Soft interfaces and morphogenesis," Amick Lectures, Department of Mathematics, University of Chicago, IL, USA

Doctoral and post-doctoral students

Doctoral theses (at MIT)

1. Teichman, J. "Wrinkling and sagging of viscous sheets," 2002. Currently at Institute for Defense Analysis, Washington D.C.
2. Eungdamrong, J. (jointly with T. Mitchison, Harvard Medical School) "Polymerization-driven force generation in *Listeria*", 2002.
3. Shin, J. (with P. Matsudaira, Biology, MIT) "Statics and dynamics of actin assemblies," 2003. Currently Assistant Professor of Mechanical Engineering, KAIST, Korea.

Doctoral theses (at Cambridge)

1. Skotheim, J. "Some poroelasticity problems in biomechanics," 2004. Currently Assistant Professor of Biological Sciences, Stanford University.
2. Cohen, A. (with M Pepper, Cavendish) "Nanoscale mechanics," 2003. Currently Assistant Professor of Chemistry, Harvard University.
3. Vella, D. (with H Huppert, DAMTP) "Interfacial failure," 2007. Currently Lecturer in Applied Mathematics, Oxford University.

Doctoral theses (at Harvard)

1. Hohlfeld, E. "Creases, point bifurcations and the spontaneous breakdown of scale invariance," 2008. Currently postdoc in Chemistry, University of California, Berkeley.
2. Guo, Z. (with S. Ramanathan, Molecular and Cell Biology) "Some problems in biomechanics and neurobiology," 2010. Currently postdoc in Neurobiology at Janelia Farms, Virginia.
3. Mani, M. (with M. Brenner, SEAS) "Dynamics at soft interfaces," 2010. Currently Simons postdoc at KITP, Santa Barbara.
4. Yong, E-H, "Elasticity and biophysics," expected to finish in 2011.
5. Mukherjee, A. "Elastohydrodynamics: from flutter to bird song," expected to finish in 2011.
6. Kolinski, J. "Interfacial dynamics," started in Sep 2008.
7. Wei, Z. "Between the discrete and continuum," started in Sep 2008.
8. McCormick, A. "Topology, mechanics and statistics of elastic curves," started in 2010.

Post-doctoral associates and senior visitors (at MIT)

1. Dr. E. Cerda, Topic: Nonlinear Physics. February, 1997 – June, 1998.
Currently Professor of Physics, U. de Santiago de Chile, Santiago, Chile.

2. Dr. S. Chaieb (with G. McKinley). Topic: Experimental nonlinear physics. September 1998- December 1999. Currently Assistant Professor of Mechanical Science and Engineering, KAUST, Saudi Arabia.
3. Dr. A. Upadhyaya (with R. Kamm) Topic: Pattern formation in adherent and motile cells. January 2000-December 2001. Currently Assistant Professor of Physics, University of Maryland.
4. Professor Martine Ben Amar, Universite de Paris VI, sabbatical 1998-99.
5. Professor Yves Pomeau, Ecole Normale Superieure, Paris, April 2000.

Post-doctoral associates and senior visitors (at Cambridge)

1. Dr. D. Richard, Topic: Experimental soft matter physics. Aug. 2001 – June 2002. Dr. Richard is with Vivendi Water, Stockholm.
2. Dr. J. Dumais, Topic: Plant cell morphogenesis. Sep. 2001 – July 2003. Dr Dumais is currently an Associate Professor of Biology at Harvard University.
3. Dr. E. Cerda, Professor of Physics, U. Santiago de Chile, Chile. July 2001 – Dec 2003.
4. Dr. M. Adda-Bedia. CNRS, LPS, ENS, Paris, France. February 2002 – February 2003. Currently Charge de Recherche, Laboratoire de Physique Statistique, Ecole Normale Superieure, Paris.
6. Dr. Y. Forterre, Topic: Experimental soft matter physics, Aug. 2002 – present. Currently Charge de Recherche, Equipe Physique Nonlineaire, Universite de Provence, Marseilles.

Post-doctoral associates and senior visitors (at Harvard)

1. Dr. C. Riera, Topic: Nonlinear physics. Sep 2002 – Sep 2004. Currently a private entrepreneur.
2. Dr. M. Argentina, Topic: Elastohydrodynamics and animal locomotion, Sep 2002 – Aug. 2004. Currently a Maitre d'Conference (Asst. Prof.) of Physics at the Univ. of Nice, France.
3. Dr. A. Ghatak, Topic: Experimental studies on adhesion, March 2002 – May 2004. Currently Associate Professor of Chemical Engineering IIT, Kanpur, India.
4. Dr. C. Koudella, Topic: Computational molecular mechanics, Sep 2002 – Aug 2004. Currently on Wall Street.
5. Dr. M. Das, Topic: Physics of soft membranes, Sep 2004 – Oct 2005. Currently postdoc in Physics at the Vrije Universiteit, Amsterdam, Netherlands.

6. Dr H-Y Kim, Topic: Capillarity and elasticity, Sep 2004 – Dec 2004. Currently Asst Prof. of Mechanical Engineering at Seoul National University, Korea.
7. Dr. A. Kabla, Topic: Physical mechanics, Dec 2004 – Jan 2007. Currently Lecturer (Asst Prof.) of Engineering, Cambridge University, UK..
8. Dr. A. Gopinath, Topic: Physiology and materials, Jan 2005 – Aug 2007. Currently postdoctoral fellow in Physics, Brandeis University.
9. Dr. D. Cuvelier, Topic: Experimental Biophysics, Sep 2005 – Aug 2007. Currently Maitre d'Conference at the Institut Curie and the University of Paris, France.
10. Dr. M. Wyart (with M. Brenner, D. Fisher, D. Nelson), Aug. 2005- July 2006. Currently Asst. Professor of Physics, New York University, New York.
11. Dr. I. Kulic, Topic: Biophysics, Nov 2006 – April 2008. Currently Charge de recherch e at CNRS, Laboratoire de Physiochimie polymeres, Strasbourg, France.
12. Dr. J. Higgins, MD. Topic: Sickle cell disease. Jan. 2006 – Aug. 2009. Currently Asst. Prof. of Systems Biology, Harvard Medical School, Boston, MA.
13. Dr. E. Reyssat, Topic: Elastohydrodynamics, Oct. 2007 – July 2009. Currently Charge de Recherche, Lab. de Physique et Mecanique Milieux Heterogenes, ESPCI, Paris, France.
14. Dr. S. Mandre (with M. Brenner), Topic: Elastohydrodynamics. Aug. 2006 –June 2010. Currently Asst. Prof. of Engineering, Brown University, Providence, RI.
15. Dr. H. Liang, Topic: Surfaces and interfaces, April 2007 – April 2010. Currently Asst. Prof. of Mechanics, University of Science and Technology, Hefei, China.
16. Dr. T. Savin, Topic: Soft matter physics, Oct. 2007 – Dec. 2009. Currently Research Associate, Materials Physics, ETH, Zurich.
17. Dr. O. Campas (with M. Brenner), Topic: Biophysics of morphogenesis, Oct 2007 – present.
18. Dr. M. Venkadesan (with D. Lieberman), Topic: Human biomechanics, Oct 2008 – Dec 2010. Currently Asst Prof., NCBS-TIFR, Bangalore, India.
19. Dr. A. Slim, Topic: Flow in and deformation of porous media, Oct 2009 – Jan 2011. Currently with Schlumberger-Boston Lab.
20. Dr. K. Kamrin, Topic: Plasticity in thin geometries (NSF fellow), Sep 2008-Jan 2010. Currently Asst Prof. of Mech. Engg., MIT.
21. Dr. G. Morrison, Topic: Statistical mechanics of networks, Oct. 2008 – present.
22. Dr. M. Bandi, Topic: Soft matter physics, Oct. 2009 – present.
23. Dr. L. Giomi, Topic: Geometry and statistical physics, July 2010 – present.

24. Dr. A. Concha (with R. Wood), Topic: Fluid physics and control of insect flight, Mar 2010 – present.
25. Dr. P. Paoletti, Topic: Control theory for swarms, July 2010 – present.
26. Dr. P. Mellado (with K. Parker), Topic: Biomimetic surfaces, Aug 2010 – present.
27. Dr. S. Gerbode, Topic: Tendril and flower morphogenesis, Sep 2010 – present.
28. Dr. T. Tallinen, Topic: Gut morphogenesis, Sep 2010 – present.
29. Dr. G. Wyn Jones, Topic: Inverse problems in soft matter, Jan 2010 – present.
30. Dr. J. Biggins, Topic: Brain and eye morphogenesis, Oct 2010 – present.

Additional mentoring

I collaborate extensively with experimentalists, and so in addition to formal advising, I have informally advised and mentored many students who were doing their Ph.D. elsewhere. Below is a list of those who I have written papers with on problems that were separate from their PhD. A few of them (*) later came to work as postdocs with me.

A. Hosoi (currently Prof. of Engineering, MIT), A. Samuel (currently Prof. of Physics, Harvard), W. Ryu (currently Asst. Prof. of Physics, Toronto), M. Skorobogatiy (currently Prof. of Physics at Ecole Polytechnique, Montreal), R. da Silveira (C. de Recherche, Ecole Normale Supérieure, Paris), A. Balaeff, C. Riera(*) M. Argentina(*), A. Ghatak (*), P. Aussillous, D. Cuvelier (*) etc.