

## Biographical Information for L. Mahadevan –July 31, 2016

### Fields of Interest

Applied mathematics. Quantitative biology. Macroscopic physics. Engineering science.

As a mathematical scientist with broad interests, I use theory and computation, in close connection with experiments, to study how matter (living and non-living) is shaped and how it flows, on scales ranging from the supramolecular to the planetary - to get at a qualitative understanding using quantitative methods. A particular theme is science at the human scale, where phenomena are robust and easy to observe, yet not always easy to explain. A natural goal is to get at general principles, if there be such, from specific instances.

### Experience

Harvard University Cambridge, MA, USA	England de Valpine Prof. of Applied Mathematics,	2003-present
	Professor of Organismic and Evolutionary Biology,	2009-present
	Professor of Physics	2010-present
University of Oxford Oxford, UK	Schlumberger Visiting Professor in Applied Mathematics	2004-2014
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	Guest Investigator	2012	present
	Summer faculty	2003	2011
Marine Biological Laboratories Woods Hole, USA	Summer Faculty	2003	present
École Supérieure de Physique et de Chimie Industrielles,	Professeur Associé Lab. de Physique et Méc.	June 1998	July 1998
		May 2001	June 2001

Paris, France	de Milieux Hétérogènes		
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 (selected)

Fellow of the Royal Society of London	2016-
MacArthur Fellowship, MacArthur Foundation (probably the most visible award for creativity in the humanities, arts and sciences in the USA)	2009-14
John Simon Guggenheim Memorial Fellowship	2006
George Ledlie Prize, Harvard University (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")	2006
Edgerton Award, MIT (highest award given to untenured faculty for achievement in teaching and research at MIT)	2000
Inaugural holder of the (endowed) Schlumberger Chair in Complex Physical Systems, Cambridge University, UK	2001 - 2003

Schlumberger Visiting Professor in Mathematics, Oxford University, UK	2004-2014
Karl van Tassel Career Development Chair, M.I.T.	1998 --2001
Chaire Condorcet, Ecole Normale Superieure	Jan-April 2001
Chaire Paris Sciences, Ecole Superieure de Physique et de Chimie, Paris, France	May – Jun 2001
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	2007-2012
Young Investigator Award in Applied Mechanics American Society for Mechanical Engineering	2005
Young Investigator medal, Society for Engineering Science (inaugural recipient)	1999
Inaugural SIGEST award – Society for Industrial and Applied Mathematics (for the best paper in SIAM J. Applied Mathematics)	1999
Francois Frenkiel Prize, American Physical Society (for the best paper in Physics of Fluids)	2006
Distinguished Alumnus Award IIT-Madras, India	2009
<b>Named /PlenaryLectures (selected list)</b>	
Clay Senior Scholar, Park City - Institute for Advanced Study Summer Institute	2014
Mathematics for Planet Lecture – Simons Foundation	2013
Plenary Lecture, American Math. Society Meeting Baltimore,	2013

Niven Lecture University of British Columbia and Pacific Institute for Mathematical Sciences	2012
Amick Lectures Mathematics, University of Chicago	2011
Boeing Lecture Applied Mathematics, University of Washington	2011
Glicksman Lecture Brown University Commencement Exercises	2011
Sears Lecture Woods Hole Oceanographic Institution	2011
Laufer Lecturer Engineering, University of Southern California	2010
Combined-plenary Lecture British Mathematics Colloquium and British Applied Mathematics Colloquium	2010
Singleton Lectures Brain and Cognitive Sciences, M.I.T.	2010
Midwest Mechanics Lecturer	2006-07
Statphys XVI Invited Lecturer, Genoa, Italy	2007
Plenary Lecture Society for Mathematical Biology Annual Meeting	2007
Penner Lecturer Engineering, University of California, San Diego	2008
IOP Einstein Centenary Meeting – Warwick Invited Lecture	2005
SIAM Plenary Lecture, SIAM Annual Meeting	2005
G I Taylor Lecturer, Cambridge Philosophical Society Cambridge, UK	2001
Alan Tayler Lecturer, Smith Institute and Oxford University, UK	2003

## **Professional Service**

Associate Director, NSF Science and Technology Center  
for Brains, Minds and Machines, a \$25M, 5 year project 2013-2015

## **Editorial boards:**

*Proceedings of the Royal Society of London (A)*  
*Mathematical, Physical and Engineering Sciences* 2004 - 2009

*Chaos (published by the American Institute of Physics)* 2004 – 2009

*Nonlinearity (published jointly by the London Mathematical  
Society and the Institute of Physics, UK)* 2008 - 2013

*American Journal of Physics* 2009 - 2011

## **Advisory boards:**

*Schlumberger Private Ltd. Technology Committee* 2001 – present

*OCCAM: Oxford Centre for Collaborative Applied Mathematics* 2008 – 2013

*Max Planck Institute for Complex Physical Systems*  
*Dresden, Germany;* 2010 – present

*NSF Mathematical Biosciences Institute, Columbus, OH* 2010 - 2012

## **Conferences/symposia:**

Organizer:  
*Society for Engineering Science:*  
*Symposium on Singularity and Similarity in*  
*Mechanics to honor G.I. Barenblatt* Oct. 1999

Co-organizer: June-July 2000  
Workshop on *Statistical Dynamics of Continua* at  
**Aspen Center for Physics**

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 1996 – 2003  
A weekly seminar on Applied Mathematics/Mechanics broadly interpreted

Co-organizer:  
Mathematics and materials; soft matter Oct 2002  
**Max Planck Gessellschaft**, Castle Ringberg, Germany.

Co-organizer:  
Workshop on *Extreme mechanics of fluids and continua* Aug 2006  
**Aspen Center for Physics**

Co-organizer:  
Geometrical singularities and singular geometries Jul 2008  
**Institute for Mathematics and its Applications,**  
**Minneapolis, MN**

Referee for approx. 20 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

I have taught over 20 different courses in mathematics, physics, engineering and biology over the last two decades at MIT, Cambridge, Harvard and introduced new courses on Biophysics, Inverse Problems, Data Analysis and Mathematical Modeling at these institutions.

I have been a summer school lecturer at the Mathematical Sciences Research Institute (Berkeley, CA), Les Houches (France), London Mathematical Society (Oxford), Clay Mathematical Institute (Park City, Utah), Boulder school on condensed matter physics (Boulder, CO), Theoretical Physics Retreat (MIT), Peyresq (Biomechanics), Cargese (Rheology) etc.

I was the Founding co-director (with T. Poggio) of the newest established Summer School on Brains, Minds and Machines at MBL, Woods Hole, MA (starting in 2013).

Stanford University  
Numerical Analysis

Univ. Of Illinois, Urbana-Champaign  
Advanced Dynamics  
Asymptotic and Perturbation Methods in Science and Engineering

### 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

#### Applied Mathematics

Mathematical methods in the sciences AM21a – undergraduate (2010)  
Complex and Fourier analysis AM105a– undergraduate (2010)  
Mathematical modeling AM115- undergraduate (4 years)  
Physical mathematics I AM201– graduate (3 years)  
Physical mathematics II AM202– graduate (2012)  
Inverse problems AM216 – graduate (2013,2016)

#### Engineering Sciences

Fluid dynamics ES220 – graduate (4 years)  
Sustainable energy and climate change – freshman seminar (2009)

#### Physics

Science of everyday life – freshman seminar (2005)  
Physics and physiology of the senses – freshman seminar (2007)  
Widely applied physics PHY125 – undergraduate (2014)  
Biophysics PHY215 – graduate (2016)

#### Biology

Biological dynamics ES216/PHY215 – graduate (3 years)  
Systems cell biology BPS242– graduate

### Summer/Winter Schools etc.

Jun 95                    Lectures on Classical Mechanics & Elasticity  
                                  Institut Non-Linéaire de Nice, France  
Jun 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

Mar 98 Systems, Valparaiso, Chile  
Lectures on the Mechanics of Granular  
Materials, Univ. de Provence, France

Jun 99 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.

Jul 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

Jul 06 Lectures on Elastomers, Boulder School on Condensed Matter  
Physics  
Boulder, Co, USA.

Jul 09 Lecturer, London Mathematical Society School on Mathematics and  
Materials Science, Oxford, UK.

Jul 12 Lectures on Hydrodynamics, Boulder Summer School on  
Condensed Matter Physics, Boulder, Co, USA.

Jul 12 Lectures on Soft Wet Interfaces, Summer School on "Soft  
Interfaces", Les Houches, France.

Jun 14 co-Director, Summer School on Brains, Minds and Machines  
Marine Biology Laboratories, Woods Hole, MA.

### Outreach activities

- Lectured at various Middle Schools and High Schools in the Boston and Berkeley areas on "Everyday Science"
- Harvard Museum of Natural History Public Lectures – 2006, 2008, 2012 on "Nature of Shape and Shape of Nature"
- Invited Lecturer to Edinburgh Mathematical Society's "Meet the Mathematician Series" for High School Students, 2010.
- Many articles have been covered by the media – including interviews on the BBC, NPR, articles in the NY Times, London Telegraph, Le Monde, Frankfurter Allgemeiner etc.



## Publications

Statistics ~240 publications, 10 patents at the interface of Applied Mathematics, Physics, Engineering, Biology, Medicine, combining experiment, theory and computation. More than half were published in interdisciplinary journals: *Nature*, *Nature Materials*, *Nature Nanotech.*, *Nature Cell Bio.* - 25, *Science*- 12, *Proc. Natl. Acad. Sci. (USA)* - 22, *Physical Review Letters* - 40, *Proc. Roy. Soc. (Lond.)A,B*, *Interface* - 35.  
Approx ~60 articles have been the subject of perspectives and press coverage.  
H-index ~65. # Citations ~14000.

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. Coulet, 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," Balaieff, 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](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**, 293-97, 2005.

News and Views in *Nature Materials* by W. Huck. Press coverage in multiple countries.

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**, 95-99, 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**, 1308-11, 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**, 817-25, 2005.

Press coverage in: AIP Physics News, MSNBC, Die Zeit, CBS radio ...

62. "Soft lubrication: the elastohydrodynamics 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**, 895-96, 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**, 163-66, 2006.

67. "Capillary rise between elastic sheets," H-Y Kim and L. Mahadevan, *Journal of Fluid Mechanics*, **548**, 141-50, 2006.

68. "Superficial wrinkles in stretched, drying gelatin films," R. Rizzieri, L. Mahadevan, A. Vaziri and A. Donald, *Langmuir*, **22**, 3622-26, 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. "Microtubules can bear enhanced compressive loads in cells because of lateral reinforcement," C. Brangwynne, F.C. MacKintosh, S. Kumar, N. Geisse, L. Mahadevan, K. Parker, D. Ingber, D. Weitz, *Journal of Cell Biology*, **173**, 733-41, 2006.

Featured commentary in *Current Biology* by J. McGrath.

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207. "A proprioceptive neuromechanical theory of crawling," P. Paoletti and L. Mahadevan, *Proceedings of the Royal Society Biological Sciences (B)*, **281**, 20141092, 2014.
208. "Scaling macroscopic aquatic locomotion," M. Gazzola, M. Argentina, and L. Mahadevan, *Nature Physics*, **10**, 758-61, 2014.  
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209. "Evaporative microclimate-driven hygrometers and hygromotors," J-Y. Chung, H. King and L. Mahadevan, *Europhysics Letters*, **107**, 64002, 2014.
210. "Air-mediated rebound of a drop from a hydrophilic surface," J. Kolinski, L. Mahadevan and S. Rubinstein, *Europhysics Letters*, **108**, 24001, 2014.
211. "Neuromimetic circuits with synaptics devices based on strongly correlated electron systems," S.D. Ha, J Shi, Y. Meroz, L. Mahadevan, and S. Ramanathan, *Physical Review Applied*, **2**, 064003, 2014.
212. "Exactly isochoric deformations of soft solids," *Europhysics Letters*, **108**, 64001, 2014.
213. "Elastocapillary coalescence of plates and pillars," Z. Wei, T. Schneider, J. Kim, H\_y. Kim, J. Aizenberg, and L. Mahadevan, *Proceedings of the Royal Society , Math. Phys. and Engg. Sci (A)*, 470, 20130604, 2015.
214. "Feedback induced phase transitions in active heterogeneous conductors," S. Ocko and L. Mahadevan, *Physical Review Letters*, **114**, 134501, 2015.
215. "Solid friction between soft filaments," A. Ward, F. Hilitski, W. Schwenger, D. Welch, V. Vitelli, L. Mahadevan and Z. Dogic, *Nature Materials*, **14**, 583-88, 2015.

216. "How the velvet worm squirts slime," A. Concha, P. Mellado, B Morera-Brenes, C. Costa, L. Mahadevan, J. Monge-Najera, *Nature Communications*, **6**, 6292, 2015.

Coverage in media including NYTimes, CNN, BBC, etc

217. "Gait and speed selection in slender inertial swimmers," M. Gazzola, M. Argentina and L. Mahadevan, *Proceedings of the National Academy of Sciences(USA)*, **112**, 3874-79, 2015.

218. "Bending gradients: how the intestinal stem cell gets its home," A. Shyer, T. Huycke, C. Lee, L. Mahadevan, and C. Tabin, *Cell*, **161**, 569-80, 2015.

219. "Fluid-driven fingering instability of a confined elastic meniscus," J. Biggins, Z. Wei, L. Mahadevan, *Europhysics Letters*, **110**, 34001, 2015.

220. "Protein-mediated membrane adhesion," A. Carlson, L. Mahadevan, *Physics of Fluids*, **27**, 051901, 2015.

221. "The organization and control of an evolving interdependent population," D.can Vural, A. Isakov, L. Mahadevan, *Proceedings of the Royal Society-Interface*, **12**, 20150044, 2015.

222. "Optimal control of plates using incompatible strains," G. Jones and L. Mahadevan, *Nonlinearity*, **28**, 3153-74, 2015.

223. "Elastohydrodynamics of a sliding, spinning and sedimenting cylinder near a soft wall," T. Salez, L. Mahadevan, *Journal of Fluid Mechanics*, **779**, 181-96, 2015.

224. "Termite mounds harness diurnal temperature oscillations for ventilation," H. King, S. Ocko, L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **112**, 11589-93, 2015.

Coverage in media including BBC, Canadian Radio, Danish, Finnish TV etc

225. "Dynamics of evaporative colloidal patterning," C. Kaplan, N. Wu, S. Mandre, J. Aizenberg, L. Mahadevan, *Physics of Fluids*, **27**, 092105, 2015.

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226. "Evaporation-driven ring and film deposition from colloidal droplets," C. Kaplan, L. Mahadevan, *Journal of Fluid Mechanics*, **781**, R2, doi:10.1017/jfm.2015.496, 2015.

227. "Elastohydrodynamics and kinetics of protein patterning in the immunological synapse," A. Carlson, L. Mahadevan, *PloS Computational Biology*, DOI: 10.1371/journal.pcbi.1004481, 2015.

228. "The Monge-Ampere constraint: matching of isometries, density and regularity, and elastic theories of shallow shells," M. Lewicka, L. Mahadevan, R. Pakzad, *Ann. Inst. Henri Poincare*, DOI:10.1016/j.anihpc.2015.08.005, 2015.

229. "Pressure-driven occlusive flow of a confined red blood cell," T. Savin, M. Bandi and L. Mahadevan, *Soft Matter*, **12**, 562-73, 2016.

230. "Elastic Cheerios effect: self assembly of cylinders on a soft solid," A. Chakrabarti, L. Ryan, M. Chaudhury and L. Mahadevan, *Europhysics Letters*, **112**, 54001, 2015.

231. "A geometric model for the periodic undulation of a confined adhesive crack," Z. Wei and L. Mahadevan, *Soft Matter*, DOI:10.039/c5sm01597a, 2015.

232. "Directional memory arises from long-lived cytoskeletal asymmetries in polarized chemotactic cells," H. Prentice-Mott, Y. Meroz, A. Carlson, M. Levin, M. Davidson, D. Irimia, G. Charras, L. Mahadevan and J. Shah, *Proceedings of the National Academy of Sciences (USA)*, **113**, 1267-72, 2016.

233. "Similarity and singularity in adhesive elastohydrodynamic touchdown," A. Carlson and L. Mahadevan, *Physics of Fluids*, **28**, 011702, 2016.

234. "On the growth and form of cortical convolutions," T. Tallinen, J-Y. Chung, F. Rosseau, N. Girard, J. Lefevre, L. Mahadevan, *Nature Physics*, **12**, 588-93, 2016.

Subject of various articles and interviews in popular press, e.g. commentary in Nature Physics, articles in BBC, LA Times, CNBC, Canadian BC etc.

235. "Biomimetic 4D printing," A. S. Gladman, E. Matsumoto, R. Nuzzo, L. Mahadevan and J. Lewis, *Nature Materials*, **15**, 413-18, 2016.

Subject of various articles and interviews in popular press, e.g. commentary in Natural Materials, articles in BBC, LA Times, etc.

236. "Programming curvature using origami tessellations," L. Dudte, E. Vouga, T. Tachi and L. Mahadevan, *Nature Materials*, **15**, 583-88, 2016.

Subject of various articles and interviews in popular press, e.g. Popular Science, Wired etc.

237. "Buckling of wet paper," M. Lee, S. Kim, H-Y. Kim, L. Mahadevan, *Physics of Fluids*, **28**, 042101, 2016.

238. "Recovery of locomotion after injury in *D. melanogaster* depends on proprioception," A. Isakov, S. Buchanan, B. Sullivan, A. Ramachandran, S. Chapman, L. Mahadevan, B. deBivort, *Journal of Experimental Biology*, **219**, 1760-71, 2016.

239. "Self-sustained lift and low friction via soft lubrication," B. Styves, T. Jules, T. Salez, L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **113**, 5847-49, 2016.

240. "Phototactic guidance of a tissue-engineered soft-robotic ray," S-J Park, M. Gazzola, ..., L. Mahadevan, K.K. Parker, *Science*, **353**, 158-162, 2016.

Subject of various articles and interviews in popular press, e.g. articles in NYTimes, BBC, LA Times, etc.

241. "Integrative neuromechanics of crawling in *D. melanogaster* larvae," C. Pehlevan, P. Paoletti, L. Mahadevan, *E-Life*, 2016; 5:e11031.

242. "Elastic instability-mediated actuation by a supramolecular polymer," A. Levian, T. Michaels, L. Adler, T. Mason, T. Mueller, L. Mahadevan, E. Gazit, T. Knowles, *Nature Physics*, doi:10.0138/NPHYS3808, 2016.

243. "Optimal switching between geocentric and egocentric strategies in navigation," O. Peleg and L. Mahadevan, *Royal Society Open Science*, doi:10.1098/rsos.160128.

### **Selected 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

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)

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.

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

April 2012, "Continuum and statistical mechanics of ribbons," Colloquium Ehrenfestii, Institut Lorentz, Leiden, Netherlands.

November 2012, "On growth and form: mathematics, physics and biology," Young Lecture, University of Maryland.

September 2013, "On growth and form: mathematics, physics and biology," Simons Foundation Lecture, Brown University.

July 2014, "Gilding the lily: morphogenesis in plants," Clay Institute Lecture, IAS Summer School, Park City, Utah.

## Doctoral and post-doctoral students

Trained ~20 graduate students, ~50 postdoctoral fellows. Many have gone on to faculty positions in a variety of science/ engineering departments e.g. mathematics, physics, biology, mechanical, chemical engineering and medicine, and industry e.g. Wall Street, Google, and various startups.

### 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. Later M.D. Columbia University.
3. Shin, J. (with P. Matsudaira, Biology, MIT) "Statics and dynamics of actin assemblies," 2003. Currently Associate Professor of Mechanical Engineering, KAIST, Korea.

### Doctoral theses (at Cambridge)

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

### Doctoral theses (at Harvard)

1. Hohlfeld, E. "Creases, point bifurcations and the spontaneous breakdown of scale invariance," 2008. Currently working in private industry (Wall Street).
2. Guo, Z. (with S. Ramanathan, Molecular and Cell Biology) "Some problems in biomechanics and neurobiology," 2010. Currently Assistant Professor of Biology, Tsinghua University, Beijing, China.
3. Mani, M. (with M. Brenner, SEAS) "Dynamics at soft interfaces," 2010. Currently Assistant Professor of Applied Mathematics, Northwestern University.
4. Yong, E-H, "Elasticity and biophysics," 2012. Currently Assistant Professor of Physics, Nanyang Institute of Technology, Singapore.

5. Mukherjee, A. "Studies in elasto-hydrodynamics: singing and swimming," 2012. Currently postdoc in Physics, OIST, Okinawa, Japan.
6. Kolinksi, J. "Interfacial dynamics," Dec. 2013. Currently postdoc in Physics at Hebrew University, Israel.
7. Wei, Z. "Discrete and continuum mechanics," Aug. 2014. Currently postdoc in Biology at Stanford University.
8. McCormick, A. "Discrete differential geometry and physics of curves," Aug. 2013. Currently in private industry (Google).
9. Ocko, S. "Active porous media, " Aug. 2015. Currently Duboc postdoc in Physics at Stanford University.
10. Isakov, I. " Studies in collective action," started in 2012.
11. Dudte, L. "Origami mathematics and mechanics," started in 2012.
12. Salcedo, M. "Dynamics of wing inflation in insects," started in 2013.
13. Marantan, A. "Probabilistic learning about the physical world," started in 2013.

**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, IUSTI, 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 Asst. Prof. of Physics, U. Rochester, NY.
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 recherché 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 Prof. of Mechanics, University of Science and Technology, Hefei, China.
16. Dr. T. Savin, Topic: Soft matter physics, Oct. 2007 – Dec. 2009. Currently Asst. Prof. of Engineering, Cambridge University, UK.
17. Dr. O. Campas (with M. Brenner), Topic: Biophysics of morphogenesis, Oct 2007 –2011. Currently Asst. Prof. of Mechanical Engineering, U C Santa Barbara.
18. Dr. M. Venkadesan (with D. Lieberman), Topic: Human biomechanics, Oct 2008 – Dec 2010. Currently Asst Prof. of Engineering, Yale University, CT.
19. Dr. A. Slim, Topic: Flow in and deformation of porous media, Oct 2009 – Jan 2011. Currently Lecturer in Mathematics and Geosciences, Monash University, Australia.
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 – May 2013. Currently Asst. Prof. of Economics, Lucca, Italy.
22. Dr. M. Bandi, Topic: Soft matter physics, Oct. 2009 – Oct. 2011. Currently Asst. Prof. of Physics, Okinawa Institute of Science and Technology, Japan.
23. Dr. L. Giomi, Topic: Geometry and statistical physics, July 2010 – Aug 2012. Currently Asst. Prof. of Physics, Lorentz Institut, Leiden, Amsterdam.
24. Dr. A. Concha (with R. Wood), Topic: Fluid physics and locomotion, Mar 2010 – May, 2012. Currently Asst. Prof. of Physics, U. Adolfo Ibanez, Chile.

25. Dr. P. Paoletti, Topic: Optimization and control in biological systems, July 2010 – July 2012. Currently Asst. Prof. of Engineering, U. Liverpool, UK.
26. Dr. P. Mellado, Topic: Collective dynamics in fluid and spin systems, Aug 2010 – May 2012. Currently Asst. Prof. of Physics, U. Adolfo Ibanez, Chile.
27. Dr. S. Gerbode, Topic: Tendril and flower morphogenesis, Sep 2010 – Nov. 2011. Currently Asst Prof. of Physics, Harvey Mudd College, CA.
28. Dr. T. Tallinen, Topic: Mechanical aspects of morphogenesis, Sep 2010 – April 2012. Currently Asst. Prof. of Physics, Jyvaskyla University, Finland.
29. Dr. G. Wyn Jones, Topic: Inverse problems in soft matter, Jan 2010 – Dec. 2011. Currently Lecturer in Mathematics, U. Manchester, UK.
30. Dr. J. Biggins, Topic: Elasticity and morphogenesis, Oct 2010 – Oct 2012. Currently Research Fellow at Trinity Hall, and Cavendish Lab., Cambridge University, UK.
31. Dr. Dervis can Vural, Topic: Dynamics of and in complex networks, July 2012 – December 2013. Currently Asst. Prof. of Physics, U. Notre Dame, IN.
32. Dr. Eliran Boksenbojm, Topic: Statistical mechanics of nonequilibrium systems, Sep 2012 – Aug 2013. Currently in private industry.
33. Dr. Nadir Kaplan, Topic: Multiphase flow, Oct 2012 – August 2016. Currently, postdoc in Materials Science, Harvard University.
34. Dr. Hunter King, Topic: Collective dynamics of social insects and bristlebots, Oct 2012 – July 2016. Asst. Prof. of Polymer Science and Biology, U. Akron, Ohio.
35. Dr. Jun Chung, Topic: Active soft matter, Oct. 2012 – present.
36. Dr. Etienne Vouga, Topic; Discrete differential geometry and mechanics, Oct 2013 – Aug 2014. Currently Asst. Prof. of Comp. Sci., U-T. Austin, TX
37. Dr. Andreas Carlson, Topic: Interfacial fluid mechanics, Sep 2012 – Aug 2015. Currently Asst. Prof. of Mathematics, U. Oslo, Norway.
38. Dr Renaud Bastien, Topic: Proprioceptive biophysics, Nov. 2012 – Dec 2014. Currently postdoc at Max Planck Institute- Cologne.
39. Dr. Yasmine Meroz, Topic: Statistical mechanics of decision making in cells and organisms, Oct 2013 – present.

40. Dr. Raghu Chelakkot, Topic: Physics and dynamics of strings and ropes, Sep 2013 – May 2015. Currently Asst. Prof. of Physics, IIT- Mumbai, India.
41. Dr. Mattia Gazzola, Topic: Neurodynamics of swimming, Oct. 2013 – July 2016. Currently Asst. Prof. of Mech. Engg., U. Illinois, Urbana-Champaign.
42. Dr. Teresa Ruiz, Topic: Cellular biophysics, Oct 2013 – present.
43. Dr. Orit Peleg, Topic: Collective dynamics in biophysics, Jan 2014 – present.
44. Dr. Baudouin Styves, Topic: Collective dynamics of robots, Jan 2014 – present.
45. Dr. Ido Regev, Topic: Morphogenesis and pattern formation in biology and physics, Feb 2014 – Jan 2016. Currently Asst. Prof. of Physics, Ben Gurion University, Israel.
46. Dr. Elisabetta Matsumoto (with M. Brenner), Topic: Geometry and mechanics of soft matter, Sep 2014- July 2016. Asst. Prof. of Physics, Georgia Tech.
47. Dr. Siddharth Srinivasan (with S. Rubinstein), Topic: Hydrodynamics of thin viscous sheets and biofilms, Jan 2015 – present.
48. Dr. Wim van Rees, Topic: Neuromechanics of locomotion, May 2014 – present.
49. Dr Yuval Hart, Topic: Psychophysics and geometry, Aug 2015 – present.
50. Dr Chon U Chan, Topic: Chemotaxis of cells, February 2016 – present.