

Biographical Information for L. Mahadevan

Fields of Interest

Macroscopic physics. Quantitative biology.

I study motion and matter at the human scale, where phenomena are robust and easy to observe, yet not always easy to explain. Areas of interest include the patterns of shape and flow of inanimate matter on scales ranging from the supramolecular to the planetary, and the dynamics of sentient living matter that can self-organize, perceive and act. In all cases, the aim is to get at a qualitative understanding using quantitative methods and get at general principles, if there be such, from answers to specific questions. Inevitably the studies combine experiments, theory and computation, with results that range from new observations to theorems, and patents and algorithms.

Contributions include understanding the physical principles underlying morphogenesis across scales in both developmental and evolutionary settings, ethology and cognition at the individual and the collective dynamics, embodied intelligence in humans and animals, behavior of social insects such as bees, termites, and ants, observations of and theories for patterns and dynamics in soft structures, interfaces, fluids and materials, the mathematics underlying art forms such as origami, kirigami and its relatives, and the dynamics of musical instruments such as musical saws and steelpan drums, etc. Much of what I study is driven merely by wondering (and wandering) about the world as experienced every day, often with a sense of whimsical curiosity.

Experience

Harvard University	England de Valpine Professor of Applied Mathematics, Professor of Organismic and Evolutionary Biology, Professor of Physics	2003-present 2009-present 2010-present
Harvard University	Faculty Dean, Mather House (Mather is one of 12 undergraduate houses at Harvard College)	2017-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

Chan-Zuckerberg BioHub San Francisco	Distinguished Visiting Scientist	2019-2022
HHMI Janelia Campus Janelia, Virginia	Visiting Scientist	2018-2021
Woods Hole Oceanographic Institution, Woods Hole, USA	Guest Investigator	2012-2020
Marine Biological Laboratories Woods Hole, USA	Summer Faculty	2003-2008
University of Oxford Oxford, UK	Schlumberger Visiting Professor in Applied Mathematics	2004-2014
École Supérieure de Physique et de Chimie Industrielles, Paris, France	Professeur Associé Lab. de Physique et Méc. de Milieux Hétérogènes	Jun-July 1998 May-June 2001
Université de Provence Marseille, France	Professeur Invité IUSTI	March 1998
École Normale Supérieure Paris, France.	Chaire Condorcet Dept. de Physique	July, 1997 Feb-April 2001
Université de Nice, Nice, France	CNRS Poste Rose, Inst. Non-Linéaire de Nice	July-Aug 1995
Univ. of Cambridge, U. K. Appl. Math. & Theor. Phys.	EPSRC Visiting Scientist	July-Aug. 1994
U. Illinois at Urbana-Champaign	Visiting Asst. Prof. Theor. & Appl. Mech.	Aug. 1993-May1995

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
University of Chicago	Postdoctoral Research Associate, Mathematics and Physics (mentor: L. Kadanoff, Mathematics/Physics)	1995-1996

Awards and Honors (selected)

MacArthur Fellow, MacArthur Foundation (amongst the most visible awards for creativity in the arts, humanities and sciences)	2009-14
Fellow of the Royal Society (of London) (elected member of the oldest scientific society in continuous existence)	2016-
Member, American Academy of Arts and Sciences	2023-
Weldon Memorial Prize and Medal, Oxford University (for contributions to Mathematics applied to Biology. Early winners include Haldane, Fisher, Wright etc.)	2024
Simons Investigator in Physics+Biology, Simons Foundation	2021-26
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
Shutzer Fellow, Radcliffe Institute, Harvard University	2014-15
Chaire Condorcet, Ecole Normale Supérieure et Chaire Paris Sciences, Ecole Supérieure de Physique et de Chimie, Paris, France	2001
Visiting Miller Professor, Departments of Integrative Biology, Chemistry, and Mathematics, University of California, Berkeley, CA	2007
Distinguished Alumnus Award, IIT-Madras, India	2009
Rice Medal, Society for Engineering Science (Inaugural recipient)	2016
Francois Frenkiel Prize, American Physical Society (for the best paper in Physics of Fluids)	2006
Young Investigator medal, Society for Engineering Science (Inaugural recipient)	1999
SIGEST award, Society for Industrial and Applied Mathematics (for the best paper in SIAM J. Applied Mathematics; Inaugural recipient)	1999

Named /Plenary Lectures (selected list)

Dashen Lecture in Theoretical Physics, UC San Diego	2023
Niels Bohr Lecture, Niels Bohr Institute, Denmark	2023
(Inaugural) Willis Lamb Lectures in Theoretical Physics, Oxford	2023
(Inaugural) Soo-Ik Oh Lecturer, Seoul National University	2018
Elsevier Lecturer, Georgia Tech	2018
Smith Lecture, Beckman Institute, UIUC	2017
Reiss Lectures in Applied Mathematics, Northwestern	2016
Miller Institute 60 th anniversary plenary talk, Berkeley	2016
Clay Senior Scholar, Park City - Institute for Advanced Study Summer Institute	2014
Mathematics for Planet Lecture – Simons Foundation	2013
Plenary Lecture, American Math. Society, Baltimore	2013
Niven Lecture, U. British Columbia and Pacific Institute for Mathematical Sciences	2012
Amick Lectures in Mathematics, University of Chicago	2011
Boeing Lecture in Applied Mathematics, , U. Washington	2011
Glicksman Lecture Brown University Commencement Exercises	2011
Sears Lecture Woods Hole Oceanographic Institution	2011
Laufer Lecturer Engineering, University of Southern California	2010
Plenary Lecture British Mathematics and Applied Mathematics Colloq, Liverpool	2010

Singleton Lectures Brain and Cognitive Sciences, M.I.T.	2010
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
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
Service	
Sectional Committee 1 (Mathematics) Member, Royal Society of London	2016-2019
Associate Director, NSF Science and Technology Center for Brains, Minds and Machines, MIT	2013-2015
Area Chair, Applied Mathematics, Harvard University Applied Mathematics is the 4 th largest concentration at Harvard, with about ~300 students (out of 4500).	2016-2021
Lead Organizer, Mathematical Biology Program , Center of Mathematical Sciences and Applications Harvard University I organized a series of three week-long workshops that invited more than 100 participants and 30 speakers on the broad theme of geometry, biology and computation across scales.	2018-2019
Faculty Dean, Mather House , Harvard College Together with Dr. Amala Mahadevan , I have served as the Faculty Dean of Mather House, one of 12 undergraduate houses at Harvard College, where we live and learn with 450 students and 50 staff. As leaders of the house, we support our students' intellectual, social, cultural and personal growth in a diverse and inclusive community; see this essay to get a sense of this multi-dimensional role.	2017-present

Editorial boards:

<i>Proceedings of the Royal Society of London (A) 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 - 2013
<i>American Journal of Physics</i>	2009 - 2011

Advisory boards:

<i>Schlumberger Private Ltd. Technology Committee</i>	2000 – 2020
<i>Max Planck Institute for Complex Physical Systems Dresden, Germany, Chair - 2022</i>	2010 – 2022
<i>OCCAM: Oxford Centre for Collaborative Applied Mathematics</i>	2008 – 2013
<i>NSF Mathematical Biosciences Institute, Columbus, OH</i>	2010 - 2012

Teaching Experience

I have taught over 30 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), IUSTI-Marseilles (Granular mechanics), HHMI Janelia Research Campus (Mathematics of behavior) etc.

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

I was the Founding Co-director (with A. Hermundstad, V. Jayaraman, E. Kanso,) of a new Summer School at the HHMI Janelia Research Campus at Ashburn, VA – on Mathematical Analysis of Behavior (starting in 2018).

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

Physics

Science of everyday life – freshman seminar (2005)
Physics and physiology of the senses – freshman seminar (2007) – new course
Widely applied physics PHY125 – undergraduate (2014)
Fluid dynamics ES220/PHY220 – graduate (5 years)
Sustainable energy and climate change – freshman seminar (2009) – new course
Active Matter PHY230 – graduate (2023) – new course
I Wonder Why – Gen Ed course (2024) – new course

Biology

Systems cell biology BPS242– graduate (2010)
Acoustic ecology OEB100 – undergraduate (2012)
Biophysics PHY215 – graduate (4 years) – new course

Applied Mathematics

Mathematical methods in the sciences AM21a – undergraduate (2 years)
Complex and Fourier analysis AM104– undergraduate (5 years)
Mathematical modeling AM115- undergraduate (6 years) - new course
Physical mathematics I AM201– graduate (5 years)
Physical mathematics II AM202– graduate (2 years)
Inverse problems AM216 – graduate (2 years) - new course
Pattern formation in Soft Matter AM217 – graduate (2 years) - new course
Numbers, politics and society – undergraduate (3 years) – new course
Pleasures of probability – freshman seminar – new course

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 Conference on Instabilities and Non equilibrium Systems, Valparaiso, Chile
Mar 98	Lectures on the Mechanics of Granular Materials, Univ. de Provence, France
Jun 99	Director, Summer Graduate Program,

Dec 99	Mathematical Sciences Research Institute, Berkeley, California. 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.
Jun 18	co-Director, Summer School on Mathematics of Behavior HHMI Janelia Research Campus, Ashburn, VA

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.
- More than 100 articles have been covered by the media – including multiple interviews on the BBC, NPR, articles in the NY Times, Times of London, Le Monde, Figaro, Frankfurter Allgemeiner etc.

Publications – [Google scholar](#)

Statistics: ~400 publications, ~40 patents, H-index ~110, # of Citations ~45000.

Most publications combine experiment, theory and computation and are at the interface of multiple subjects: Biology, Physics, Engineering, Mathematics and Medicine. About half were published in interdisciplinary journals: *Nature*, *Nature Materials*, *Nature Nanotech.*, *Nature Cell Bio.* - **25**, *Science* - **15**, *Proc. Natl. Acad. Sci. (USA)* - **40**, *Physical Review Letters* - **40**, *Proc. Roy. Soc. (Lond.)A,B*, *Interface* - **50**. Approx ~100 articles have been the subject of perspectives and press coverage.

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.
 - a. See also: *SIAM Review*, 41, no. 1, pp. 113-31, 1999, where this article is reprinted as the
 - b. 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. 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 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.
72. “Crack-front instability in a confined film,” Adda Bedia and L. Mahadevan, *Proceedings of the Royal Society of London, series A*, **462**, 3233-51, 2006.
73. “Dynamics of fracture in drying suspensions,” Dufresene, D. Stark, N. Greenblatt, J. Cheng, J. Hutchinson, L. Mahadevan and D. Weitz, *Langmuir*, **22**, 7144-47, 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**, 283-92, 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**, 4613-17, 2006.
 77. "Mechanics of interfacial composite materials," A.B. Subramaniam, M. Abkarian, L. Mahadevan and H.A. Stone, *Langmuir*, **22**, 10204-08, 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**, 4652-62, 2006.
 79. "Nonlinear mechanics of fibrous networks," A. Kabla and L. Mahadevan, *J. Roy. Soc. Interface*, **4**, 99-106, 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," D. Cuvelier, M. Thery, Y. Shu, S. Dufour, J-P. Thiery, M. Bornens, P. Nassoy and L. Mahadevan, *Current Biology*, **17**, 694-99, 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**, 3729-33, 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**, 2383-89, 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**, 20496-500, 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**, 265-72, 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**, 1836-53, 2008.
 90. “Limbless undulatory propulsion on land,” Z.V. Guo and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **105**, 3179-84, 2008.
 91. “A quantitative analysis of contractility in active cytoskeletal protein networks,” P. Bendix, G. Koenderink, D. Cuvelier, Z. Dogic, D. Koelman, W. Briehner, C. Field, L. Mahadevan and D. Weitz,” *Biophysical Journal*, **94**, 3126-36, 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**, 7165-70, 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**, 9140-44, 2008.
 96. “Localized and extended deformations of elastic shells,” A. Vaziri and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **105**, 7913-18, 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**, 3028-35, 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**, 834-51, 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**, 215-23, 2008.
- 100.** “Polymer science and biology: structure and function at multiple scales,” L. Mahadevan, *Faraday Discussions*, **139**, 9-19, 2008.
Inaugural/Opening lecture of the Faraday Discussions on Polymer Science and Biology.
- 101.** “Quantifying the relation between bond number and myoblast proliferation,” T. Boontheekul, H-J Kong, S. Hsiong, Y-C Huang, L. Mahadevan, H. Vandenburg and D. Mooney,” *Faraday Discussions*, **139**, 53-70, 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**, 387-92, 2009.
Cover article – Jan 13, 2009 issue. Subject of various articles and interviews in popular press, e.g. U. Toronto press release, National Post-Canada, BBC-Ireland service etc.
- 103.** “Self-organization of a meso-scale bristle into ordered hierarchical helical assemblies,” B. Poakroy, S. Kang, L. Mahadevan and J. Aizenberg, *Science*, **323**, 237-40, 2009.
Subject of various articles and interviews in popular press, e.g. Harvard University press release, NPR – Science Friday, etc.
- 104.** “Statistical mechanics of flowing blood via morphological image processing,” J. 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**, 2243-47, 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)**, 458-64, 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)**, 859-64, 2009.
- 108.** “Strain-induced alignment in collagen gels,” D. Vader, A. Kabla, D. Weitz, L. Mahadevan, *PLoS One*, **4(6)**, e5902, 2009.
- 109.** “Hygromorphs: from pine cones to biomimetic bilayers,” E. Reyssat and L. Mahadevan, *Journal of the Royal Society-Interface*, **6**, 951-57, 2009.
Cover article.

110. “Calcium regulation of an actin spring,” B. Tam, J. Shin, E. Pfeiffer, P. Matsudaira and L. Mahadevan *Biophysical Journal*, **97**, 1125-29, 2009.
111. “Animal cell hydraulics,” G. Charras, T. Mitchison, and L. Mahadevan, *Journal of Cell Science*, **122**, 3233-41, 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**, 12420-25, 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*, **466**, 141-56, 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.
Subject of various articles and interviews in popular press – CBS, le Figaro, CNN etc.
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**, 2771-78, 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**, 3113-17, 2009.
117. “The shape of a long leaf,” H. Liang and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **106**, 22049-54, 2009.
Subject of various articles and interviews in popular press – Science Daily, etc.
118. “Shape and dynamics of tip-growing cells,” O. Campas and L. Mahadevan, *Current Biology*, **19**, 2102-06, 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**, 993-1001, 2010.
120. “Cooperative adhesion and friction of compliant nanohairs,” L. Ge, A. Goyal, R. Shi, L. Mahadevan, P. Ajayan and A. Dhinojwala, *Nanoletters*, **10**, 4509-12, 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**, 2138-41, 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 ser. (A)*, **467**, 402-26, 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**, 6323-28, 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**, 20587-91, 2010.
Perspective in *New England Journal of Medicine* by Sir David Weatherall, January 2011.
127. "Geometry, mechanics and electronics of singular structures and wrinkles in g19raphene," 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*, **467**, 1665-85, 2011.
130. "Unfolding the sulcus," E. Hohlfeld and L. Mahadevan, *Physical Review Letters*, **106**, 105702, 2011.
Physical Review Focus Article + Cover. Commentary by C. Santangelo.
131. "Structural dynamics of an actin spring," L. Mahadevan, C. Riera and J. Shin, *Biophysical Journal*, **100**, 839-45, 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 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*, **106**, 105702, 2011.
- 136.** “Dynamic instability of a growing adsorbed polymorphic filament,” S. Zapperi and L. Mahadevan, *Biophysical Journal*, **101**, 267-75, 2011.
- 137.** “Painting with drops, jets and sheets,” A. Hercyznski, C. Cernuschi and L. Mahadevan, *Physics Today*, 31-36, June 2011.
Subject of various articles and interviews in popular and scientific press, e.g. CBS, Science Daily, American Mathematical Association, etc
- 138.** “Probability, physics and the coin toss,” L. Mahadevan and E-H Yong, *Physics Today*, 66-67, July 2011.
- 139.** “On the growth and form of the gut,” T. Savin, N. Kurpios, A. Shyer, P. Florescu, H. Liang, L. Mahadevan and C. Tabin, *Nature*, **476**, 57-62, 2011.
News and Views in Nature Reviews-Gastroenterology, Current Biology. Subject of various articles and interviews in popular press, e.g BBC, La Recherche, New Scientist
- 140.** “Probability, geometry and dynamics in the toss of an inelastic coin,” E-H Yong and L. Mahadevan, *American Journal of Physics*, **79**, 1195-1201, 2011.
- 141.** “Shock driven jamming and periodic fracture of particulate rafts,” M. Bandi, T. Tallinen and L. Mahadevan, *Europhysics Letters*, **96**, 36008, 2011.
- 142.** “Buckling instability of a thin-layer Couette flow,” A. Slim, J. Teichman and L. Mahadevan, *Journal of Fluid Mechanics*, **694**, 5-28, 2012.
Journal of Fluid Mechanics “Focus on Fluids” article by N. Ribe.
- 143.** “Planar controlled gliding, tumbling and descent,” P. Paoletti and L. Mahadevan, *Journal of Fluid Mechanics*, **689**, 489-516, 2011.
- 144.** “Robust error correction in infofuses,” G. Morrison, S. Thomas, C. LaFratta, J. Guo, M. Palacios, S. Sonkusale, D. Walt, G. Whitesides, and L. Mahadevan,” *Proceedings of the Royal Society, Lond. Ser. (A)*, **2138**, 361-77, 2012.
- 145.** “New encoding schemes with infofuses,” K. Park, C. Kim, S. Thomas, H Yoon, G. Morrison, L. Mahadevan and G. Whitesides, *Advanced Materials*, **23**, 4851-56, 2011.
- 146.** “Soft catenaries,” K. Kamrin and L. Mahadevan, *Journal of Fluid*

- Mechanics*, **691**, 165-177, 2012.
- 147.** “A simple model for nanofiber formation by rotary jet spinning,” P. Mellado, H. McIlwee, M. Badrossamay, J. Goss, L. Mahadevan and K. Parker, *Applied Physics Letters*, **99**, 203107, 2011.
- 148.** “Multistability of free spontaneously curved anisotropic strips,” L. Giomi and L. Mahadevan, *Proceedings of the Royal Society of London (A)- Phys. Sci.*, **468**, 511-30, 2012.
- 149.** “Evolution of spur length diversity in *Aquilegia* petals is achieved solely through cell shape anisotropy,” J. Puszey, S. Gerbode, S. Hodge, E. Kramer and L. Mahadevan, *Proceedings of the Royal Society of London (B) – Biol. Sci.*, **279**, 1640-45, 2012.
Subject of various articles and interviews in popular press, e.g. New Scientist etc.
- 150.** “Forced tearing of ductile and brittle thin sheets,” T. Tallinen and L. Mahadevan, *Physical Review Letters*, **107**, 245502, 2011.
- 151.** “Hydrodynamics of writing with ink,” J. Kim, M-W Moon, K-R Lee, L. Mahadevan, H-Y Kim, *Physical Review Letters*, **107**, 264501, 2011.
Subject of various articles and interviews in popular press, e.g. PEN etc.
- 152.** “The branch with the longest reach,” Z. Wei, S. Mandre and L. Mahadevan, *Europhysics Letters*, **97**, 14005, 2012.
- 153.** “A biophysical marker of severity in sickle cell disease,” D. Wood, A. Soriano, L. Mahadevan, J. Higgins, S. Bhatia, *Science Translational Medicine*, **4**, 123-27, 2012.
Subject of various articles and interviews in popular press, e.g. ScienceNow etc
- 154.** “Actin network growth under load,” O. Campas, L. Mahadevan, J-F. Joanny, *Biophysical Journal*, **102**, 1049-58, 2012.
- 155.** “Skating on a film of air: drops impacting on a surface,” J. Kolinski, S. Rubinstein, S. Mandre, M. Brenner, D. Weitz, L. Mahadevan, *Physical Review Letters*, **108**, 074503, 2012.
- 156.** “Minimal surfaces bounded by elastic lines,” L. Giomi and L. Mahadevan, *Proceedings of the Royal Society (London), series A*, **468**, 1851-64, 2012.
- 157.** “Geometric control of rippling in supported nanolines,” V. Tirumala, C. Stafford, L. Ocola, J. Douglas and L. Mahadevan, *Nanoletters*, **12**, 1516-21, 2012.
- 158.** “Twisting graphene nanoribbons into carbon nanotubes,” O.O. Kit, T. Tallinen, L. Mahadevan, J. Timonen, P. Koskinen, *Physical Review B*, **85**,

- 085428, 2012.
159. “Balancing on tightropes and slacklines,” P. Paoletti and L. Mahadevan, *Proceedings of the Royal Society-Interface*, **9**, 2097-2108, 2012.
Subject of various articles and interviews in popular press, e.g. Science Magazine etc.
 160. “A method for tensile tests of biological tissues at the mesoscale ,” T. Savin, A. E. Shyer, and L. Mahadevan, *Journal of Applied Physics*, **111**, 074704, 2012.
 161. “Flow-induced channelization in a porous medium,” A. Mahadevan, A. Orpe, A. Kudrolli and L. Mahadevan, *Europhysics Letters*, **98**, 58003, 2012.
 162. “How things get stuck: kinetics, elasto-hydrodynamics and adhesion,” M. Mani, A. Gopinath and L. Mahadevan, *Physical Review Letters*, **108**, 226104, 2012.
 163. “Detecting communities through friendship,” G. Morrison and L. Mahadevan, *PloS One*, **7**(7): e38704, 2012.
 164. “The nature and scale of sulcification patterns,” E. Hohlfeld and L. Mahadevan, *Physical Review Letters*, **109**, 025701, 2012.
 165. “Banding, excitability and chaos in nematic suspensions,” L. Giomi, L. Mahadevan, B. Chakraborty and M. Hagan, *Nonlinearity*, **25**, 2245-61, 2012.
 166. “Strategies for cell shape control in tip-growing cells,” O. Campas, E. Rojas, J. Dumais and L. Mahadevan, *American Journal of Botany*, **99**, 1577-82, 2012.
 167. “Deformation and capillary self-repair of carbon nanotubes,” V. Pushparaj, L. Mahadevan, R. Nalamasu, P. Ajayan, *Carbon*, **50** (15), 5618-20, 2012.
 168. “How the cucumber tendrils coils and overwinds,” S. Gerbode, J. Puzey, A. McCormick and L. Mahadevan, *Science*, **337**, 1087-91, 2012.
Subject of various articles and interviews in popular press, e.g. BBC, NPR, Guardian, ScienceNow, etc.
 169. “Geometric mechanics of curved crease origami,” M. Dias, L. Dudte, L. Mahadevan, C. Santangelo, *Physical Review Letters*, **109**, 114301, 2012.
 170. “Elastic configurations of self-supported oxide membranes for fuel cells,” K. Kerman, T. Tallinen, S. Ramanathan and L. Mahadevan, *J. Power Sources*, **222**, 359-66, 2012.
 171. “Physical basis for adaptability of bacterial spore coats,” O. Sahin, E-H Yong, A. Driks and L. Mahadevan, *Proceedings of the Royal Society-Interface*, **9**,

- 3156-60, **2012**.
- 172.** “Slicing softly with shear,” E. Reyssat, T. Tallinen M. Le Merrer and L. Mahadevan *Physical Review Letters*, **109**, 244301, 2012.
Perspective by M.K. Chaudhury, “A cut above the rest,” *Physics*, **5**, 139 (2012).
- 173.** “Macroscopic magnetic frustration,” P. Mellado, A. Concha and L. Mahadevan, *Physical Review Letters*, **109**, 257203, 2012.
Perspective by P. Ball, “Watching ice spin” in *Natural Materials*, **12**, 100 (2013).
- 174.** “The size, shape and dynamics of cellular blebs,” F-Y. Lim, K-H. Chiam, and L. Mahadevan, *Europhysics Letters*, **100**, 28004, 2012.
- 175.** “And the Ignobel goes toJoe Keller,” L. Mahadevan, *SIAM News*, Dec. 2012.
- 176.** “Watching paint dry,” L. Mahadevan, Op-Ed, *The Harvard Undergraduate Research Journal*, **5**, 64, 2012.
- 177.** “Surface sulci in squeezed soft solids,” T. Tallinen, J.S. Biggins and L. Mahadevan, *Physical Review Letters*, **110**, 024302, 2013.
Cover article.
- 178.** “Swarming, swirling and stasis in sequestered bristle-bots,” L. Giomi, N. Hawley-Weld and L. Mahadevan, *Proceedings of the Royal Society-A*, **469**, 20120637, **2013**.
Subject of commentary in *New Scientist*, *BBC* etc.
- 179.** “Dissolution driven convection in a Hele-Shaw cell,” A. Slim, M. Bandi, J. Miller and L. Mahadevan, *Physics of Fluids*, **25**, 024101, 2013.
- 180.** “The cytoplasm of living cells behaves as a poroelastic material,” Moeendarbary, L. Valon, M. Fritzsche, A. Harris, D. Moulding, A. Thrasher, E. Stride, L. Mahadevan and G. Charras, *Nature Materials*, **12**, 253-61, 2013.
Perspective article in the same issue of *Natural Materials* by J. Fredberg.
- 181.** “Hydrodynamics of hemostasis in sickle-cell disease,” S. Cohen and L. Mahadevan, *Physical Review Letters*, **110**, 138104, 2013.
- 182.** “Adaptive fluid-infused porous films with tunable transparency and wettability,” X. Yao, Y. Hu, A. Grinthal, T. Wong, L. Mahadevan, J. Aizenberg, *Nature Materials*, **12**, 529-34, 2013.
- 183.** “Planar morphometry, shear and optimal quasi-conformal maps,” G. Wyn Jones, L. Mahadevan, *Proceedings of the Royal Society (A)*, **469**, 20120653, 2013.

- 184.** “Rationally designed complex, hierarchical microarchitectures,” W. Noordium, A. Grinthal, L. Mahadevan, J. Aizenberg, *Science*, **340**, 832-37, 2013.
Perspective article in same issue of Science by Elias Vlieg. Wide coverage in media including NPR, BBC etc.
- 185.** “Geometric mechanics of periodic pleated origami, : Z. Wei, Z. Guo, L. Dudte, H. Liang, L. Mahadevan, *Physical Review Letters*, **110**, 215501, 2013.
- 186.** “A pendulum in a flowing soap film,” M. Bandi, A. Concha, R. Wood and L. Mahadevan, *Physics of Fluids*, **25**, 041702, 2013.
- 187.** “Digital instability in an elastic meniscus,” J. Biggins, B. StYves, Z. Wei, E. Bouchaud, L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **110**, 12545-548, 2013.
- 188.** “Villification: how the gut gets its villi,” A. Shyer, T. Tallinen, N. Nerurkar, Z. Wei, E-S. Kim, D. Kaplan, C. Tabin, L. Mahadevan, *Science*, **342**, 212-218, 2013.
Perspective article in same issue of Science by Benjamin Simons.
- 189.** “How a tick gets under the skin,” D. Richter, F.M. Rainer, A. Spielman, L. Mahadevan, *Proceedings of the Royal Society, Biol. Sci. (B)*, **280**, 20131758, 2013.
Vast coverage in media including a video in New York Times, interviews in BBC, Frankfurter Alzeimer etc. – Halloween special !
- 190.** “Elastic Platonic shells,” E.H. Yong, D.R. Nelson and L. Mahadevan, *Physical Review Letters*, **111**, 177801, 2013.
- 191.** “Quantifying cell-generated mechanical forces within living embryonic tissues,” O. Campas, T. Mammoto, S. Hasso, R. Sperling, D. O’connell, A. Gibbs, R. Maas, D. Weitz, L. Mahadevan, D. Ingber, *Nature Methods*, **11**, 183-89, 2014.
- 192.** “Biased migration of confined neutrophil-like cells in asymmetric hydraulic environments,” H. Prentice-Mott, C-H Chang, L. Mahadevan, T. Mitchison, D. Irimia, J.V. Shah, *Proceedings of the National Academy of Sciences (USA)*, **110**, 21006-21110, 2013.
- 193.** “How a blister heals,” J. Longley, L. Mahadevan and M. Chaudhury, *Europhysics Letters*, **104**, 46002, 2013.
- 194.** “Flagellar dynamics of a connected chain of active, polar, Brownian particles,” R. Chellakot, A. Gopinath, L. Mahadevan and M. Hagan, *Journal of the Royal Society- Interface*, **11**, 20130884, 2014.
- 195.** “Collective thermoregulation in bee clusters, “ S. Ocko and L. Mahadevan,

Journal of the Royal Society- Interface, **11**, 20131033, 2014.

196. “*Bacillus* spores as building blocks for stimuli-responsive materials and nanogenerators, X. Chen, L. Mahadevan, A. Driks, O. Sahin, *Nature Nanotechnology*, **9**, 137-141, 2014.
197. “Intermittent locomotion as an optimal control strategy,” P. Paoletti and L. Mahadevan, *Proceedings of the Royal Society, Math. Phys. and Engg. Sci. (A)*, **470**, 20130535, 2014.
198. “Statistical mechanics and shape transitions in microscopic plates,” E. H. Yong and L. Mahadevan, *Physical Review Letters*, **112**, 048101, 2014.
199. “Dynamics of a water droplet under a transmission electron microscope,” F.Y. Leong, U. Mirsaidov, P. Matsudaira and L. Mahadevan, *Physics of Fluids*, **26**, 012003, 2014.
200. “Increased network interdependency leads to aging,” D. can Vural, G. Morrison and L. Mahadevan, *Physical Review E*, **89**, 022881, 2014.
201. “Lift-off instability during the impact of a drop on a solid surface,” J.M. Kolinski, L. Mahadevan, and S.M. Rubinstein, *Physical Review Letters* **112**, 1334501, 2014.
202. “Models for elastic shells with incompatible strains,” M. Lewicka, L. Mahadevan and M.R. Pakzad, *Proceedings of the Royal Society , Math. Phys. and Engg. Sci (A)*, **470**, 20130604, 2014.
203. “Density-gradient-free microfluidic centrifugation for analytical and preparative separation of nanoparticles,” P. Arosio, T. Müller, L. Mahadevan, and T.P.J. Knowles, *Nano Letters*, **14 (5)**, 2365-71, 2014.
204. “Continuum dynamics of elastocapillary coalescence and arrest,” Z. Wei and L. Mahadevan, *Europhysics Letters* **106**, 14002, 2014.
205. “The dynamics of sperm cooperation in a competitive environment,” H. Fisher, L. Giomi, H. Hoekstra, and L. Mahadevan, *Proceedings of the Royal Society Biological Sciences (B)*, **281**, 20140296, 2014.
Vast coverage in media including National Geographic, interviews in BBC, etc.
206. “Gyrification from constrained cortical expansion,” T. Tallinen, J-Y Chung, J.S. Biggins and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **111**, 12667-672, 2014.
Coverage in media including New Scientist, BBC, etc

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.
 Perspective article in same issue of Nature Physics by Friedrichs et al, press coverage in media.
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.
- Coverage in media including AIP (American Institute of Physics), Eureka-Alert etc
- 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*, **34**, 45-67, 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*, **12**, 1778-82, 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*, **12**, 926-30, 2016.

243. “Optimal switching between geocentric and egocentric strategies in navigation,” O. Peleg and L. Mahadevan, *Royal Society Open Science*, 3, 160128, 2017.
244. “Spontaneous exfoliation of a drying gel, J. Y. Chung, I. Regev and L. Mahadevan,” *Soft Matter*, **12**, 7855-62, 2016.
245. “Grasping with a soft glove: intrinsic impedance control in pneumatic actuators,” P. Paoletti, G. W. Jones and L. Mahadevan, *Journal of the Royal Society Interface* **14**, 20160867, 2017
246. “BMP signaling controls buckling forces to modulate looping morphogenesis of the gut,” N. L. Nerurkar, L. Mahadevan, and C.J. Tabin, *Proceedings of the National Academy of Sciences (USA)*, **114**, 2277-82, 2017.
247. “Controlled growth and form of precipitating microsculptures,” C. N. Kaplan, W. L. Noorduin, L. Li, R. Sadza, L. Folkertsma, J. Aizenberg, L. Mahadevan, *Science* **355**, 1395-99, 2017.
248. “On the growth and form of shoots,” R. Chelakkot and L. Mahadevan, *Journal of the Royal Society Interface*, **14**, 20170001, 2017.
249. “Avian egg shape: form, function and evolution,” M.C. Stoddard, E.H. Yong, D. Akkaynak, C. Sheard, J. Tobias, L. Mahadevan, *Science*, **356**, 1249-54, 2017.
Subject of various articles and interviews in popular press, e.g. articles in NYTimes, BBC, Sci. American, German, Dutch press etc
250. “Wrinkling instability of an inhomogeneously stretched viscous sheet,” S. Srinivasan, Z. Wei and L. Mahadevan, *Physical Review Fluids*, **2**, 074103, 2017.
251. “Controllable biomimetic birdsong,” *Journal of the Royal Society Interface*, **14**, 20170002, 2017.
252. “Optimal strategies for throwing accurately,” *Royal Society Open Science*, **4**, 170136, 2017.
253. “Controlling the roughness of Langmuir-Blodgett Monolayers,” G. Silverberg, ..., L. Mahadevan, C. Vecitis, *J. Phys. Chem.*, **121**, 5078-85, 2017.
254. “Rotation of an immersed cylinder sliding near a thin elastic coating,” R. Rallbandi, B. Saintyves, T. Jules, T. Salez, C. Schonkecker, L. Mahadevan and H. Stone, *Physical Review Fluids*, **2**, 074102, 2017.

- 255.** “Solar powered ventilation of African termite mounds,” S.A. Ocko, H. King, D. Andreen, P. Bardunias, J.S. Turner, R. Soar and L. Mahadevan, *Journal of Experimental Biology*, **220**, 3260-69, 2017.
- 256.** “Excitable dynamics and Yap-dependent mechanical cues drive the segmentation clock,” A. Hubaud, I. Regev, L. Mahadevan and O. Pourquie, *Cell*, **171**, 1-15, 2017.
Subject of various articles and interviews in popular press, e.g. Wired etc.
- 257.** “Growth patterns for shape-shifting elastic bilayers,” W. van Rees, E. Vouga and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, doi: 10.1073/pnas.1709025114, 2017.
- 258.** “Active elasto-hydrodynamics of vesicles in narrow, blind constrictions,” T.G. Fai, R. Kusters, J. Harting, C.H. Rycroft, and L. Mahadevan, *Physical Review Fluids*, **2**, 113601, 2017.
- 259.** “Morphogenesis one century after On Growth and Form,” T. Lecuit and L. Mahadevan, *Development*, **144**, 4197-98, 2017.
- 260.** “Organ size control via hydraulically-gated oscillations,” T Ruiz-Herrero, K. Alessandri, B. Gurchenko, P. Nassoy and L. Mahadevan, *Development*, **144**, 4422-27, 2017.
- 261.** “J.B. Keller (1923-2016),” A. Whitemore, G. Papanicolaou, D. Cohen, L. Mahadevan, B. Matkowsky, *Notices of the American Mathematical Society*, 606-15, June-July, 2017.
- 262.** “Mechanics and statistics of the worm-like chain,” A. Marantan and L. Mahadevan, *American Journal of Physics*, **86 (2)**, 86-94, 2018.
- 263.** “Topology, geometry and mechanics of Z-plasty,” E. Matsumoto, H. Liang, and L. Mahadevan, *Physical Review Letters*, **120**, 068101, 2018.
- 264.** “Competing failure modes in finite adhesive pads,” T. Cohen, C. U. Chan, L. Mahadevan, *Soft Matter*, DOI:10.1039/c7sm02378b, 2018.
- 265.** “Forward and inverse problems in the mechanics of soft filaments,” M. Gazzola, L. Dudte, A. McCormick, L. Mahadevan, *R. Soc. Open Science*, **5**: 171628, 2018.
- 266.** “Photosynthetic artificial organelles sustain and control ATP-dependent reactions in a protocellular system,” K-L. Lee, S-J. Park, K-A Lee, ... K. Shin, *Nature Biotechnology*, **36 (6)**, 530-35, 2018.

267. “Differential activity-driven instabilities in biphasic active matter,” C. Weber, C. Rycroft, L. Mahadevan, *Physical Review Letters*, **120**, 248003, 2018.
268. “Microtubules soften due to cross-sectional flattening,” E. Memet, F. Hilitski, M. Morris, W. Schwenger, Z. Dogic, L. Mahadevan, *eLife*, **7**, e34695, 2018.
269. “Reprogrammable Braille on an elastic shell,” J-Y. Chung, A. Vaziri, and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, doi: 10.1073/pnas.1722342115, 2018.
270. “Multifunctional ferrofluid-infused surfaces with reconfigurable multiscale topography,” W. Wang, J. Timonen, ... L. Mahadevan, J. Aizenberg, *Nature*, **559**, 77-81, 2018.
271. “A tissue-engineered scale model of the heart ventricle,” L. MacQueen, ... L. Mahadevan, W. Pu, K.K. Parker, *Nature Biomedical Engineering* doi: 10.1038/s41551-018-0271-5, 2018.
272. “The statistical shape of geometric reasoning,” Y. Hart, ... E. Spelke, L. Mahadevan, *Scientific Reports*, doi: 10.1038/s41598-018-30314-y, 2018.
273. “Generalized Erdos numbers for network analysis,” G. Morrison, L.H. Dudte, L. Mahadevan, *Royal Society Open Science*, 6:172281, 2018.
274. “Collective mechanical adaptation in honeybee swarms,” O. Peleg, J. Peters, M. Salcedo, L. Mahadevan, *Nature Physics*, **14**, 1193–1198, 2018.
Subject of commentary in *New Scientist*, BBC etc.
275. “Planar morphometrics using Teichmüller maps,” G.P-T. Choi, L. Mahadevan, *Proceedings of the Royal Society of London (A)*, **474**, 20170905, 2018.
276. “Meniscus instabilities in thin elastic layers,” J. Biggins, L. Mahadevan, *Soft Matter*, **14**, 7680-7689, 2018.
277. “Mechanics of biomimetic 4D printed structures,” W. van Rees, E. Matsumoto, S. Gladman, J. Lewis, L. Mahadevan, *Soft Matter*, **14**, 8771-79, 2018.
278. “Localized patterns in crushed conical shells,” O. Gottesman, E. Vouga, S. Rubinstein, L. Mahadevan, *Europhysics Letters*, **124**, 14005, 2018.
279. “Self-assembly-mediated release of peptide nanoparticles through jets across microdroplet interfaces,” A. Levin, ... T.P. Knowles, *ACS Applied Materials and Interfaces*, **10**, 27578-83, 2018.

- 280.** “Molecular control of macroscopic forces drives vertebrate hindgut elongation,” N. Nerurkar, C-H. Lee, L. Mahadevan, C. Tabin, *Nature*, **565**, 480-84, 2018.
Subject of commentary in New Scientist, BBC etc.
- 281.** “Collective ventilation in honeybee nests,” J. Peters, O. Peleg, L. Mahadevan, *Royal Society-Interface*, **16**, 20180561, 2019.
- 282.** “Morphogenesis of termite mounds,” S. Ocko, A. Heyde, L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, doi.org/10.1073/pnas.1818759116, 2018.
- 283.** “Rigidity percolation and geometric information in floppy origami,” S. Chen and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, doi.org/10.1073/pnas.1820505116, 2018.
- 284.** “A multiphase theory for spreading microbial swarms and films,” S. Srinivasan, C.N. Kaplan and L. Mahadevan, *eLife*, doi.org/10.7554/eLife.42697, 2019.
Subject of commentary in eLife, doi.org/10.7554/eLife.47019, 2019.
- 285.** “Spatial control of irreversible protein aggregation,” C. Weber, T. Michaels, L. Mahadevan, *eLife*, doi.org/10.7554/eLife.42315, 2019.
- 286.** “Spatio-temporal integration in plant tropisms,” Y. Meroz, R. Bastien and L. Mahadevan, *Royal Society Interface*, doi.org/10.1098/rsif.2019.0038, 2019.
- 287.** “Hydraulic control of mammalian embryo size and cell fate,” C.J. Chan, M. Costanzo, T. Ruiz-Herrero, G. Monke, R. Petrie, M. Bergert, A. Diz-Munoz, L. Mahadevan and T. Hiragi, *Nature*, **571**, 112-116, 2019.
- 288.** “Optimal control strategies for inhibition of protein aggregation,” T. Michaels, C. Weber, and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **116**, 14593-98, 2019.
- 289.** “Dynamics of growth and form in prebiotic vesicles,” T. Ruiz-Herrero, T. Fai, and L. Mahadevan, *Physical Review Letters*, **123**, 038102, 2019.
- 290.** “Evolution of avian egg shape: underlying mechanisms and importance of taxonomic scale,” M.C. Stoddard, C. Sheard, D. Akkaynak, E-H Yong, L. Mahadevan and J. Tobias, *Ibis*, doi:10.1111/ibi.12755, 2019.
- 291.** “The effect of step size on straight-line orientation,” L. Khaldy, O. Peleg, C. Tocco, L. Mahadevan, M. Byrne and M. Dacke, *Royal Society Interface*, doi.org/10.1098/rsif.2019.0181, 2019.

- 292.** “Programming shape using kirigami tessellations,” G.P-T. Choi, L. Dudte and L. Mahadevan, *Nature Materials*, **18**, 999-1004, 2019.
- 293.** “Controlled gliding and perching through deep-reinforcement-learning, G Novati, L. Mahadevan, P Koumoutsakos, *Physical Review Fluids*, **4**, 093902, 2019.
- 294.** “Random sequential adsorption of spheres on a cylinder,” E. Memet, N. Tanjeem, C. Greboval, V. Manoharan and L. Mahadevan, *Europhysics Letters*, **127**, 38004, 2019.
- 295.** “Genetic and mechanical regulation of intestinal smooth muscle development,” T. Huycke, B. Miller, H. Gill, N. Nerurkar, D. Sprinzak, L. Mahadevan and C. Tabin, *Cell*, **179**, 90-105, 2019.
- 296.** “Geometric localization in supported elastic struts,” T.C. Michaels, R. Kusters, A. Dears, C. Storm, J. Weaver and L. Mahadevan, *Proceedings of the Royal Society (A)*, **475**, 20190370, 2019.
- 297.** “Size control of the inner ear via hydraulic feedback,” K. Mosaliganti, I. Swinburne, C. Chan, N. Obholzer, A. Green, S. Tanksale, L. Mahadevan and S. Megason, *eLife*, e39596, 2019.
- 298.** “Shape-shifting structured lattices via multimaterial 4D printing,” J.W. Boley W. m Van Rees, C. Lissandrello, M Horenstein, R.L. Truby, A. Kotikians, J.A. Lewis, L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **116**, 20856-62, 2019.
- 299.** “Computational analysis of size, shape and structure of insect wings,” M. Salcedo, J. Hoffmann, S. Donoughe, L. Mahadevan, *Biology Open*, bio.04077, 2019.
- 300.** “Topology, geometry and mechanics of strongly stretched and twisted filaments: solenoids, plectonemes and artificial muscles,” N. Charles, M. Gazzola and L. Mahadevan, *Physical Review Letters*, **123**, 208003, 2019.
- 301.** “Biophysical principles of choanoflagellate self-organization,” B. Larson, T. Ruiz-Herrero, S. Lee, S. Kumar, L. Mahadevan and N. King, *Proceedings of the National Academy of Sciences (USA)*, **117**, 1303-11, 2020.
- 302.** “Poisson’s ratio and residual strain of freestanding ultra-thin films,” G. Cuddalorepatta, W. m Van Rees, L. Han, D. Pantuso, L. Mahadevan, J. Vlassak, *Journal of the mechanics and physics of solids*, **137**, 103821, 2020.

303. “Deterministic and stochastic control of kirigami topology,” S. Chen, G. Choi and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **117**, 4511-17, 2020.
304. “Rotation of a submerged finite cylinder moving down a soft incline,” B. Styves, B. Rallabandi, T. Jules, J. Ault, T. Salez, C. Schonecker, H. Stone and L. Mahadevan, *Soft Matter*, **16**, 4000-07, 2020.
305. “Mechanics and kinetics of dynamic instability,” T.C.T. Michaels, S. Feng, H. Liang, and L Mahadevan, *eLife*, **9**:e54077, 2020.
306. “Dynamic morphoskeletons in development,” M. Serra, S. Streichan, M. Chuai, C. Weijer and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **117**, 11444-49, 2020.
307. “Early warning signals in motion inference,” Y. Hart, M. Pashkam, and L. Mahadevan, *PLOS Computational Biology*, **16**, e1007821, 2020.
308. “Self-excited motions of volatile drops on swellable sheets,” A. Chakrabarti, G. Choi and L. Mahadevan, *Physical Review Letters*, **124**, 258002, 2020.
309. “Suspension jams in a leaky microfluidic channel,” *Physical Review Letters*, **125**, 044501, 2020.
310. “Elastohydrodynamic scaling law for heart rates,” E. Virost, V. Spandan, L. Niu, W. m Van Rees and L. Mahadevan, *Physical Review Letters*, **124**, 058102, 2020.
311. “Optimal control of aging in complex networks,” E. Sun, T. Michaels and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **117**, 20404-10, 2020.
312. “Mechanical basis for fibrillar bundle morphology,” T. Michaels, E. Memet, and L. Mahadevan, *Soft Matter* , **16**, 9306-18, 2020.
313. “Coordinated crawling via reinforcement learning,” S. Mishra, W. van Rees, L. Mahadevan, *Royal Society-Interface*, **17**: 20200198, 2020.
314. “Flow-driven branching in a frangible porous medium,” N. Derr, D. Fronk, C. Weber, A. Mahadevan, C. Rycroft and L. Mahadevan, *Physical Review Letters*, **125**, 158002, 2020.
315. “Mechanical coupling coordinates the co-elongation of axial and paraxial tissues in avian embryos,” F. Xiong, W. Ma, B. Benazeraf, L. Mahadevan, and O. Pourquie. *Dev. Cell.* **55**, 354–366, 2020.

- 316.** “Control of connectivity and rigidity in prismatic assemblies,” P. T. Choi, S. Chen and L. Mahadevan, *Proc. R. Soc. A* **476**: 20200485, 2020.
- 317.** “Models of benthic bipedalism,” F. Giardina and L. Mahadevan, *Royal Society-Interface*, **18**: 20200701, 2021.
- 318.** “Self-organized biotectonics of termite nests,” A. Heyde, L. Guo, C. Jost, G. Theralauz and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **118**, e2006985118, 2021.
- 319.** “Elastic-instability enabled locomotion,” A. Nagarkar, W-K. Lee, D. Preston, M. Netmiz, N. Deng, G. Whitesides, L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **118**, 8, e2013801118, 2021.
- 320.** “Static adhesion hysteresis in elastic structures,” E. Memet, F. Hilitski, Z. Dogic and L. Mahadevan, *Soft Matter*, **17**, 2704, 2021.
- 321.** “Puckering and wrinkling in a growing composite ring,” T. Michaels, R. Kuster, L. Mahadevan, *Proceedings of the Royal Society (A)*, **477**, 20200999, 2021.
- 322.** “An additive algorithm for origami design,” L. Dudte, G. Choi, L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **118**, e2019241118, 2021.
- 323.** “Wallpaper group kirigami,” L. Liu, G. Choi, L. Mahadevan, *Proceedings of the Royal Society (A)*, **477**, 2010161, 2021.
- 324.** “Feedback control of protein aggregation,” A. Dear, T. Michaels, T. Knowles, L. Mahadevan, *Journal of Chemical Physics*, **155**, 064102, 2021.
- 325.** “Genetic architecture of floral traits in bee and hummingbird-pollinated sister species of *Aquilegia* (columbine),” M. Edwards, G. Choi, N. Derieg, Y. Min, A. Diana, S. Hodges, L. Mahadevan, E. Kramer, E. Ballerini, *Evolution*, **75**, 2197, 2021.
- 326.** “Instabilities and patterns in a submerged jelling jet,” A. Chakrabarti, S al-Mosleh, L. Mahadevan, *Soft Matter*, **17**, 9745, 2021.
- 327.** “The cusp of the apple,” A. Chakrabarti, T. Michaels, S. Yin, E. Sun, L. Mahadevan, *Nature Physics*, **17**, 1125, 2021.
- 328.** “Compact reconfigurable kirigami,” G. Choi, L. Dudte, L. Mahadevan, *Physical Review Research*, **3**, 043030, 2021.

- 329.** “Totimorphic assemblies from neutrally stable units,” G. Chaudhury, S Ganga Prasath, E. Soucy, L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **118**, e2107003118, 2021.
- 330.** “Geometry and dynamics link form, function and evolution of finch beaks,” *Proceedings of the National Academy of Sciences (USA)*, **118**, e2105957118, 2021.
- 331.** “Effective elasticity and persistence of strain in active filament-motor assemblies,” A. Gopinath, R. Chelakkot, L. Mahadevan, <https://www.biorxiv.org/content/10.1101/2021.12.14.472714v1>, 2021.
- 332.** “Geometrical dynamics of edge-driven accretive surface growth,” N. Kaplan and L. Mahadevan, *Proceedings of the Royal Society (A)*, **478**, 20210638, 2022.
- 333.** “Euclid’s random walk: developmental changes in the use of simulation for geometric reasoning,” Y. Hart, L. Mahadevan and M. Dillon, *Cognitive Science*, **46**, e13070, 2022.
- 334.** “A buckling-ring oscillator for electronics-free, multimodal locomotion,” W-K Lee, D. Preston, M. Nemitz, A. Nagarkar, A. MacKeith, B. Gorissen, N. Vasios, V. Sanchez, K. Bertoldi, L. Mahadevan, G. Whitesides, *Science Robotics*, **7**, eabg5812, 2022.
- 335.** “Combing a double helix,” T. Plumb-Reyes, N. Charles, L. Mahadevan, *Soft Matter*, **18**, 2767-75, doi: 10.1039/d1sm01533h, 2022.
- 336.** “Thermoregulatory morphodynamics of honeybee swarm clusters,” J. Peters, O. Peleg, L. Mahadevan, *Journal of Experimental Biology*, **225**, doi:10.1242/jeb.2, 2022.
- 337.** “Rectified random cell motility as a mechanism for embryo elongation,” I. Regev, K. Gevourkian, A. Gupta, O. Pourquie, L. Mahadevan, *Development*, **149**, doi:10.1242/dev.199423, 2022.
- 338.** “Geometric control of topological dynamics in a singing saw,” S. Shankar, P. Bryde and L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **119**, e2117241119, 2022.
- 339.** “Geometry, analysis and morphogenesis: problems and prospects” M. Lewicka, L. Mahadevan, *Bulletin of the American Mathematical Society*, <https://doi.org/10.1090/bull/1765>, 2021.

- 340.** “The ecology and evolution of human-wildlife cooperation,” D. Cram, ..., C. Spottiswoode, *People and Nature*, doi: 10.1002/pan3.10369, 2022.
- 341.** “Safeguarding human-wildlife cooperation,” J. van der Wal, ... D. Cram, *Conservation Letters*, **15**, doi: 10.1111/conl.12886, 2022.
- 342.** “Direct force measurement and loading on developing tissues in intact avian embryos,” C. Chan, F. Xiong, A. Michaut, O. Pourquie, L. Mahadevan, *Development*, 150, dev201054 2022.
- 343.** “Prestrain-induced contraction in one-dimensional random elastic chains,” I. Adam, F. Begnoli, D. Fanelli, L. Mahadevan, P. Paoletti, *Physical Review E*, **105**, 065002, 2022.
- 344.** Activity-driven extracellular volume expansion drives vertebrate axis elongation,” A. Michaut, ... L. Mahadevan, K. Gevourkian, O. Pourquie, <https://www.biorxiv.org/content/10.1101/2022.06.27.497799v2>, 2022.
- 345.** “Statistics and topology of fluctuating ribbons,” E-H. Yong, F. Dary, L. Giomi, L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **119** (32) e2122907119, 2022.
- 346.** “Optimal policies for mitigating pandemic costs,” M. Serra, S. al-Mosleh, S. Ganga Prasath, V. Raju, S. Mantena, J. Chandra, S. Iams, L. Mahadevan, *Physical Biology*, **19**, doi.org/10.1088/1478-3975/ac7e9e, 2022.
- 347.** “Quasicrystal kirigami,” L. Liu, G. P-T. Choi, L. Mahadevan, *Physical Review Research*, **4**, 033114, 2022.
- 348.** “Modular representation and control of floppy networks,” S. Chen, F. Giardina, G.P-T. Choi, L. Mahadevan, *Proceedings of the Royal Society of London (A)*, **478**, 20220082, doi.org/10.1098/rspa.2022.0082, 2022.
- 349.** “Elastohydrodynamics of contact in adherent sheets,” S. Poulain, A. Carlson, S. Mandre, L. Mahadevan, *Journal of Fluid Mechanics*, **947**, A16, doi:10.1017/jfm.2022.553, 2022.
- 350.** “Optimal transport and control of active drops,” S. Shankar, V. Raju, L. Mahadevan, *Proceedings of the National Academy of Sciences (USA)*, **119**, 35, e2121985119, 2022.
- 351.** “Collective phototactic robotectonics,” F. Giardina, G. Prasath, L. Mahadevan, ArXiv, <https://arxiv.org/abs/2208.12373>, 2022

- 352.** “Active nematic defects and epithelial morphogenesis,” F. Vafa, L. Mahadevan, *Physical Review Letters*, **129**, 098102, 2022.
- 353.** “Muscular hydraulics drive larva-polyp morphogenesis,” A. Stokkermans, A. Chakrabarti, ..., L. Mahadevan, I. Ikmi, *Current Biology*, **32**, doi.org/10.1016/j.cub.2022.08.065, 2022.
- 354.** “Active entanglement enables stochastic grasping,” K. Becker, C. Teeple, ..., L. Mahadevan, R. Wood, *Proceedings of the National Academy of Sciences (USA)*, **119**, 42, e2209819119, 2022.
- 355.** “Detecting Lagrangian coherent structures from sparse and noisy trajectories,” S. Mowlavi, M. Serra, E. Maiorino, L. Mahadevan, *Journal of Fluid Mechanics*, **948**, A4, doi:10.1017/jfm.2022.652, 2022.
- 356.** “A continuous statistical-geometric frameworks for normative and impaired gaits,” K. Swaminathan, I. Tolkova, ... L. Mahadevan, *Royal Society – Interface*, **19**, 20220402, 2022.
- 357.** “Optimal shepherding and transport of flocks,” A. Ranganathan, A. Heyde, A. Gupta and L. Mahadevan, <https://arxiv.org/abs/2211.04352>, 2022.
- 358.** “Matrix viscoelasticity controls spatio-temporal tissue organization,” A. Elosegui-Artola, A. Gupta, ..., L. Mahadevan, D. Mooney, *Nature Materials*, **22**, 117-27, 2022.
- 359.** “Enhanced potency of aggregation inhibitors mediated by liquid condensates,” T. Michaels, L. Mahadevan and C. Weber, *Physical Review Research*, **4**, 043173, 2022.
- 360.** “An allometric prior enhances acoustic niche portioning signal,” E. Memet, B. Farrell and L. Mahadevan, *Royal Society – Interface*, **19**, 20220421. <https://doi.org/10.1098/rsif.2022.0421>, 2022.
- 361.** “Reconstruction of distinct vertebrate gastrulation modes in the chick embryo,” M. Chuai, G-S. Najera, M. Serra, L Mahadevan, C. Weijer, *Science Advances* **9** (1), eabn5429, 2023.
- 362.** “Rheomergy: collective behavior mediated by active flow-driven recruitment,” S. Ganga Prasath, L. Mahadevan, *Proceedings of the Royal Society of London (A)*, **479**: 20220470. <https://doi.org/10.1098/rspa.2022.047>, 2023.
- 363.** “Dynamics of cooperative excavation in ants and robots,” S. Ganga Prasath, S. Mandal, F. Giardina, J. Kennedy, V. Murthy, L. Mahadevan, *eLife* **11**, <https://doi.org/10.7554/eLife.79638>, 2023.

- 364.** “Combined measures of mimetic fidelity explain imperfect mimicry in a brood parasite-host system,” T. Dixit, ... L. Mahadevan and C. Spottiswoode, *Biology Letters*, 19, 20220538, 2023.
- 365.** “Explosive rigidity percolation in kirigami,” G. Choi, L. Liu and L. Mahadevan, *Proceedings of the Royal Society of London (A)*, 479: 20220798. <https://doi.org/10.1098/rspa.2022.0798>, 2023.
- 366.** “Zonal flows and reversals of cortically confined active suspensions,” J. Yodh, F. Giardina, S. Gokhale and L. Mahadevan, *Arxiv*, <https://arxiv.org/abs/2305.04708>, 2023.
- 367.** “Localization in musical steelpans,” P. Bryde and L. Mahadevan, *Proceedings of the Royal Society (A)* 479, 20220869, 2203.
- 368.** “Defect-mediated dynamics of coherent structures in active nematics,” M. Serra, L. Lemma, L. Giomi, Z. Dogic, L. Mahadevan, *Nature Physics* 19 (6), 1355-1361, 2023.
- 369.** “An additive framework for kirigami design,” L. Dudte, G.P-T. Choi, K. Becker, and L. Mahadevan, *Nature Computational Science* 3, 443-54, 2023.
- 370.** “Geometric mechanics of ordered and disordered kirigami,” G. Chaudhury, L. Niu, M. Lewicka, Q. Han, L. Mahadevan, *Proceedings of the Royal Society (A)*, 479, 20220822, 2023.
- 371.** “Image classification and cognition using contour curvature statistics,” A. Marantan, I. Tolkova and L. Mahadevan, *Proceedings of the Royal Society (A)* 479, 20220662, 2023.
- 372.** “Ethics inside the black box: integrating science and technology studies into engineering and public policy curricula,” C. Lawrence, S. Jasanoff, S. Evans, K. Raffel, L. Mahadevan, *Science and Engineering Ethics*, 29, 23-55, 2023.
- 373.** “Optimal strategies for kiiking: active pumping of a swing to inversion,” P. Bryde, I. Davenport, and L. Mahadevan, arXiv, <https://arxiv.org/abs/2308.06818>, 2023.
- 374.** “Statics and diffusive dynamics of surfaces driven by p-atic topological defects,” F. Vafa and L. Mahadevan, *Soft Matter* 19, 6652-6663, 2023.
- 375.** “Beak morphometry and morphogenesis across avian radiation,” S. al-Mosleh, G. Choi, G. Musser, H. James, A. Abzhanov and L. Mahadevan, *Proceedings of the Royal Society (B) Biological Sciences* 290, 20230420, 2023.

- 376.** “Optimal intercellular competition in senescence and cancer,” T. Michaels, L. Mahadevan, *Proceedings of the Royal Society (A)* **479** 20230204, 2023.
- 377.** “How to grow a flat leaf,” S. al-Mosleh, L. Mahadevan, *Physical Review Letters* **131**, 098401, 2023.
- 378.** “Evaporation-driven cellular patterns in confined hyperelastic hydrogels,” B. Styves, R. Pic, L. Mahadevan, I. Bischofberger, *Physical Review Letters* **131**, 118202, 2023.
- 379.** “Developing integrated rate laws of complex self-assembly reactions using Lie symmetry: Kinetics of A β 42, A β 40, and A β 38 co-aggregation,” A. Dear, G. Meisl, S. Linse, L. Mahadevan, Arxiv, <https://arxiv.org/abs/2309.15932>, 2023.
- 380.** “Contractility-induced phase separation in soft active solids,” S. Yin and L. Mahadevan, *Physical Review Letters* **131**, 148401, 2023.
- 381.** “Repeatable randomness, invariant properties, and the design of biological signatures of identity,” T. Dixit, KC Chen, MC Stoddard, L. Mahadevan, C. Town, C. Spottiswoode, *Evolution* **77** (10), 2224-33, 2023.
- 382.** Learning to write with the fluid rope trick,” G. Chaudhury, S. Christ, A. Hart and L. Mahadevan, *Soft Matter* **19**, 8329-8336, 2023.
- 383.** “Optimal control of interacting active particles on complex landscapes,” S. Sinha, V. Krishnan, L. Mahadevan, Arxiv, <https://arxiv.org/abs/2311.17039>, 2023.
- 384.** “Optimal switching strategies for navigation in stochastic settings,” F. Mori, L. Mahadevan, Arxiv, <https://arxiv.org/abs/2311.18813>, 2023.
- 385.** “A mechanochemical model recapitulates distinct vertebrate gastrulation modes,” M. Serra, G-S. Najera, M. Chuai, V. Spandan, C. Weijer, L. Mahadevan, *Science Advances* **9** (49), DOI: 10.1126/sciadv.adh8152, 2023.
- 386.** “3D hydrogel encapsulation regulates nephrogenesis in kidney organoids,” B. Nerger, S. Sinha, N. Lee, M. Cheriyan, P. Bertsch, C. Johnson, L. Mahadevan, J. Bonventure, D. Mooney, *Advanced Materials* **36** (DOI: 10.1002/adma.202308325), 202308325, 2024.
- 387.** “The sex of organ geometry,” L. Blackie, P. Gaspar, S. mosleh, O. Lushchak, L. Kong, Y. Jin, A. Zeilinska, B. Cao, A. Mineo, B. Silva, T. Ameku, S. Lim, Y.

- Mao, L. Prieto-Godino, T. Schobor, M. Varela, L. Mahadevan, I. Miguel-Aliaga, *Nature* 630, 392-400, 2024.
- 388.** “The developmental mechanics of divergent buckling patterns in the chick gut,” H. Gill, S. Yin, J. Lawlor, T. Huycke, N. Nerurkar, C. Tabin, L. Mahadevan, *Proceedings of the National Academy of Sciences* 121, e2310992121, 2024.
- 389.** “Active hydraulics and odd elasticity of muscle fibres,” S. Shankar, L. Mahadevan, *Nature Physics*, **20**, 1501–1508, 2024.
- 390.** “A roadmap towards the synthesis of Life,” C. Kreibish, ..., J. Boekhoven, *chemRxiv*, <https://chemrxiv.org/engage/chemrxiv/article-details/668b9aaf01103d79c55e9fab>, 2024.
- 391.** “Hox gene activity directs physical forces to differentially shape chick small and large intestinal epithelia,” H. Gill, S. Yin, N. Nerurkar, J. Lawlor, ..., L. Mahadevan, *Developmental Cell*, **59**, 1–16, 2024.
- 392.** “Isometric immersions with rectifiable geodesics,” Q. Han, M. Lewicka, L. Mahadevan, *Rocky Mountain J. of Math* 54 (4), 1023-55, 2024.
- 393.** “Non-planar snake gaits: from stigmatic-starts to sidewinding,” N. Charles, R. Chelakkot, M. Gazzola, B. Young and L. Mahadevan, in press, *Nature Physics*, 2024.
- 394.** “Approximate Lie symmetries and singular perturbation theory,” A. Dear, L. Mahadevan, Arxiv, <https://arxiv.org/abs/2309.05038>, in press, *Proceedings of the Royal Society (A)*, 2024.
- 395.** “Structural dynamics of contractile injection systems,” N. Toyonaga, L. Mahadevan, *arXiv*, <https://arxiv.org/abs/2407.10291>, in press, *Biophysical Journal*, 2024.
- 396.** “Phase transitions in rolling of irregular cylinders and spheres,” D. Qian, Y. Jung, L. Mahadevan, *arXiv*, <https://arxiv.org/abs/2407.19861>, in press, *Proceedings of the National Academy of Sciences*, 2024.
- 397.** “Controlling moving interfaces in solid state batteries,” S. Mosleh, E. Annevelink, V. Viswanathan, L. Mahadevan, *arXiv*, <https://www.arxiv.org/abs/2408.03175>, 2024.
- 398.** “Data-driven quasiconformal morphodynamic flows,” S. Mosleh, G. PT. Choi, L. Mahadevan, *arXiv*, <https://arxiv.org/abs/2404.07073>, 2024.

399. “Textile hinges enable extreme properties of mechanical metamaterials,” A. Meeussen, G. Bordiga, A. Chang, B. Spoettling, K. Becker, ..., L Mahadevan, *arXiv*, <https://arxiv.org/abs/2408.16059>, 2024.
400. “Additive design of 2-dimensional scissor lattices,” N. Toyonaga, L. Mahadevan, *arXiv*, <https://arxiv.org/pdf/2410.14124>, 2024.
401. “Hamiltonian bridge: A physics-driven generative framework for targeted pattern control,” *arXiv*, <https://arxiv.org/pdf/2410.12665>, 2024.

Selected Invited Lectures (of more than 400 since 1995)

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 by 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.

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

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.

February 2016, “Morphogenesis,” Plenary lecture, Swiss Life Sciences Meeting, Lausanne, Switzerland.

March 2016, Reiss Memorial Lectures, “Shape”, Applied Mathematics, Northwestern University, Evanston, IL

April 2017, Smith Lecture, “Shape: mathematics, physics and biology,” Beckman Institute, Urbana, IL.

May 2018, Elsevier Lecturer in Mechanics, “Programming shape,” Georgia Tech., Atlanta, GA.

August 2018, Inaugural Soo-Ik Oh Lecture, “Programming shape,” Seoul National University, Seoul, S. Korea.

August 2018, Distinguished Presidential Lecture, “Origami: art, science and technology,” Okinawa Institute of Science and Technology, Okinawa, Japan.

May 2019, NIH Distinguished Lecture, “Geometry and the brain,” NIH, Bethesda, MD.

June 2019, EMBL Distinguished Lecture, “Guts and brains: molecules, mechanics and morphogenesis,” Heidelberg, Germany.

October 2019, CZI Biohub meeting on QBIO, “Aging in complex networks and multicellular organisms,” Berkeley, CA.

August 2020, Plenary Lecture, “Dynamic morphoskeletons,” Annual Meeting of the Society for Developmental Biology.

May 2023, Dashen Memorial Lecture in Theoretical Physics, UC San Diego, “Morphogenesis: Geometry, Physics and Biology.”

June 2023, Niels Bohr Public Lecture, Niels Bohr Institute, Copenhagen, Denmark, “Wisdom of the swarm: from bugs to bots.”

June 2023, (Inaugural) Willis Lamb Lectures in Theoretical Physics, Department of Physics, Oxford University, “Wisdom of the swarm,” “Morphogenesis: geometry, physics and biology,” “Morphogramming: geometry, physics and technology.”

Mentoring

I have been fortunate to have learnt from and worked with ~40 graduate students (10 from under-represented groups), ~80 postdoctoral fellows (20 from under-represented groups) with an outward-looking view of the mathematical and physical sciences, and engineering. We use /create tools from a range of areas encompassing experiment, theory and computation to study real problems where we can be wrong! 80 former members of my group are now faculty in a range of STEM departments, e.g. physics, biology, mathematics, chemistry, computer science, geophysics, psychology, plant science, mechanical engineering, chemical engineering, bioengineering and medicine, including 5 current faculty at MIT, and 5 current faculty at Cambridge University. Others have gone on to a range of diverse careers, e.g. science policy, private industry, defense labs, financial consulting, startups, helping indigenous groups, and monkhood.

Since 2017, I also have had the privilege and responsibility to live and learn with 450 undergraduate students, and a staff of ~50, as [Faculty Dean](#) (along with Dr. Amala Mahadevan) of Mather House, one of 12 undergraduate houses at Harvard College. Our vision for the house has crystallized around two themes: fostering every individual's many inner (mental) worlds, and emphasizing sustainable community living in our single inter-connected outer (environmental) world. We have enabled this using inclusive programming for our diverse student body, mental well-being initiatives at multiple levels in the house and University, and recently launched “Measure Mather,” a three year program to inform and empower students to change our resource consumption footprint. In addition to daily interactions with much of the community, I advise ~25 undergraduate students closely, and have guided 10 undergraduate theses in my time at Mather, and mentored many more, including two Rhodes Scholars.

Doctoral theses supervised (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 Professor of Mechanical Engineering, KAIST, Korea.

Doctoral theses supervised (at Cambridge)

1. Skotheim, J. “Some poroelasticity problems in biomechanics,” 2004. Currently Professor of Biology, 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 Professor of Mathematics, Oxford University.

Doctoral theses supervised (at Harvard)

1. Hohlfeld, E. “Creases, point bifurcations and the spontaneous breakdown of scale invariance,” 2008. Currently working in private industry.
2. Guo, Z. “Some problems in biomechanics and neurobiology,” 2010. Currently Assistant Professor of Neurobiology, Tsinghua University, Beijing, China.
3. Mani, M. “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, Weizmann Institute, Israel.
6. Kolinksi, J. "Interfacial dynamics," Dec. 2013. Currently Assistant Professor of Engineering, EPFL, Lausanne, CH.
7. Wei, Z. "Discrete and continuum mechanics," Aug. 2014. Currently at Goldman Sachs.
8. McCormick, A. "Discrete differential geometry and physics of curves," Aug. 2013. Currently at Google.
9. Ocko, S. "Active porous media," Aug. 2015. Currently in private industry.
10. Isakov, I. "Studies in collective action," May 2016. Currently in private industry.
11. Dudte, L. "Origami mathematics and mechanics," May 2017. Currently in private industry.
12. Marantan, A. "Probabilistic learning about the physical world," May 2017. Currently in private industry.
13. Salcedo, M. "Morphometrics and dynamics of insect wings," May 2018. Currently postdoctoral fellow at Virginia Tech.
14. Peters, J., "Collective behavior in honey bees," May 2018. Currently postdoctoral fellow at Cornell University.
15. Fronk, D. "Channel formation in active systems," May 2018. Currently postdoctoral fellow at UC Riverside.
16. Memet, E. "Parking, packing, puckering and peeling in small soft systems," May 2019, Currently in private industry.
17. Choi, G. "Morphometrics and morphogenesis," May 2020. Now Assistant Professor of Mathematics, CUHK, Hong Kong.
18. Mishra, S. "Problems in free surface hydrodynamics and locomotion," Sep 2020. Currently in private industry.
19. Plumb-Reyes, T. "Experiments on topological mechanics," Sep 2021. AAAS Fellow in Science and Public Policy.

20. Heyde, A. “Studies in morphogenesis and dysmorphogenesis,” June 2021. Schmidt Science Fellow, Applied Physics, Stanford University.
21. Chen, S. “Statistical mechanics and geometry,” June 2021. Currently in private industry.
22. Charles, N. “Topological mechanics,” Dec 2021. Currently a novitiate monk.
23. Kennedy, J. “Studies in jamming architecture,” Jan 2023. Currently in local govt.
24. Bryde, P. “Geometry, localization, and acoustics” June 2023. Currently a postdoc in Mathematics, MIT.
25. Niu, L. “Problems in geometry and physics,” Jan 2023. Currently a postdoc in Physics at U. Penn, Physics.
26. Yodh, J. “Flow occlusion in nature and technology,” June 2023. Currently a postdoc in Chem Engg. at Princeton.
27. Ranganathan, A. “Collective behavior in animals and humans,” June 2023. Currently in private industry.
28. Tolkova, I. “Signal processing, acoustics and conservation biology,” March 2023, Rose Postdoctoral Fellow, Ornithology, Cornell University.
29. Davenport, I., “Learning Physics,” June 2023. Currently in private industry.
30. Toyonaga, N., “Scissors across scales,” started in 2020.
31. Liu, L., “Computational problems in shape and motion,” started in 2022.
32. McKinney, M., “Morphogenetic basis for structural color,” started in 2022.
33. Dionne, A., “Studies in active matter,” started in 2022.
34. Lopez, A., “Inverse problems,” started in 2023.
35. Fernandez del Castille, J.C. , “Pattern formation in neuroscience,” started in 2024.

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. Topic: Experimental nonlinear physics. September

1998- December 1999. Currently Professor of Mechanical Science and Engineering, KAUST, Saudi Arabia.

3. Dr. A. Upadhyaya. Topic: Pattern formation in adherent and motile cells. January 2000-December 2001. Currently Professor of Physics, University of Maryland.
4. Professor M. Ben Amar, Universite de Paris VI, sabbatical 1998-99.
5. Professor Y. 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 Bioengineering, Adolfo Ibanez University, Chile.
3. Dr. E. Cerda, Topic: Elastic instabilities. July 2001 – Dec. 2003. Currently, Professor of Physics, U. Santiago de Chile, Chile.
4. Dr. M. Adda-Bedia. CNRS, LPS, ENS, Paris, France. February 2002 – February 2003. Currently Charge de Recherche, Laboratoire de Physique Statistique, Ecole Normale de Lyon.
5. Dr. Y. Forterre, Topic: Experimental soft matter physics, Aug. 2002 – present. Currently Charge de Recherche, IUSTI, Universite de Provence, Marseilles.

Post-doctoral associates (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 Prof. of Physics at the Univ. of Nice, France.
3. Dr. A. Ghatak, Topic: Experimental studies on adhesion, March 2002 – May 2004. Currently 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 Prof. of Mechanical Engineering at Seoul National University, Korea.
7. Dr. A. Kabla, Topic: Physical mechanics, Dec 2004 – Jan 2007. Currently Prof. of Engineering, Cambridge University, UK..
8. Dr. A. Gopinath, Topic: Physiology and materials, Jan 2005 – Aug 2007. Currently Asst Prof. of Bioengineering, UC Merced.
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, Aug. 2005- July 2006. Currently Prof. of Physics, EPFL, Lausanne, CH.
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 Heterog, ESPCI, Paris, France.
14. Dr. S. Mandre, Topic: Elastohydrodynamics. Aug. 2006 –June 2010. Currently Prof. of Mathematics, U. Warwick, UK.
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 Prof. of Engineering, Cambridge University, UK.
17. Dr. O. Campas, Topic: Biophysics of morphogenesis, Oct 2007 –2011. Currently Director, Physics of Life Cluster, MPI-CBG and TU Dresden.
18. Dr. M. Venkadesan, Topic: Human biomechanics, Oct 2008 – Dec 2010. Currently Prof. of Engineering, Yale University, CT.
19. Dr. A. Slim, Topic: Flow in and deformation of porous media, Oct 2009 – Jan 2011. Currently Prof. of Mathematics and Geosciences, Monash University, Australia.

20. Dr. K. Kamrin, Topic: Plasticity in thin geometries (NSF fellow), Sep 2008-Jan 2010. Currently Prof. of Mech. Engg., MIT.
21. Dr. G. Morrison, Topic: Statistical mechanics of networks, Oct. 2008 – May 2013. Currently Asst. Prof. of Physics, U. Houston, TX.
22. Dr. M. Bandi, Topic: Soft matter physics, Oct. 2009 – Oct. 2011. Currently Prof. of Physics, Okinawa Institute of Science and Technology, Japan.
23. Dr. L. Giomi, Topic: Geometry and statistical physics, July 2010 – Aug 2012. Currently Prof. of Physics, Lorentz Institut, Leiden, Amsterdam.
24. Dr. A. Concha, Topic: Fluid physics and locomotion, Mar 2010 – May, 2012. Currently Assoc. Prof. of Physics, U. Adolfo Ibanez, Chile.
25. Dr. P. Paoletti, Topic: Optimization and control in biological systems, July 2010 – July 2012. Currently Assoc. Prof. of Engineering, U. Liverpool, UK.
26. Dr. P. Mellado, Topic: Collective dynamics in fluid and spin systems, Aug 2010 – May 2012. Currently Assoc. Prof. of Physics, U. Adolfo Ibanez, Chile.
27. Dr. S. Gerbode, Topic: Tendril and flower morphogenesis, Sep 2010 – Nov. 2011. Currently Assoc. 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 Prof. of Mathematics, U. Manchester, UK.
30. Dr. J. Biggins, Topic: Elasticity and morphogenesis, Oct 2010 – Oct 2012. Currently Assoc. Prof. of Engg., Cambridge University, UK.
31. Dr. D. Vural, Topic: Dynamics of and in complex networks, July 2012 – December 2013. Currently Asst. Prof. of Physics, U. Notre Dame, IN.
32. Dr. E. Boksbojm, Topic: Statistical mechanics of nonequilibrium systems, Sep 2012 – Aug 2013. Currently in private industry.
33. Dr. N. Kaplan, Topic: Multiphase flow, Oct 2012 – August 2016. Currently, Asst. Prof. of Physics, Virginia Tech.
34. Dr. H. 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. J.Y. Chung, Topic: Active soft matter, Oct. 2012 – Sep. 2017. Currently at Seoul National University, Korea.
36. Dr. E. Vouga, Topic; Discrete differential geometry and mechanics, Oct 2013 – Aug 2014. Currently Asst. Prof. of Comp. Sci., U-T. Austin, TX
37. Dr. A. Carlson, Topic: Interfacial fluid mechanics, Sep 2012 – Aug 2015. Currently Asst. Prof. of Mathematics, U. Oslo, Norway.
38. Dr R. Bastien, Topic: Proprioceptive biophysics, Nov. 2012 – Dec 2014. Currently postdoc at Max Planck Institute- Cologne.
39. Dr. Y. Meroz, Topic: Statistical mechanics of decision making in cells and organisms, Oct 2013 –Aug 2017. Currently Asst. Prof. of Plant Sciences, Tel Aviv University, Israel.
40. Dr. R. Chelakkot, Topic: Physics and dynamics of strings and ropes, Sep 2013 – May 2015. Currently Assoc. Prof. of Physics, IIT- Mumbai, India.
41. Dr. M. Gazzola, Topic: Neurodynamics of swimming, Oct. 2013 – July 2016. Currently Asst. Prof. of Mech. Engg., U. Illinois, Urbana-Champaign.
42. Dr. T. Ruiz, Topic: Cell biophysics, Oct 2013 – Jan. 2017. Currently in industry.
43. Dr. O. Peleg, Topic: Collective dynamics in biophysics, Jan 2014 – Nov 2017. Currently Asst. Prof. of Computer Science, U. Colorado, Boulder.
44. Dr. B. Styves, Topic: Collective dynamics of robots, Jan 2014 – September 2016. Currently postdoc at U. Chicago.
45. Dr. I. 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. E. Matsumoto, Topic: Geometry and mechanics of soft matter, Sep 2014- July 2016. Asst. Prof. of Physics, Georgia Tech.
47. Dr. Siddharth Srinivasan, Topic: Hydrodynamics of thin viscous sheets and biofilms, Jan 2015 – Jun 2018. Currently at Apple, CA.
48. Dr. T. Cohen, Topic: Elastic instabilities, Nov. 2015 – Oct 2016. Currently Asst. Prof. of Mechanical, and Civil and Environmental Engg., MIT, Cambridge, MA
49. Dr. W.v. Rees, Topic: Inverse problems in 4d printing, May 2015 – Oct 2017. Currently Asst. Prof. of Mechanical Engg., MIT, Cambridge, MA

50. Dr Y. Hart, Topic: Psychophysics, Aug 2015-July 2019. Currently Asst. Prof. of Psychology, Hebrew University, Jerusalem, Israel.
51. Dr C.U. Chan, Topic: Chemotaxis of cells, February 2016 – May 2019. Currently researcher at A*Star for Cell and Developmental Biology, Singapore.
52. Dr. M. Lingam, Topic: Mathematics of active fluids, Nov 2016 – June 2017. Currently Asst. Prof. of Physics, Florida State.
53. Dr. C. Weber, Topic: Active matter instabilities, March 2016 – February 2018. Currently Professor of Physics, Augsburg, Germany.
54. Dr. T. Michaels, Topic: Self assembly of filamentous structures, Aug. 2016 – Aug. 2019. Currently Asst. Prof. of Biology, ETH, Zurich, Suisse.
55. Dr. M. Serra, Topic: Dynamical systems in development, Aug. 2017 – Aug 2020. Currently Asst Prof. of Physics, UCSD.
56. Dr. V. Spandan, Topic: Neuroscience and physics, Aug. 2018 – Aug. 2020. Presently in private industry.
57. Dr. A. Gupta, Topic: Developmental biophysics, Sep. 2018 – Mar 2020. Currently Asst Prof. of Physics, IIT Hyderabad, India.
58. Dr. A. Chakrabarti, Topic: Instabilities in soft matter and biology, June 2017 – Aug 2021. Currently at Schlumberger Research, Cambridge, USA.
59. Dr. G. Chaudhary, Topic: Soft matter, Aug. 2019 – Dec 2021. Currently at Apple.
60. Dr. S. al-Mosleh, Topic: Geometrical and topological morphometrics, Aug. 2018 – July 2023. Currently Asst. Prof. of Natural Science, U. Maryland Eastern Shores.
61. Dr. F. Giardina, Topic: Robotics, Sep. 2018 – Aug 2022. Currently at Swiss Bank.
62. Dr. V. Raju, Topic: Control theory in neuroscience and robotics, Aug. 2019 – Aug 2022. Currently a postdoc at NYU.
63. Dr. A. Radja, Topic: Morphogenesis in plants and animals, Aug. 2019 – May 2022. Currently Asst. Prof. of Physics, Bryn Mawr.
64. Dr. G. Prasath, Topic: Physics of social insects, Aug. 2019 – Dec. 2022. Currently Asst. Prof. of Engg., IIT-Madras.
65. Dr. S. Shankar, Topic: Active matter, Aug. 2019 – June 2023. Currently Asst. Prof. of Physics, U. Michigan.

66. Dr. K. Becker, Topic: Soft functional materials, Aug. 2022 – June 2023. Currently Asst. Prof. of Mechanical Engineering, MIT.
67. Dr. E. Rantsiou, Topic: Conservation acoustics, Oct 2022 – Dec 2023. Currently in industry.
68. Dr. C. Liu, Topic: Collective shape and motion in active systems, Nov 2022 – May 2023. Currently postdoc in Bioengineering at UC Berkeley.
69. Dr. S. Yin, Topic: Mechanics and morphogenesis, May 2022 – Dec 2023. Currently postdoc in MPIPKS-Dresden, Germany.
70. Dr. Y. Jung, Topic: Topological mechanics, June 2021 – present.
71. Dr. S. Sinha, Topic: Tissue morphogenesis, Feb 2022 – present.
72. Dr. V. Krishnan, Topic: Insect and robot navigation, Jan 2022 – present.
73. Dr. K. Bowal, Topic: Collective behavior across scales, May 2022 – present.
74. Dr. J. Tauber, Topic: Branching morphogenesis, Oct 2022 – present.
75. Dr. M. He, Topic: Soft interfaces and suspensions, July 2023 – Nov 2024.
76. Dr. L. Hoffman, Topic: Morphogenesis: shape and regulation, Oct 2023 – present.
77. Dr. P. Kaneelil, Topic: Fluid dynamics for sustainability, Jan 2024 – present.
78. Dr. M. Nejad, Topic: Active matter, Jan 2024 – present.
79. Dr. D. Palmer, Topic: Discrete differential geometry, Sep 2023 – present.