

# C. Curriculum Vitae: J. M. Schwarz

## Contact Information

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Google Scholar: J. M. Schwarz, Physics

## Education

- 9/94 – 8/01 **Harvard University** **Cambridge, MA**  
M.A. in physics, March 2002  
Ph.D. in physics, March 2002  
Thesis Title: Depinning with Elastic Waves: Criticality, Hysteresis, and even Pseudohysteresis  
Advisor: Prof. Daniel S. Fisher
- 9/88 – 12/89, 1/91-6/94 **University of Maryland, College Park** **College Park, MD**  
B.A. in history; B.S. in physics  
High honors in history and in physics; magna cum laude

## Employment (includes brief summary of teaching and research expertise)

- 5/21 – present **Syracuse University** **Syracuse, NY**  
*Professor:* Studying rigidity and shape transitions in living and nonliving matter and brain computation and teaching TBD
- 5/16 – 5/21 **Syracuse University** **Syracuse, NY**  
*Associate Professor:* Modeling the mechanics and morphology of living and non-living matter via particle packings, spring networks, and vertex models, etc. and teaching PHY101: Major Concepts in Physics I, PHY216: Electromagnetism for Physics Majors, PHY661: Quantum Mechanics I, PHY731: Thermodynamics and Statistical Mechanics, PHY315: Biophysics
- 5/11 – 5/16 **Syracuse University** **Syracuse, NY**  
*Tenured Assistant Professor:* Modeling the mechanics and morphology of living and nonliving matter via rigidity percolation, liquid crystal physics, fluid membrane physics, etc. and also studied correlated classical and quantum percolation inspired by glassy and jamming systems and teaching PHY101: Major Concepts in Physics I, PHY216: Electromagnetism for Physics Majors, PHY661: Quantum Mechanics I, PHY731: Thermodynamics and Statistical Mechanics, PHY576: Solid State Physics, PHY831: Statistical Field Theory; Please note that this position is a highly unusual one and presumably the consequence of a theoretical physicist of a particular type challenging the establishment. Schwarz wears this badge proudly.
- 9/05 – 5/11 **Syracuse University** **Syracuse, NY**  
*Assistant Professor:* Studying correlated classical and quantum percolation inspired by glassy and jamming systems and modeling the morphology and mechanics of actin cytoskeletal networks and teaching PHY731: Thermodynamics and Statistical Mechanics, PHY307: Science and Computers, PHY101: Major Concepts in Physics I, PHY567: Quantum Mechanics I

9/03 – 9/05	<p><b>University of Pennsylvania/University of California at Los Angeles</b>  <b>Philadelphia, PA/ Los Angeles, CA</b></p> <p><i>Post-doc:</i> Worked with Prof. Andrea Liu on jamming and the kinetics of actin self-assembly</p>
10/01 – 8/03	<p><b>Syracuse University</b> <span style="float: right;"><b>Syracuse, NY</b></span></p> <p><i>Post-doc:</i> Worked with Profs. Cristina Marchetti and Alan Middleton on viscoelastic and plastic depinning transitions, spin glasses, and computational complexity</p>
9/94 – 9/01	<p><b>Harvard University</b> <span style="float: right;"><b>Cambridge, MA</b></span></p> <p><i>Research Assistant:</i> Worked on dynamical critical phenomena, as well as mesoscopics, with Prof. Daniel S. Fisher</p> <p><i>Teaching:</i> Courses ranging from introductory physics for majors and non-majors to undergraduate quantum mechanics and statistical mechanics</p>
1/91 – 6/94	<p><b>University of Maryland, College Park</b> <span style="float: right;"><b>College Park, MD</b></span></p> <p><i>Undergraduate Researcher:</i> Worked on nuclear theory, more precisely, a quantum mechanical approach to a high energy scattering phenomenon known as color transparency, as well as X-ray crystallography</p>

## Publications

- (1) J. M. Schwarz and Ron Maimon, “First-passage time exponent for higher-order random walks: Using Levy flights,” *Phys. Rev. E* **64**, 16120 (2001); arXiv:cond-mat/0103220.
- (2) J. M. Schwarz and Daniel S. Fisher, “Depinning with dynamic stress transfer: Mean field theory,” *Phys. Rev. Lett.* **87**, 96107 (2001); arXiv:cond-mat/0012246.
- (3) J. M. Schwarz and Daniel S. Fisher, “Depinning with dynamic stress overshoots: A hybrid of critical and pseudohysteretic behavior,” *Phys. Rev. E* **67**, 021603 (2003); arXiv:cond-mat/0204063.
- (4) M. Cristina Marchetti, A. Alan Middleton, Karl Saunders and J. M. Schwarz, “Driven depinning of strongly disordered media and anisotropic mean field limits,” *Phys. Rev. Lett.* **91**, 107002 (2003); arXiv:cond-mat/0302275.
- (5) Ron Maimon and J. M. Schwarz, “Continuous depinning transition with an unusual hysteresis effect,” *Phys. Rev. Lett.* **92**, 255502 (2004); arXiv:cond-mat/0301495.
- (6) Karl Saunders, J. M. Schwarz, M. Cristina Marchetti, and A. Alan Middleton, “Mean-field theory of collective transport with phase slips,” *Phys. Rev. B* **70**, 024205 (2004); arXiv:cond-mat/0302275.
- (7) J. M. Schwarz and A. Alan Middleton, “Percolation of unsatisfiability in finite dimensions,” *Phys. Rev. E* **70**, 035103 (2004); arXiv:cond-mat/0309240.
- (8) A. B. Harris and J. M. Schwarz, “ $1/d$  expansion for  $k$ -core percolation,” *Phys. Rev. E* **72**, 046123 (2005); arXiv:cond-mat/0505329.
- (9) J. M. Schwarz, A. J. Liu, and L. Q. Chayes, “The onset of jamming as the sudden emergence of the infinite  $k$ -core cluster,” *Europhys. Lett.* **73**, 560 (2006); arXiv:cond-mat/0410595.
- (10) A. Teplyakov, K. Lim, P. P. Zhu, G. Kapadia, C. C. H. Chen, J. Schwarz, A. Howard, P. T. Reddy, A. Peterkofsky, and O. Herzberg, “Structure of phosphorylated enzyme I, the phosphoenolpyruvate: Sugar phosphotransferase system sugar translocation signal protein,” *PNAS* **103**, 16218 (2006). [Note: Schwarz’s contribution was made a number of years ago during first hands-on-experience with science working in an X-ray crystallography group led by Herzberg.]

- (11) M. Jeng and J. M. Schwarz, “Comment on jamming percolation and glass transitions in lattice models.”, *Phys. Rev. Lett.* **98**, 129601 (2007); arXiv:cond-mat/0612484.
- (12) A. Gopinathan, K.- C. Lee, J. M. Schwarz, and A. J. Liu, “Branching, capping, and severing in dynamic actin structures”, *Phys. Rev. Lett.* **99**, 058103 (2007); cond-mat/0703409.
- (13) M. Jeng and J. M. Schwarz, “On the study of jamming percolation”, *J. Stat. Phys.* **131**, 575 (2008); arXiv:0708.0582.
- (14) M. Jeng, M. Bowick, W. Krauth, J. M. Schwarz, and X. Xing, “Vacancy diffusion in the triangular lattice dimer model”, *Phys. Rev. E* **78**, 021112 (2008); arXiv:0801.4718.
- (15) M. Jeng and J. M. Schwarz, “On the study of force-balance percolation”, *Phys. Rev. E* **81**, 011134 (2010); arXiv:0806.1552.
- (16) M. Jeng, S.-Y. Xu, E. Hawkins and J. M. Schwarz, “On the nonlocality of fractional Schrodinger equation”, *J. Math. Phys.* **51**, 062102 (2010); arXiv:0810.1543.
- (17) L. Cao and J. M. Schwarz, “Quantum  $k$ -core conduction on the Bethe lattice”, *Phys. Rev. B* **82**, 104211 (2010); arXiv:1005.4673.
- (18) K.-C. Lee, A. Gopinathan, and J. M. Schwarz, “Modelling *in vitro* filopodia formation”, *J. Math. Biol.* **63**, 229 (2011); arXiv:0909.2594.
- (19) D. Quint and J. M. Schwarz, “Optimal orientation in cytoskeletal networks”, *J. Math. Biol.* **63**, 735 (2011); arXiv:1008.1091.
- (20) S.-Y. Xu and J. M. Schwarz, “Vicious accelerating walkers”, *Europhys. Lett.* **96**, 50009 (2011); arXiv:1108.2490.
- (21) M. Das, D. A. Quint, and J. M. Schwarz, “Cooperativity and redundancy in the mechanics of compositely crosslinked filamentous networks”, *PLoS ONE* **7**:e35939 (2012); arXiv: 1106.3004.
- (22) L. Cao and J. M. Schwarz, “Level statistics of quantum  $k$ -core percolation”, *Phys. Rev. B* **86**, 064206 (2012); arXiv:1208.4599.
- (23) L. Cao and J. M. Schwarz, “Correlated percolation and tricriticality”, *Phys. Rev. E* **86**, 061131 (2012); arXiv:1206.1028.
- (24) E. Hawkins and J. M. Schwarz, Comment on “On the consistency of solutions of the space fractional Schrodinger equation”, *J. Math. Phys.* **55**, 014101 (2013); arXiv:1210.1447.
- (25) S.-L.-Y. Xu and J. M. Schwarz, “Contact processes in crowded environments”, *Phys. Rev. E* **88**, 052130 (2013); arXiv:1304.1740.
- (26) J. H. Lopez, L. Cao, and J. M. Schwarz, “Jamming graphs: A local approach to global mechanical rigidity”, *Phys. Rev. E* **88**, 062130 (2013); arXiv: 1306.4639.
- (27) Dapeng Bi, J. H. Lopez, J. M. Schwarz, and M. Lisa Manning, “Energy barriers and cell migration in densely packed tissues”, *Soft Matt.* **10**, 1885 (2014); arXiv:1308.3891.
- (28) J. H. Lopez, Moumita Das, and J. M. Schwarz, “Active elastic dimers: Cells moving along rigid tracks”, *Phys. Rev. E* (Editor’s Suggestion) **90**, 032707 (2014).
- (29) T. Zhang, R. Sknepnek, M. J. Bowick, and J. M. Schwarz, “On modeling endocytosis in yeast”, *Biophys. J.* **108**, 508 (2015); arXiv:1310.8652.
- (30) O. V. Manyuhina, David Mayett, and J. M. Schwarz, “Elastic instabilities in a layered cerebral cortex: A revised axonal tension model for cortex folding”, *New J. of Phys.* **16**, 123058 (2014); arXiv:1407.3778.
- (31) T. Zhang, J. M. Schwarz, and M. Das, “The mechanics of anisotropic disordered spring networks”, *Phys. Rev. E* **90**, 062139 (2014); arXiv:1408.5910.
- (32) D. Bi, J. H. Lopez, J. M. Schwarz, and M. L. Manning, “A density-independent rigidity transition in biological tissues”, *Nat. Phys.* **11**, 1074 (2015); arXiv:1409.0593.
- (33) T. Zhang, D. Wan, J. M. Schwarz, and M. J. Bowick, “Shape-shifting droplet networks”, *Phys. Rev. Lett.* **116**, 108301 (2016); arXiv:1505.01108.
- (34) S. Henkes, D. A. Quint, Y. Fily, and J. M. Schwarz, “Rigid cluster decomposition reveals criticality in frictional jamming”, *Phys. Rev. Lett.* **116**, 028301 (2016), arXiv:1508.00122.

- (35) J. H. Lopez and J. M. Schwarz, “Correlated percolation in hyperbolic geometries”, *Phys. Rev. E* **96**, 052108 (2017); arXiv:1512.05404.
- (36) D. Mayett, N. Bitten, M. Das, and J. M. Schwarz, “Chase-and-run-dynamics in cell motility and the molecular rupture of interacting active elastic dimers”, *Phys. Rev. E* **96**, 032407 (2017); arXiv:161.09052.
- (37) T. A. Engstrom and J. M. Schwarz, “Surface creasing in soft elastic continua as a Kosterlitz-Thouless transition”, *Europhys. Lett.* **118**, 56005 (2017); arXiv:1702.05530.
- (38) D. M. Sussman, J. M. Schwarz, M. C. Marchetti, and M. L. Manning, “Soft yet sharp interfaces in a vertex model of confluent tissue” (Editor’s Suggestion) *Phys. Rev. Lett.* **120**, 058001 (2018); arXiv:1710.00708.
- (39) J. Wang, J. M. Schwarz, and J. D. Paulsen, “Hyperuniformity with no fine tuning in sheared sedimenting suspensions”, *Nat. Comm.* **9**, 2836 (2018); arXiv: 1711.06731.
- (40) T. A. Engstrom, T. Zhang, A. Lawton, and A. Joyner, and J. M. Schwarz, “Buckling without bending: A new paradigm in morphogenesis”, *Phys. Rev. X* **8**, 041053 (2018); arXiv: 1806.06961.
- (41) A. K. Lawton, T. Engstrom, D. Rohrbach, M. Omura, D. H. Turnbull, J. Mamou, T. Zhang, J. M. Schwarz, and A. L. Joyner, “Brain folding is initiated by mechanical constraints without a cellular pre-pattern”, *eLIFE* **8**:e45019 (2019); biorxiv: <https://doi.org/10.1101/382887>.
- (42) T. A. Engstrom, K. Pogoda, K. Cruz, J. A. Janmey, and J. M. Schwarz, “Compression stiffening in biological tissues: On the possibility of classic elasticity origins”, *Phys. Rev. E* **99**, 052413 (2019); arXiv: 1804.04726.
- (43) K. Liu, S. Henkes, and J. M. Schwarz, “Frictional rigidity percolation: A new universality class and its superuniversal connections through minimal rigidity proliferation”, *Phys. Rev. X* **9**, 021006 (2019); arXiv: 1807.09966.
- (44) E. Berthier, J. E. Kollmer, S. E. Henkes, K. Liu, J. M. Schwarz, and K. E. Daniels, “Rigidity percolation control of the brittle-ductile transition in disordered networks”, *Phys. Rev. Mat.* **3**, 075602 (2019); arXiv: 1812.07466.
- (45) P. Sahu, D. M. Sussman, M. Cristina Marchetti, M. Lisa Manning, and J. M. Schwarz, “Large-scale mixing and small-scale demixing in a confluent model for biological tissues”; *Soft Matt.* **16**, 3325 (2020); arXiv: 1905.00657.
- (46) M. C. Gandikota, K. Pogoda, A. van Oosten, T. A. Engstrom, A. E. Patteson, P. A. Janmey, J. M. Schwarz, “Loops versus lines and the compression stiffening of cells”, **16**, 4389 *Soft Matt.* (2020); arXiv:1908.03725.
- (47) Kuang Liu, Jonathan Kollmer, Karen E. Daniels, J. M. Schwarz, Silke Henkes, “Sponge-like rigid structures in frictional granular packings”, *Phys. Rev. Lett.* **126**, 088002 (2021), cover article.
- (48) Kuang Liu, Alison Patteson, Edward Banigan, J. M. Schwarz, “Dynamic nuclear structure emerges from chromatin crosslinks and motors”, *Phys. Rev. Lett.* **126** 158101 (2021), cover article.

- (49) Alison E. Patteson and J. M. Schwarz, “Cell nuclei as cytoplasmic rheometers”, *Biophys. J.* **120** 1535 (2021).
- (50) Mahesh C. Gandikota and J. M. Schwarz, “Buckling without bending morphogenesis: Nonlinearities, spatial confinement, branching hierarchies”, *New J. Phys.* **23** 063060 (2021).

## Submitted

- (1) George Langford, Torsten Wollert, Eric Wait, Mahesh Gandikota, J. M. Schwarz, George Holz, and Teng-Leong Chew, “Arp2/3-driven microvilli motility on pancreatic beta cells - an efficient glucose search strategy” (2020).
- (2) Amanda Parker, Cristina Marchetti, Lisa Manning, J. M. Schwarz, “How does the extracellular matrix affect the fluidity of an embedded spheroid?”; arXiv:2006.16203 (2020).
- (3) Preeti Sahu, J. M. Schwarz, M. Lisa Manning, Geometric signatures of tissue surface tension in a three-dimensional model of confluent tissue; arXiv:2102.05397 (2021).
- (4) Sarthak Gupta, Alison Patteson, J. M. Schwarz, The role of vimentin-nuclear interactions in persistent cell motility through confined spaces; arXiv:2103.09207 (2021).
- (5) Lukasz Suprewicz, Maxx Swoger, Sarthak Gupta, Ewelina Piktel, Fitzroy J. Byfield, Daniel V. Iwamoto, Danielle A. Germann, Joanna Reszec, Natalia Marcinczyk, Paul Janmey, J. M. Schwarz, Robert Bucki, Alison Patteson, Vimentin binds to SARS-CoV-2 spike protein and antibodies targeting extracellular vimentin block in vitro uptake of SARS-CoV-2 virus-like particles; Biorxiv:2021.01.08.425793 (2021).
- (6) Ahmad Borzou, Alison Patteson, J. M. Schwarz, A data-driven statistical description for the hydrodynamics of active matter, arXiv:2103.03461 (2021).
- (7) Ahmad Borzou and J. M. Schwarz, “Large-scale cortex-core formation in brain organoids”; arXiv:2108.05824.

## Pre-prints

- (1) S.-Y. Xu, X. Ila, and J. M. Schwarz, “Force network analysis of a jammed solid”, arXiv:1008.4568.

## Awards

- (1) NSF CAREER Award, NSF-0645373, 2007-2012
- (2) Departmental Teaching Award for Statistical Field Theory, 2013
- (3) Departmental Teaching Award for Electricity and Magnetism for Physics Majors and Honors Students, 2014
- (4) Departmental Teaching Award for a Large-Enrollment Course (PHY101 in Fall 2017), 2018
- (5) Issac Newton Award for Transformative Ideas During the COVID-19 Pandemic from the DoD, July 2020

(6) Social Justice Award, Faculty Member, SU Physics Department, 2021

## Funding (since 2015)

- (1) DoD: Isaac Newton Award for Transformative Ideas During the COVID-19 Pandemic: Building brains using synthetic biology across scales, PI: Schwarz, 49,802 US dollars, August 2020-February 2021
- (2) NSF-PoLS-2014192, Modeling tumor invasion with spheroids embedded in extracellular matrix, PI: J. M. Schwarz, co-PIs: Lisa Manning, Mingming Wu (Cornell), 450,000 US dollars, 2020-2023
- (3) NSF-CDF-2032861, RAPID: What is the role of extracellular vimentin in SARS2 host cell entry?, PI: Alison Patteson; co-PI: Schwarz, 200,000 US dollars, 2020-2021
- (4) NSF-DMR-1832002, Rigidity and shape transitions in living and nonliving systems, PI: Schwarz, 377,000 US dollars, 2019-2022
- (5) NSF-DMR-1507938, Near the onset of rigidity in living and nonliving systems, PI: Schwarz, 315,000 US dollars, 2015-2018
- (6) NSF, Conference Funding: Active and Smart Matter: A New Frontier for Science and Engineering, PI: Schwarz, 20,000 US dollars, 2016
- (7) ICAM, Conference Funding: Active and Smart Matter: A New Frontier for Science and Engineering, PI: Schwarz, approximately 23,000 US dollars, 2016
- (8) NSF-PoLS-1607416, Predicting How Fluid-Solid Transitions in Cancer Tumors Help Govern Invasion and Metastasis, PI: M. L. Manning; co-PIs: M. C. Marchetti, Schwarz, 686,366 US dollars, 2016-2019

## Invited talks between 2014 and 2019

- (34) Statistical Mechanics Rutgers Meeting, Rutgers University, December 2019
- (33) Society of Engineering Science, Washington University in St. Louis University, October 2019
- (32) Fiber Network Workshop, University of Pennsylvania, May 2019
- (31) Theory of Living Systems, Boston University, May 2019
- (30) Invited Session, APS March Meeting, Boston, March 2019
- (29) Japan-Toronto Morphogenesis Symposium, Toronto, CA, July 2018
- (28) Mathematical Approaches to Cell-Cell Communication and Collective Behaviours, Banff International Research Station, Banff, CA, July 2018
- (27) Generation and Control of Forces in Cells, Nordita, Stockholm, Sweden, June 2018
- (26) Seminar, Harvard University, December 2017
- (25) Seminar, Northeastern University, December 2017
- (24) Seminar, North Carolina State University, November 2017
- (23) Physics of Cancer, University of Leipzig, October 2017
- (22) Soft Matter Symposium, Florida State University, October 2017
- (21) Seminar, New York University, November 2016
- (20) FisherFest, Stanford University, November 2016
- (19) Seminar, University of Massachusetts, Amherst, October 2016
- (18) Modeling and Quantifying Cell Function: 20 Years of Cell Mechanobiology, International Banff Research Station, Canada, October 2016
- (16) Seminar, University of Dundee, Scotland, March 2016
- (15) Seminar, University of Aberdeen, Scotland, March 2016
- (14) Invited Session, APS March Meeting, March 2016
- (13) Seminar, Rice University, March 2016
- (12) Seminar, University of Rochester, October 2015
- (11) Materials Research Congress, Cancun, MX, August 2015
- (10) Seminar, FOM Institute AMOLF, March 2015
- (9) Condensed Matter Seminar, Leiden University, March 2015
- (8) LMS Mechanics Seminar, Ecole Polytechnique, ParisTech, March 2015
- (7) Biological Physics Seminar, University of California at Los Angeles, February 2015
- (6) Special Condensed Matter Seminar, University of California at Riverside, February 2015
- (5) Condensed Matter Seminar, University of Michigan, November 2014
- (4) Workshop on Percolation and the Glass Transition, Tel-Aviv, Israel, October 2014
- (3) KITP Workshop on Nonequilibrium Solids Seminar, Santa Barbara, CA, September 2014
- (2) Granular Gordon Research Conference, Easton, MA, July 2014
- (1) World Congress of Molecular and Cell Biology, Dalian, China, April 2014
- (0) APS March Meeting, Denver, CO, March 2014

## Workshops/Conferences by invitation/selection only

- (13) Soft Matter Gordon Research Conference, Discussion Leader, New London, New Hampshire, August 2017
- (12) Aspen Center for Physics Winter Conference on Glasses, Aspen, CO, Feb. 2015
- (11) CECAM Workshop on Percolation and Glass Transition, Tel-Aviv, Israel, Oct. 2014
- (10) KITP Workshop on Far-from-Equilibrium Solids, Santa Barbara, CA, Sept. 2014
- (9) Granular Gordon Research Conference, Easthill, MA, July 2014
- (8) KITP Conference on Active Processes in Living and Nonliving Matter, Santa Barbara, CA, Feb. 2014
- (7) Network Frontier Workshop, Northwestern University, December 2013
- (6) Physics of Functional Biological Assemblies, Aspen Center for Physics, June 2013
- (5) Soft Matter Gordon Research Conference, New London, NH, August 2013

- (4) Complexity, Disorder, and Algorithms, Aspen Center for Physics, June 2008
- (3) Dynamical Heterogeneities in Glasses and Granular Systems, Lorentz Institute, Leiden, Netherlands, September 2008
- (2) Aspen Center for Physics Summer Workshop on Cytoskeletal Assembly and Cellular Motility, Aspen, CO, May 2007
- (1) Aspen Center for Physics Summer Workshop on Jamming, Aspen, CO, July 2007

## Public lectures

- (9) Syracuse BioInspired Event on COVID19, November 2020
- (8) Undergraduate Colloquium, Syracuse University, February 2017
- (7) Expanding your Horizons: Career Workshop for Girls, Syracuse, November 2011
- (6) Sonya Kovalevsky Festival, Syracuse, November 2009
- (5) Frontiers of Science Lecture Series, Syracuse, March 2009
- (4) Syracuse Cafe Scientifique, April 2008
- (3) Science Today Series, SUNY Oswego, February 2008
- (2) Museum of Science and Technology, Syracuse, several lectures during 2006-2007
- (1) Saturday Morning Physics, Syracuse University, December 2007

## Workshop organizer

- (1) ICAM Workshop: Soft Active Materials: From Granular Rods to Flocks, Cells and Tissues, May 2010, Organizers: Aparna Baskaran, Jay Henderson, Cristina Marchetti, J. M. Schwarz, Roy Welch
- (2) Aspen Center for Physics Summer Workshop: Filamentous Assemblies: Complex Ordering from Biopolymers to Nano-rods, August-September 2010, Organizers: Robijn Bruinsma, Greg Grason, J. M. Schwarz
- (3) The biannual New York Complex Matter Workshop, Organizers: Mark Bowick, M. Cristina Marchetti, J. M. Schwarz, Itai Cohen, Abe Stroock, George Thurston; 2005-2011
- (4) Conference for Undergraduate Women in Physics; Organizers: Lisa Manning and J. M. Schwarz, January 2016
- (5) Active and Smart Matter: A New Frontier for Science and Engineering, Organizers: J. H. Henderson, M. C. Marchetti, J. D. Paulsen, A. Sangani, J. M. Schwarz, June 2016
- (6) Aspen Center for Physics Summer Workshop: Packing of Continua; Organizers: G. Grason, E. Katifori, L. Mahadevan, and J. M. Schwarz; June 2017

## Postdoctoral researchers supervised

- (1) Monwhea Jeng, 2006-2008, now Principal Applied Scientist at Microsoft
- (2) Silke Henkes (co-advised with Cristina Marchetti), 2010-2012, now applied math faculty at the Bristol University in the UK
- (3) Tyler Engstrom, 2016-2018, physics faculty member of Northern Colorado University
- (4) Daniel Sussman (co-advised with Cristina Marchetti and Lisa Manning), 2016-2017, physics faculty at Emory University in the USA



- (5) Amanda Parker (co-advised with Cristina Marchetti and Lisa Manning), 2018-2021, now Research Scientist at SymBioSys

## Graduate students supervised

- (1) Shiliyang Xu, 2007-2011, Senior Data Scientist at Linked In
- (2) David Quint, 2007-2011, Scientist at Lawrence Livermore Laboratory
- (3) Liang Cao, 2008-2012, Vice President, Quant at Chatham Financial
- (4) Jorge Lopez, 2011-2014, faculty in engineering at the University of Mariana in Mariana, Colombia
- (5) Tao Zhang, 2011-2015, chemical engineering faculty member at Shanghai Jiao Tong University
- (6) David Mayett, 2012-2016, data scientist at Hoodline
- (7) Kuang Liu, 2015-2020, post-doc in the H. Makse Group at CCNY
- (8) Mahesh Gandikota, 2016-2021, post-doc in the A. Cacciuto Group at Columbia
- (9) Jikai Wang (co-advised with Joseph Paulsen), 2016-2021
- (10) Preeti Sahu (co-advised with Cristina Marchetti and Lisa Manning), 2016-2020, post-doc in the E. Hannezo Group and now an EMBO postdoctoral fellow
- (11) Sarthak Gupta (co-advised with Alison Patteson), 2019-
- (12) Zac Schrecengost (co-advised with Joseph Paulsen), 2019-2020, SRC
- (13) Vidyesh Aniseti, 2021-
- (14) Prashali Chauhan (co-advised with Jenny Ross), 2021-

## Undergraduate students supervised

- (1) Bismayan Chakrabarti, Summer 2009 (Undergraduate at IIT, Kanpur at the time followed by graduate studies in physics at Rutgers University)
- (2) William Lentz, Spring 2015-Spring 2016, Honors Capstone Project, a Masters student in the financial engineering program at Cornell University

## Editor

- (1) Physics of Cancer Special Issue for Convergent Science Physical Oncology, 2018
- (2) Physical Biology, Editorial Board, March 2018 - March 2020

## Manuscript referee

- (1) Physical Review Letters
- (2) Physical Review E
- (3) Journal of Mathematical Physics
- (4) Europhysics Letters
- (5) Biophysical Journal
- (6) Cytoskeleton
- (7) Soft Matter
- (8) Nature Physics
- (8) Nature Materials
- (9) PNAS

## Grant proposal reviewer

- (1) National Science Foundation, Condensed Matter and Materials Theory
- (2) National Science Foundation, CBET, Multiphase and Particulate Matter
- (3) National Science Foundation, PoLS (Physics of Living Systems)

- (4) Austrian Science Fund
- (5) United States-Israel Binational Science Foundation