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Department of Physics
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- Appointments** **Syracuse University**, Syracuse, NY, USA **2015-present**
Assistant Professor
Department of Physics
- University of Massachusetts**, Amherst, MA, USA **2013-2015**
Postdoctoral Research Associate
Department of Physics, Polymer Science and Engineering Department
Advisors: Narayanan Menon and Thomas P. Russell
- Visiting** **ESPCI ParisTech**, Paris, France **April 2016**
Appointments Joliot Chair: *4 week visiting professorship*
- Education** **University of Chicago**, Chicago, IL, USA **2007-2013**
Ph.D., Physics
Thesis: The Approach and Coalescence of Liquid Drops in Air
Advisor: Sidney R. Nagel
- St. Olaf College**, Northfield, MN, USA **2003-2007**
B.A., Physics, *with distinction*
B.A., Mathematics, *with distinction*
Salutatorian, Summa Cum Laude
- Publications** [12] Stretched-exponential relaxation in sheared non-Brownian suspensions.
 J. D. Paulsen and S. R. Nagel
 In preparation
- [11] Capillary-induced wrinkling on floated amorphous polymeric films from the thickness of
 sub-radius of gyration to bulk.
 J. Chang, K. B. Toga, **J. D. Paulsen**, N. Menon, and T. P. Russell
 In preparation
- [10] Geometry-driven buckling of a floating annular sheet.
 In preparation
- [9] Curvature-induced stiffness and the spatial variation of wavelength in wrinkled sheets.
 J. D. Paulsen*, E. Hohlfeld*, H. King, J. Huang, Z. Qiu, T. P. Russell, N. Menon,
 D. Vella, and B. Davidovitch
 Proceedings of the National Academy of Sciences U.S.A. (2016).
 • Highlighted in UMass Amherst Press Release, picked up by news sites
- [8] Optimal wrapping of liquid droplets with ultrathin sheets.
 J. D. Paulsen, V. Démery, C. D. Santangelo, T. P. Russell, B. Davidovitch, and N. Menon
 Nature Materials 14, 1206 (2015).
 • Cover photo (December 2015 issue)
 • Highlighted in UMass Amherst Press Release, picked up by numerous news sites
 • News articles in Gizmodo, nanotechweb.org, AIMResearch, and prophysik.de

- [7] Multiple transient memories in experiments on sheared non-Brownian suspensions.
J. D. Paulsen, N. C. Keim, and S. R. Nagel
Physical Review Letters 113, 068301 (2014).
• Recommended on condmatjournalclub.org
• PRL Editors' Suggestion
- [6] Coalescence of bubbles and drops in an outer fluid.
J. D. Paulsen, R. Carmigniani, A. Kannan, J. C. Burton, and S. R. Nagel
Nature Communications 5, 3182 (2014).
- [5] Approach and coalescence of liquid drops in air.
J. D. Paulsen
Physical Review E 88, 063010 (2013).
- [4] Multiple transient memories in sheared suspensions: Robustness, structure, and routes to plasticity.
N. C. Keim, **J. D. Paulsen**, and S. R. Nagel
Physical Review E 88, 032306 (2013).
- [3] The inexorable resistance of inertia determines the initial regime of drop coalescence.
J. D. Paulsen, J. C. Burton, S. R. Nagel, S. Appathurai, M. T. Harris, and O. A. Basaran
Proceedings of the National Academy of Sciences U.S.A. 109, 6857 (2012).
- [2] Viscous to inertial crossover in liquid drop coalescence.
J. D. Paulsen, J. C. Burton, and S. R. Nagel
Physical Review Letters 106, 114501 (2011).
• PRL Editors' Suggestion
- [1] Energy-dependent Ps-He momentum-transfer cross section at low energies.
J. J. Engbrecht, M. J. Erickson, C. P. Johnson, A. J. Kolan, A. E. Legard, S. P. Lund, M. J. Nyflot, and **J. D. Paulsen**
Physical Review A 77, 012711 (2008).

(*equal contribution)

Invited Talks	[19] Optimal Coverage of Liquid Interfaces with Thin Polymer Sheets Gordon Research Conference on Thin Film & Small Scale Mechanical Behavior	2016
	[18] Making do with less: Optimal wrapping of liquid droplets with ultrathin sheets 67th New England Complex Fluids Workshop, MIT	2016
	[17] Multiple memory formation in a sheared granular suspension 14th Northeast Granular Workshop, University of Massachusetts Amherst	2016
	[16] Making do with less: Optimal wrapping of liquid droplets with ultrathin sheets DAMPT Fluids Seminar, Cambridge University	2016
	[15] Noise stabilization of multiple memories in sheared non-Brownian suspensions Gulliver Seminar, ESPCI ParisTech	2016
	[14] The wavelength of wrinkles in elastic sheets on curved topographies Séminaire PMMH, ESPCI ParisTech	2016
	[13] The wavelength of wrinkles in curved tensioned sheets Geometry, elasticity, fluctuations, and order in 2D soft matter Kavli Institute for Theoretical Physics, UC Santa Barbara	2016
	[12] No instructions necessary: Thin sheets are optimal wrappers of liquid drops Short talk selected from posters Gordon Research Conference on Soft Condensed Matter Physics	2015
	[11] No instructions necessary: Thin sheets are optimal wrappers of liquid drops Condensed Matter Seminar, University of Massachusetts Amherst	2015
	[10] Covering liquids with thin sheets or: How I learned to stop worrying about	2015

- mechanics and love geometry
Physics Department Colloquium, Syracuse University
- [9] The two-fluid coalescence problem: It's what's inside that counts **2013**
Computations in Science Seminar, University of Chicago
- [8] Things come together: Ultrafast experiments on liquid drop coalescence **2013**
PREM Seminar, City College of New York
- [7] Things come together: Experiments on liquid drop coalescence **2013**
Special Seminar, University of Massachusetts Amherst
- [6] Transient memories in sheared non-Brownian suspensions **2013**
Special Seminar, Cornell University
- [5] Transient memories in experiments on sheared non-Brownian suspensions **2013**
Soft Matter Seminar, Georgetown University
- [4] Things come together: Experiments on liquid drop coalescence **2013**
MRSEC Seminar, Brandeis University
- [3] Ultrafast experiments on liquid drop coalescence **2013**
Physics Department Colloquium, St. Olaf College
- [2] Transient memories in non-equilibrium disordered systems **2012**
Special Seminar, Purdue University
- [1] Experimental analysis of liquid drop coalescence **2011**
Computations in Science Seminar, University of Chicago
- Contributed Talks**
- [11] Geometry-driven folding transitions in floating thin films **2016**
APS March Meeting, Baltimore, MD
- [10] Capillarity-driven folding of a thin floating annular film **2015**
APS Division of Fluid Dynamics Meeting, Boston, MA
- [9] Optimal wrapping of liquids with ultrathin sheets **2015**
Statistical Physics and Mechanics of Forms and Shapes, Mariehamn, Finland
- [8] Thin sheets achieve optimal wrapping of liquids **2015**
APS March Meeting, San Antonio, TX
- [7] Wrapping a liquid drop with a thin elastic sheet **2014**
APS Division of Fluid Dynamics Meeting, San Francisco, CA
- [6] Stretched exponential relaxation in sheared non-Brownian suspensions **2014**
APS March Meeting, Denver, CO
- [5] Coalescence of two drops surrounded by an outer fluid **2013**
APS March Meeting, Baltimore, MD
- [4] Transient memories in non-equilibrium disordered systems **2012**
APS March Meeting, Boston, MA
- [3] Viscous to inertial crossover in liquid drop coalescence **2010**
APS Division of Fluid Dynamics Meeting, Long Beach, CA
- [2] Coalescence of low-viscosity liquids **2009**
APS Division of Fluid Dynamics Meeting, Minneapolis, MN
- [1] Coalescence and pinch-off in viscous liquids **2009**
APS March Meeting, Pittsburgh, PA
- Outreach Talks**
- [4] Buckling under pressure: Draping & wrapping with thin elastic sheets **2015**
Talk, Undergraduate Research Day, Syracuse University, Syracuse, NY
- [3] What the heck is soft condensed matter? **2013**
Public Outreach Talk, Lunch & Learn Series, Centro Media Inc., Chicago, IL
- [2] Transient memories in sheared non-Brownian suspensions **2013**

Guest Lecture, PHYS 399: Senior Seminar, St. Olaf College, Northfield, MN

- [1] Transient memories in non-equilibrium disordered systems **2012**
Seminar, Society of Physics Students, University of Chicago, Chicago, IL

**Fellowships
& Awards**

Fellowships & Scholarships:

- Grainger Foundation Fellowship: *One year support and stipend awarded annually by the University of Chicago Physics Dept. to a “graduate student with demonstrated research ability in experimental physics”* **2011-2012**
- Robert A. Millikan Fellowship for Research and Teaching **2009-2011**
- Thomas D. Rossing Physics Scholarship **2006-2007**
- Barry M. Goldwater Scholarship **2006-2007**
- St. Olaf College Regents Scholarship **2003-2007**

Awards:

- Poster Award, Gordon Research Conference on Soft Condensed Matter Physics **2015**
- Outstanding Researcher Award, St. Olaf Mathematics Department **2007**
- Top 500 Scorer, William Lowell Putnam Mathematics Competition **2006**
- National Council of Teachers of English (NCTE) Writing Award **2001**

**Teaching
& Outreach**

Syracuse University, Syracuse, NY, USA

- Instructor: PHYS 531, Thermodynamics and Statistical Mechanics **Fall 2015, Fall 2016**
- Talks for undergraduates (see *Outreach Talks*, above)

University of Chicago, Chicago, IL, USA

- Director of Education, NSF Research Experiences for Undergraduates **2009-2011**
- “Physics with a BANG!”: *Annual physics demo show and research lab open house for the community. High speed camera operator, lab tour guide, demo operator.* **2009-2012**
- After School Science Club, Andrew Carnegie Elementary School **2008-2010**
- Talks for undergraduates and non-scientists (see *Outreach Talks* section, above)

Activities

- Organizer, Soft Matter Journal Club, *University of Massachusetts, Amherst* **2014-2015**
- Founder & Organizer, Soft Matter Journal Club, *University of Chicago* **2010-2013**

Service

- Referee: *Chemical Engineering Science, Colloids and Surfaces A, Macromolecules, Nature Communications, Physics of Fluids, Physical Review E, Physical Review Letters, Review of Scientific Instruments, Soft Matter*
- University of Chicago Graduate Physics Admissions Committee **2011**

**Society
Memberships**

Professional:

- American Association of Physics Teachers **2010-2011, 2013-present**
- American Physical Society **2006-present**
- Society of Physics Students **2005-2007**

Honor Societies:

- Phi Beta Kappa **Inducted Oct. 2006**
- Sigma Pi Sigma **Inducted 2006**