Erin G Teich

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Postdoctoral Appointments

2018 - Present **University of Pennsylvania, Philadelphia PA**

Postdoctoral researcher in Danielle Bassett's group, Department of Bioengineering

Education

2012 - 2018 **University of Michigan, Ann Arbor MI**

Ph.D., Applied Physics
Cumulative GPA 4.0/4.0
Thesis: *Local Structure in Hard Particle Self-Assembly and Assembly Failure*
Advisor: Sharon C. Glotzer

2007 - 2011 **Brown University, Providence RI**

Sc.B. Magna Cum Laude with Honors, Physics
Cumulative GPA 4.0/4.0
Thesis: *Probing Molecular Dynamics using a Solid State Nanopore: DNA Capture and Recapture*
Advisor: Derek Stein
Semester abroad at National University of Singapore, 2010, GPA 5.0/5.0

Employment

2011 - 2012 **AmeriCorps, Chicago IL**

Served with Notre Dame AmeriCorps Chicago
Staff member at Marillac House Family Services Department and after-school program

Publications

13. **E.G. Teich**, M. Cieslak, B. Giesbrecht, J.M. Vettel, S.T. Grafton, T.D. Satterthwaite, and D.S. Bassett, "Crystallinity characterization of white matter in the human brain," *in submission, arXiv:2010.06644.*

12. L. Baldauf, **E.G. Teich**, G. van Anders, P. Schall, and L. Rossi, "Shape and Interaction Decoupling for Colloidal Pre-Assembly," *in submission, arXiv:1909.10361.*

11. **E.G. Teich**, K.L. Galloway, P.E. Arratia, and D.S. Bassett, "Crystalline shielding mitigates structural rearrangement and localizes material memory in jammed systems under oscillatory shear," *under review, arXiv:2004.06065.*

10. K. Je, S. Lee, **E.G. Teich**, M. Engel, and S.C. Glotzer, "Entropic Phason Strain Relaxation Mechanism in a Growing Colloidal Quasicrystal," *under revision.*

9. **E.G. Teich**, G. van Anders, and S.C. Glotzer, "Particle shape tunes fragility in hard polyhedron glass-formers," ***Soft Matter,*** 2020, DOI: 10.1039/D0SM01067G.

8. J.D. Dworkin, K.A. Linn, **E.G. Teich**, P. Zurn, R.T. Shinohara, and D.S. Bassett, "The extent and drivers of gender imbalance in neuroscience reference lists," ***Nature Neuroscience* 23**, 918 (2020).

7. W. Zygmunt, **E.G. Teich**, G. van Anders, and S.C. Glotzer, "Topological order in densely packed anisotropic colloids," ***Physical Review E* 100**, 032608 (2019).

6. R.L. Marson, **E.G. Teich**, J. Dshemuchadse, S.C. Glotzer, and R.G. Larson, "Computational self-assembly of colloidal crystals from Platonic polyhedral sphere clusters," ***Soft Matter* 15**, 6288 (2019).

5. S. Lee, **E.G. Teich**, M. Engel, and S.C. Glotzer, "Entropic colloidal crystallization pathways via fluid-fluid transitions and multidimensional prenucleation motifs," ***Proc. Natl. Acad. Sci. USA* 116**, 14843 (2019).

4. **E.G. Teich**, G. van Anders, and S.C. Glotzer, "Identity crisis in alchemical space drives the entropic colloidal glass transition," ***Nature Communications* 10**, 64 (2019).

3. J.E. Taylor, **E.G. Teich**, P.F. Damasceno, Y. Kallus, and M. Senechal, "On the Form and Growth of Complex Crystals: The Case of Tsai-Type Clusters," ***Symmetry* 9**, 188 (2017).

2. **E.G. Teich**, G. van Anders, D. Klotsa, J. Dshemuchadse, and S.C. Glotzer, "Clusters of polyhedra in spherical confinement," ***Proc. Natl. Acad. Sci. USA* 113**, E669 (2016).

1. Z. Jiang, M. Mihovilovic, **E. Teich**, and D. Stein, "Passive and Electrically Actuated Solid-State Nanopores for Sensing and Manipulating DNA," ***Nanopore-based technology: Single molecule characterization and DNA sequencing***, edited by M.E. Gracheva (Humana Press, Springer, New York, 2012).

Fellowships and Awards

Selected speaker, Rising Stars in Soft and Biological Matter Symposium, University of Chicago	2020
ProQuest Distinguished Dissertation Award, Honorable Mention, Rackham Graduate School	2018
Finalist, GSNP Student Speaker Award, APS March Meeting	2018
Regents Fellowship, University of Michigan Board of Regents	2017 - 2018 2012 - 2013
Blue Waters Graduate Fellowship	2016 - 2017
National Science Foundation Graduate Research Fellowship	2013 - 2016
Elected to Phi Kappa Phi	2014
Elected to Sigma Xi	2011
Elected to Phi Beta Kappa *40 members selected from a junior class of approximately 1,484*	2010

Invited Talks

13. **E. Teich**, K.L. Galloway, P.E. Arratia, and D.S. Bassett, "Crystalline shielding localizes memory in jammed systems under oscillatory shear," Chemical Engineering Department Colloquium, TU Delft, virtual, Nov 2020.

12. **E. Teich**, "Crystalline shielding localizes memory in jammed systems under oscillatory shear," Rising Stars in Soft and Biological Matter Symposium, University of Chicago, virtual, Oct 2020.

11. **E. Teich**, "Local structure, multi-step crystallization, and glass formation in hard polyhedral systems," Recent Developments in Computer Simulation Studies in Condensed Matter Physics, Center for Simulational Physics, University of Georgia, Athens GA, Feb 2020.

10. **E. Teich**, S. Lee, M. Engel, and S.C. Glotzer, "Multi-step entropic colloidal crystallization pathways," BIRS-CMO Workshop on Soft Packings, Nested Clusters, and Condensed Matter, Oaxaca, Mexico, Sept 2019.

9. **E. Teich**, "Local structure in hard particle systems," Short Course on Structures and Order in Soft Matter Physics, Soft Matter Topical Group, APS March Meeting, Boston MA, Mar 2019.

8. **E. Teich**, G. van Anders, and S.C. Glotzer, "Local structure in hard polyhedral glass-formers," SIAM Conference on Mathematical Aspects of Materials Science, Minisymposium: Mathematical Aspects of Programmable Self-assembly III, Portland OR, July 2018.

7. **E. Teich**, G. van Anders, and S.C. Glotzer, "Local structure in polyhedral glasses," Inorganic Chemistry Seminar, University of Oxford, Oxford UK, June 2018.

6. **E. Teich**, G. van Anders, and S.C. Glotzer, "Identity crises in hard polyhedral glass-formers," Unifying Concepts in Glass Physics VII, Bristol UK, June 2018.

5. **E. Teich**, G. van Anders, and S.C. Glotzer, "Local environments in glassy hard particle systems," Soft Packings, Nested Clusters, and Condensed Matter Session, Mathematical Congress of the Americas, Montreal Canada, July 2017.

4. **E. Teich**, G. van Anders, and S.C. Glotzer, "Identity crises in hard particle glasses," NCSA Blue Waters Symposium, Sunriver OR, May 2017.

3. **E. Teich**, G. van Anders, D. Klotsa, J. Dshemuchadse, and S.C. Glotzer, "Clusters of polyhedra in spherical confinement," SIAM Conference on Mathematical Aspects of Materials Science, Minisymposium O: Mathematical Crystallography II, Philadelphia PA, May 2016.

2. **E. Teich**, G. van Anders, D. Klotsa, J. Dshemuchadse, and S.C. Glotzer, "Clusters of polyhedra in spherical confinement," Geometry Seminar, Courant Institute, New York University, New York NY, Nov 2015.

1. **E. Teich**, G. van Anders, D. Klotsa, J. Dshemuchadse, and S.C. Glotzer, "Clusters of polyhedra in spherical confinement," Kinetic Networks: From Topology to Design Workshop, Santa Fe Institute, Santa Fe NM, Sept 2015.

Contributed Presentations

13. **E. Teich**, K.L. Galloway, P.E. Arratia, and D.S. Bassett, "Local order and structural rearrangement in two-dimensional jammed systems under oscillatory shear," APS Virtual March Meeting, Mar 2020.

12. **E. Teich**, K.L. Galloway, P.E. Arratia, and D.S. Bassett, "Mesoscopic network characterization of 2D jammed systems under oscillatory shear", Granular and Particulate Networks, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany, July 2019.

11. **E. Teich**, G. van Anders, and S.C. Glotzer, "Structural competition in hard polyhedral glass-formers," 4th International Conference on Packing Problems, Yale University, New Haven CT, June 2019.

10. **E. Teich**, G. van Anders, and S.C. Glotzer, "Controlling fragility via geometry in hard particle glass-formers," APS March Meeting, Boston MA, Mar 2019.

9. **E. Teich**, G. van Anders, and S.C. Glotzer, "Identity crises in hard polyhedral glass-formers," AIChE Annual Meeting, Pittsburgh PA, Oct 2018.

8. **E. Teich**, G. van Anders, and S.C. Glotzer, "Identity crises in hard polyhedral glass-formers," APS March Meeting, Los Angeles CA, Mar 2018.

7. R. Marson, **E. Teich**, J. Dshemuchadse, S.C. Glotzer, and R. Larson, "Diverse assembly behavior in colloidal Platonic polyhedral sphere clusters," APS March Meeting, New Orleans LA, Mar 2017. *Pres. by R. Marson.*

6. **E. Teich**, G. van Anders, D. Klotsa, J. Dshemuchadse, and S.C. Glotzer, "Clusters of polyhedra in spherical confinement," AIChE Annual Meeting, San Francisco CA, Nov 2016.

5. **E. Teich**, G. van Anders, D. Klotsa, J. Dshemuchadse, and S.C. Glotzer, "Clusters of polyhedra in spherical confinement," Michigan Institute for Computational Discovery and Engineering Annual Symposium, Ann Arbor MI, Apr 2016. *Poster.*

4. **E. Teich**, G. van Anders, D. Klotsa, J. Dshemuchadse, and S.C. Glotzer, "Clusters of polyhedra in spherical confinement," APS March Meeting, Baltimore MD, Mar 2016.

3. **E. Teich**, G. van Anders, D. Klotsa, and S.C. Glotzer, "Assemblies of Anisotropic Particles in Spherical Confinement," UM Engineering Graduate Symposium, Ann Arbor MI, Nov 2014. *Poster. Awarded First Place, Material and Chemical Technology Technical Session.*

2. M. Mihovilovic, **E. Teich**, N. Hagerty, and D. Stein, "Non-Equilibrium DNA Dynamics Probed by Delayed Capture and Recapture by a Solid-State Nanopore," APS March Meeting, Boston MA, Feb 2012. *Pres. by M. Mihovilovic.*

1. M. Mihovilovic, **E. Teich**, N. Hagerty, J. Chan, and D. Stein, "The Statistics of DNA Capture and Recapture by Solid-State Nanopores," APS March Meeting, Dallas TX, Mar 2011. *Pres. by M. Mihovilovic.*

Teaching

University of Pennsylvania Department of Bioengineering Philadelphia PA, 2019-2020
Guest lectured for BE 566 Fall/Spring, Network Neuroscience, taught by Prof. D.S. Bassett

University of Michigan Department of Physics Ann Arbor MI, 2018
Taught PHYS 160, Honors Introduction to Mechanics, as a substitute for Prof. G. van Anders

University of Michigan NextProf Fall Engineering Workshop Ann Arbor MI, 2017
Selected to attend a national workshop aimed at preparing future faculty from underrepresented communities in the sciences

Girls Who Code, Ypsilanti Community High School Ypsilanti MI, 2017
Developed and taught lessons in HTML and JavaScript to girls in 9th grade

826michigan Ypsilanti MI, 2016 - 2017
Volunteered with weekly after-school homework help sessions

University of Michigan College of Engineering Ann Arbor MI, 2015
Tutored Condensed Matter physics to a Masters student

University of Michigan Applied Physics Program Ann Arbor MI, 2013 - 2014
Tutored Quantum Mechanics to first-year Applied Physics PhD students

Brown University Academic Support Staff Providence RI, 2011
Worked as a physics tutor

Mentorship

Undergraduates

Sam Simon, University of Pennsylvania, Department of Physics B.A. 2023

Kathryn Xu, University of Pennsylvania, Department of Physics B.A. 2023

Larissa Woryk, University of Michigan, Department of Materials Science and Engineering B.S.E. 2017

Service and Outreach

Reviewer, ACS Nano and Contemporary Mathematics, American Mathematical Society

Organizer, Penn Network Visualization Summer Internship Program Philadelphia PA, 2020
Co-organizing a summer program for aspiring scientists and artists in high schools throughout Philadelphia (postponed until 2021)

Females Excelling More in Math, Engineering and the Sciences Ann Arbor MI, 2014 - 2016, 2018
Led groups and ran physics demonstrations at the annual Science Saturday Capstone Event

University of Michigan Girls in Science and Engineering Ann Arbor MI, 2013 - 2017
Helped run the physics portion of an annual summer camp for girls in 8th and 9th grade

4H-STEM outreach Ann Arbor MI, 2016
Gave physics demonstrations to children in elementary and middle school

Conference for Undergraduate Women in Physics Ann Arbor MI, 2015
Worked as a volunteer

University of Michigan Physics Olympiad Ann Arbor MI, 2014
Worked as a volunteer

Society for Women in Physics Ann Arbor MI, 2013
Worked as a volunteer at "Girl Scouts Physics Day"

Brown University Women in Science and Engineering Providence RI, 2009 - 2011
Co-coordinated the physics subgroup

Professional Membership

American Physical Society