

Education

Georgia Institute of Technology Ph.D. Physics	GPA 3.7	Atlanta, GA Expected Summer 2018
Georgia Institute of Technology M.S. Physics	GPA 3.4	Atlanta, GA 2013
University of California, Merced B.S. Physics	GPA 3.7	Merced, CA 2011

Honors and Awards

STAMI Graduate Student Fellowship	2018
Sam Nunn Security Program Fellow	Fall 2017 – Spring 2018
Physics of Living Systems Lunch and Learn Coordinator	May 2016 – May 2017
Best soundbite (in section) Soft Materials Workshop	2016
GoSTEM Teaching Fellow	May 2015 – May 2016
Grossman Award (Undergraduate Physics Research Award)	2012
UC Merced Dean's List	Fall 2007 – Fall 2009, 2011
Duttenhaver Scholar (Education Abroad Award)	2010
UC Merced Chancellor's List	Fall 2007 – Spring 2009

Journal Publications

1. Tennenbaum, M. & Fernandez-Nieves, A. Activity-driven changes in the mechanical properties of fire ant aggregations. *Physical Review E* **96**, 052601 (2017).
2. Myers, D. R., Qiu, Y., Fay, M. E., Tennenbaum, M., Chester, D., Cuadrado, J., Sakurai, Y., Baek, J., Tran, R., Ciciliano, J. C., *et al.* Single-platelet nanomechanics measured by high-throughput cytometry. *Nature materials* **16**, 230–235 (2017).
3. Tennenbaum, M., Liu, Z., Hu, D. & Fernandez-Nieves, A. Mechanics of fire ant aggregations. *Nature materials* **15**, 54–59 (2016).

Laboratory Experience

<i>Graduate Research</i> Under Dr. Alberto Fernandez-Nieves Physics Department, Georgia Institute of Technology	Aug 2013 – Present
<ul style="list-style-type: none">• Rheology of active materials• Designed, built, and characterized custom rheology geometry to allow for measurements of the rheology of fire ant aggregations• Implemented experimental protocols and implemented code to measure and process LAOS rheological measurements• Developed protocols for rheological measurements of blood clots while forming• Performed real space imaging and analysis in conjunction with rheological measurements of changing states in fire ant aggregations	

- Implemented code to analyze multichannel 3D confocal fluorescence image data to look at proliferation rates of cells on curved surfaces
- Supervised undergraduate researcher working on granular material in narrow columns

Undergraduate Research Under Dr. Sayantani Ghosh Jan 2011 – Dec 2011

Physics Department, University of California, Merced

- Worked on experiment looking into optical properties of crystals, under conditions of changing magnetic field and temperature
- Cavity Laser optical setup used to do spectroscopy of geometrically frustrated crystals

Teaching Experience

Graduate Statistical Mechanics <i>Teaching Assistant</i>	Spring 2018
Physics Department, Georgia Institute of Technology	
GoStem Teaching Fellow	Fall 2015 – Spring 2016
Georgia Tech Center for Teaching and Learning, Atlanta, GA	
Introductory Physics, Mechanics <i>Teaching Assistant</i>	Fall 2012 – Fall 2013, Summer 2014
Physics Department, Georgia Institute of Technology	
Introductory Physics, Electricity and Magnetism <i>Teaching Assistant</i>	Spring 2014
Physics Department, Georgia Institute of Technology	
Introductory Calculus 1 <i>Teaching Assistant</i>	Spring 2012
Math Department, University of California, Merced	

Students Supervised

Undergraduate Students

Xiaochen Fan	Spring 2018 – Present
Devontae Baxter (REU)	Fall 2016 – Summer 2017
Lily Nguyen	Fall 2015
Sruti Bheri	Spring 2015
Zhongyang Liu	Fall 2013 – Summer 2014
Alaja Phillips (REU)	Summer 2013

High School Students

Pablo	Summer 2017
Christian Conde	Summer 2016
Nilai Sarda	Summer 2014

Professional Service

Pura reviewer, Atlanta, GA	Summer 2015 – Present
<i>Reviewer for Presidents Undergraduate Research Award at Georgia Tech</i>	

Community Service

Bicycle Infrastructure Improvement Committee, Atlanta, GA <i>Starter Bikes Representative (Fall 2013 - Spring 2017)</i> <i>Committee Chair (Fall 2016 - Fall 2017)</i>	Fall 2013 – Present
Starter Bikes, Atlanta, GA <i>Volunteer (Fall 2012 - Present)</i> <i>President (Fall 2013 - Spring 2017)</i>	Fall 2012 – Present

Leadership Experience

GT Bicycle Infrastructure Improvement Committee Chair	Fall 2016 – Fall 2017
GT Physics of Living Systems Lunch and Learn coordinator	Summer 2016 – Spring 2017
GT Starter Bikes President	August 2013 – May 2017

Conference Proceedings

1. Tennenbaum, M. & Fernandez-Nieves, A. *Non-Linear Rheology of fire ant aggregations in Soft Materials Wrokshop* (2017).
2. Tennenbaum, M. & Fernandez-Nieves, A. *Reconfigurable properties of fire ant aggregations in APS Meeting Abstracts* (2017).
3. Tennenbaum, M., Hu, D. & Fernandez-Nieves, A. *Dynamics of fire ant aggregations in Soft Materials Wrokshop* (2016).
4. Tennenbaum, M., Hu, D. & Fernandez-Nieves, A. *Dynamics of fire ant aggregations in APS Meeting Abstracts* (2016).
5. Tennenbaum, M., Hu, D. & Fernandez-Nieves, A. *Rheology of Active Matter: Fire ants as a model system in Soft Materials Workshop* (2015).
6. Tennenbaum, M., Hu, D. & Fernandez-Nieves, A. *Fire ants as an active material in The Society for Integrative and Comparative Biology, Southeast Regional Meeting* (2015).
7. Tennenbaum, M., Hu, D. & Fernandez-Nieves, A. *Rheology of ants: Dynamics of fire ant aggregations in International Physics of Living Systems Annual Meeting* (2015).
8. Tennenbaum, M., Hu, D. & Fernandez-Nieves, A. *The Enviabale Properties of Fire Ants in Social Insects in the NorthEast Region (SINNERS)* (2014).
9. Tennenbaum, M., Liu, Z., Hu, D. & Fernandez-Nieves, A. *Rheological properties of fire ant aggregations in Society of Rheology Annual Meeting* (2014).
10. Tennenbaum, M., Liu, Z., Hu, D. & Fernandez-Nieves, A. *Rheological Properties of Fire Ant Aggregations in Soft Materials Workshop* (2014).

Contributed Posters

1. *Rheology of Soft Materials* (STAMI Industry Day, 2017).
2. *Reconfigurable mechanical properties of fire ant aggregations* (Soft Matter Lunch and Posters, 2017).
3. *Rheology of Active Matter: Using Fire Ants as a Model System* (Soft Matter Lunch and Posters, 2016).
4. *Rheology of ants: Dynamics and elasticity of fire ant aggregations* (iPOLs, 2015).
5. *Rheology of ants: Dynamics and elasticity of fire ant aggregations* (CRIDC, 2015).