

# James McInerney

## Education

- 2016–present Georgia Institute of Technology, Atlanta, GA  
Ph.D. Physics
- 2012–2016 University of Massachusetts, Amherst, MA  
B.S. *magna cum laude* Physics  
Thesis: “Critical phenomena of Kerr-de Sitter black holes”

## Publications

- [1] J. McInerney, B. G. Chen, L. Theran, C. Santangelo, and Z. Rocklin, “Hidden symmetries generate rigid folding mechanisms in periodic origami,” under revision at *PNAS* July 2020.
- [2] K. Higginbotham, B. Khamesra, J. P. McInerney, K. Jani, D. M. Shoemaker, and P. Laguna, “Coping with spurious radiation in binary black hole simulations,” *Phys. Rev. D*, vol. 100, p. 081501, Oct 2019.
- [3] James P. McInerney, Perry W. Ellis, D. Zeb Rocklin, Alberto Fernandez-Nieves, and Elisabetta A. Matsumoto, “Geometric Twist and Chiral Instabilities in Homeotropic Tori”, *Soft Matter*, 2019, **6**, 1210-1214.
- [4] Perry W. Ellis, Karthik Nayani, James P. McInerney, D. Zeb Rocklin, Jung Ok Park, Mohan Srinivasarao, Elisabetta A. Matsumoto, and Alberto Fernandez-Nieves, “Curvature-Induced Twist in Homeotropic Nematic Tori”, *Phys. Rev. Let.*, 2018, **121**, 247803.
- [5] James McInerney, Gautam Satishchandran, and Jennie Traschen, “Cosmography of KNdS black holes and isentropic phase transitions”, *Class. Quantum Grav.*, 2016, **33** 105007.

## Talks

- [1] “Boundary and interface modes in periodically triangulated origami”, 2020, American Physical Society March Meeting.
- [2] “Pairing global symmetries with folding mechanics to transform all periodically triangulated origami”, 2019, American Physical Society March Meeting.
- [3] “Inducing chirality in homeotropic nematics via confinement geometry”, 2019, American Physical Society March Meeting.
- [4] “Geometric properties of liquid crystals”, 2018, Brandeis IGERTS Summer School.
- [5] “How Hidden Geometric Symmetries in Origami Generate New Folding Mechanisms”, 2018, Soft Matter Frontiers.

## Posters

- [1] “Inducing twist in homeotropic nematics via confinement geometry”, July 2019, Liquid Crystals Gordon Research Conference.
- [2] “Pairing global symmetries with rigid folding motions of periodic origami”, June 2019, UMass Summer School on Soft Solids and Complex Fluids.
- [3] “Pairing global symmetries with rigid folding motions of periodic origami”, February 2019, Georgia Tech CRIDC.
- [4] “Pairing global symmetries with rigid folding motions of periodic origami”, October 2018, Georgia Tech STAMI Industry Day.
- [5] “Pairing global symmetries with rigid folding motions of periodic origami”, May 2017, Southeast Meeting on Soft Materials.

## Awards and Fellowships

- Spring 2020* APS FGSA Travel Award (\$500)
- Spring 2020–Fall 2020* STAMI Graduate Fellowship (\$5,000), Georgia Tech
- Summer 2019* STAMI Travel Award (\$500)
- Fall 2016–present* President’s Fellowship (\$5,500 / year), Georgia Tech
- March 2019* Amelio Endowment Travel Award (\$500), Georgia Tech, School of Physics
- March 2019* Graduate Conference Fund (\$250), Georgia Tech, Student Government Association
- March 2019* Doctoral Student Travel Supplement (\$250), Georgia Tech, College of Natural Science
- Spring 2016* Hasbrouck Scholarship Award (\$600), University of Massachusetts Amherst, Physics Department

## Teaching Assistantship

- Summer 2020* Head Facilitator Intro Physics II, Summer Online Undergraduate Program, Georgia Tech
- Spring 2018, 2020* Graduate Electromagnetism II, Georgia Tech
- Fall 2017, 2018, 2019* Graduate Electromagnetism I, Georgia Tech
- Spring 2019* Graduate Introduction to Relativity, Georgia Tech
- Summer 2018, 2019* Intro Physics II, Summer Online Undergraduate Program, Georgia Tech
- Fall 2016, Spring 2017* Intro Physics II, Georgia Tech
- Summer 2017* Intro Physics I, Summer Online Undergraduate Program, Georgia Tech

*Spring 2015, 2016*

Weather and the Atmosphere, UMass

*Fall 2015*

Intro to Modern Physics, UMass

*Fall 2014*

Thermodynamics, Waves, and Optics, UMass

## **Outreach and Service**

*Spring 2020–present*

Soft Matter Incubator Cookies and Coffee Seminar Series Organizer, Georgia Tech

*Fall 2019–present*

Soft Matter Incubator Journal Club Co-Organizer, Georgia Tech

*Fall 2017–Spring 2019*

Graduate Student Representative, School of Physics Colloquium Committee, Georgia Tech

*Spring 2018–Spring 2019*

President, Graduate Association of Physicists, Georgia Tech

*October 2018*

Georgia Institute of Technology Junior STEM “Stepping into STEM”: demonstrations on angular momentum

*March 2018*

Atlanta Science Festival “Taste of Science”: the crystallization of chocolate

*October 2017*

Georgia Institute of Technology Junior STEM “Stepping into STEM”: demonstrations on magnetism

*March 2017*

Atlanta Science Festival “Science of Beer”

*March 2017*

Atlanta Science Festival “Science of the Circus”

*Fall 2016–Spring 2018*

Host, Physics Forum Graduate Colloquium