

EDUCATION	<p>Princeton University, PhD in Physics June 2018 – Advisors: William Bialek (biophysics theory), Herman Verlinde (high energy theory) – Title: Characterizing Information in Physical Systems, from Biology to Black Holes</p> <p>Massachusetts Institute of Technology June 2012 – S.B. in Mathematics and Physics, Minor in Music</p>
RESEARCH	<p>University of Chicago, Postdoctoral Scholar B cell diversity and affinity maturation dynamics 2020-present <i>Supervisor: Sarah Cobey</i></p> <p>Precision and evolvability of proteins' function and microscopic mechanics 2018-2020 <i>Supervisor: Rama Ranganathan</i></p> <p>Princeton University, Graduate Researcher Information and precision in embryo development 2017-2018 <i>Advisor: William Bialek</i></p> <p>Black holes, conformal field theory and quantum information 2013-2016 <i>Advisor: Herman Verlinde</i></p>
PUBLICATIONS	<p>L. McGough and W. Bialek. “Efficient transmission of unique cell identities via correlated fluctuations, emergent discreteness, and error-correcting codes,” In preparation, Expected summer 2020.</p> <p>L. McGough, M. Mezei and H. Verlinde, “Moving the CFT into the bulk with $T\bar{T}$,” JHEP 2018, 10 (2018). doi:10.1007/JHEP04(2018)010. [arXiv:1611.03470 [hep-th]].</p> <p>S. Jackson, L. McGough, and H. Verlinde. “Conformal bootstrap, universality and gravitational scattering.” Nucl. Phys. B 901, 382 (2015). [arXiv:1412.5205 [hep-th]]</p> <p>J. Lee, L. McGough, and B. R. Safdi. “Rényi entropy and geometry.” Phys. Rev. D 89, no. 12, 125016 (2014). [arXiv:1403.1580 [hep-th]].</p> <p>L. McGough and H. Verlinde. “Bekenstein-Hawking entropy and topological entanglement entropy.” JHEP 1311, 208 (2013). [arXiv:1308.2342 [hep-th]].</p>
AWARDS	<p>NIH Ruth L. Kirschstein National Research Service Award (NRSA) Individual Postdoctoral Fellowship (Parent F32) 2019-2021</p> <p>National Science Foundation Graduate Research Fellowship 2012-2017</p> <p>National Defense Science and Engineering Graduate Fellowship (declined) 2012</p> <p>Robert C. Byrd Honors Scholarship 2008-2012</p>
PRESENTATIONS	<p>Evaluating simulations of protein dynamics using novel, high-resolution data. Gordon Research Conference on Molecular Mechanisms in Evolution. Poster presentation, Stonehill, MA. June 2019</p> <p>Protein dynamics from experiment and simulation. APS March Meeting, Boston, MA. March 2019</p> <p>Efficient transmission of unique cell identities via correlated fluctuations, emergent discreteness, and error-correcting codes. APS March Meeting, Los Angeles, CA. March 2018</p>

Encoding a complex body plan in a single cell: information transmission in the fruit fly embryo.

Kavli Koffee Hour, Harvard University, Cambridge, MA. **Feb. 2018**

Maximal minimal k-rankings of caterpillar graphs.

Joint MAA/AMS Mathematics Meetings, New Orleans. **Jan. 2011**

The homotopy classes of linear 3-fields on the 3-sphere.

Young Mathematicians Conference, Ohio State University, Columbus, OH. **Aug. 2009**

TEACHING AND
SERVICE

Assistant Instructor, Princeton University

PHY412: Biophysics

Fall 2017

PHY104: General Physics II, Electricity and Magnetism

Spring 2017

PHY207: Mechanics and Waves

Fall 2016

Leadership

Princeton Physics Department Graduate Admissions Committee

Feb. 2015

Princeton Physics Graduate Student Committee

Sept. 2012 - May 2018

Princeton High Energy Theory Journal Club

Sept. 2013 - May 2015

Outreach

Treasurer, Girls' Angle, a math club for girls, *Cambridge, MA*

2007-Present

Teacher, MIT ESP, *Cambridge, MA*

Sept. 2008-Nov. 2011

Leader and teacher, SEALNet Project Thailand, *Lampang, Thailand*

Aug. 2010

OTHER SKILLS

Software and programming: Matlab, Gromacs, NAMD, VMD, MDAnalysis, Mathematica, L^AT_EX

Languages: English (primary), French (proficient)