

## Education

<b>Stanford University</b> PhD in Physics	(expected) 2019 – 2024
<b>Oxford University</b> (New College) MSc in Mathematical and Theoretical Physics with distinction	2018 – 2019
<b>Cambridge University</b> (St. John's College) Master of Advanced Study in Mathematics with distinction	2017 – 2018
<b>Massachusetts Institute of Technology</b> Bachelor of Science in Physics and Mathematics	2013 – 2017

## Publications

5. A. Berlin, R. T. D'Agnolo, S. A. R. Ellis, K. Zhou, *Heterodyne Broadband Detection of Axion Dark Matter*, in review
4. A. Berlin, R. T. D'Agnolo, S. A. R. Ellis, C. Nantista, J. Neilson, P. Schuster, S. Tantawi, N. Toro, K. Zhou, *Axion Dark Matter Detection by Superconducting Resonant Frequency Conversion*, JHEP (2020)
3. C. Frye, A. Larkoski, J. Thaler, K. Zhou, *Casimir Meets Poisson: Improved Quark/Gluon Discrimination with Counting Observables*, JHEP (2017)
2. B. Elder, M. Procura, J. Thaler, W. Wallewijn, K. Zhou, *Generalized Fragmentation Functions for Fractal Jet Observables*, JHEP (2017)
1. J. Horowitz, K. Zhou, J. England, *Minimum Energetic Cost to Maintain a Target Nonequilibrium State*, Phys. Rev. E (2017)

## Fellowships and Awards

NSF Graduate Research Fellowship	2017 – 2022
Marshall Scholarship	2017 – 2019
Demuth Prize, New College	2019
Dirac Prize, St. John's College	2018
Finalist, Hertz Fellowship	2017
Joel Matthew Orloff Award for Outstanding Research, MIT	2017
Honorable Mention, Putnam Mathematical Competition	2016, 2017
Gold Medal, International Physics Olympiad	2012, 2013
Winner, USA Junior Mathematical Olympiad	2011

## Professional Experience

<b>Dropbox</b> , Software Engineering Intern	Summer 2015
• Developed new feature-gating and AB testing system for Dropbox apps and website	

- Improved data pipelines to enable real-time user targeting for marketing campaigns

**Facebook**, Software Engineering Intern

Summer 2014

- Designed and built search ranking evaluation tool, achieving 5x speedup for results
- Developed search quality metrics using machine learning and human opinion data

## Activities

Coach, U.S. Physics Olympiad

2015 – 2019

- Mentored and motivated students at yearly training camps
- Developed and taught classes on wave mechanics, problem solving, and lab skills
- Wrote, edited, and graded national Olympiad problems

Vice President, Society of Physics Students

2014 – 2016

- Directed seminar on advanced mathematical methods in physics
- Taught introductory high school classes on quantum cryptography, dimensional analysis, chirality, and particle physics
- Delivered lightning lectures and research talks to undergraduates