

Education

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

Publications

2007.15656	Heterodyne Broadband Detection of Axion Dark Matter A. Berlin, R. T. D'Agnolo, S. A. R. Ellis, K. Zhou, in review
1912.11048	Axion Dark Matter Detection by Superconducting Resonant Frequency Conversion A. Berlin, R. T. D'Agnolo, S. A. R. Ellis, C. Nantista, J. Neilson, P. Schuster, S. Tantawi, N. Toro, K. Zhou, JHEP (2020)
1704.06266	Casimir Meets Poisson: Improved Quark/Gluon Discrimination with Counting Observables C. Frye, A. Larkoski, J. Thaler, K. Zhou, JHEP (2017)
1704.05456	Generalized Fragmentation Functions for Fractal Jet Observables B. Elder, M. Procura, J. Thaler, W. Wallewijn, K. Zhou, JHEP (2017)
1703.04722	Minimum Energetic Cost to Maintain a Target Nonequilibrium State J. Horowitz, K. Zhou, J. England, 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

Talks

Stellar Shocks From Dark Asteroids Phenomenology Symposium	5/2021
Searching for Scalar Dark Matter with Compact Mechanical Resonators SLAC Student Journal Club	5/2021
SITP Student Journal Club	5/2021
Heterodyne Detection of Axion Dark Matter Virtual Axion Institute	8/2020

Outreach

U.S. Physics Olympiad	2015 – present
<ul style="list-style-type: none">• Wrote and edited problems for the largest physics competition in the U.S. (6,000 participants)• Taught classes to finalists at annual summer camps on problem solving and lab skills• Intensively trained traveling team to represent the U.S. at the International Physics Olympiad	
Physics StackExchange	2014 – present
<ul style="list-style-type: none">• Wrote answers on topics ranging from everyday physics to quantum field theory• Total of over 1,000 answers with almost 2 million views, sample here	
Splash	2013 – present
<ul style="list-style-type: none">• Spoke to high school students at annual Splash events hosted at MIT, Oxford, and Stanford• Taught classes on quantum cryptography, dimensional analysis, chirality, and particle physics	