

## Education

<b>Stanford University</b> PhD in Physics (advisors: Philip Schuster and Natalia Toro)	(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) MASt in Mathematics with distinction	2017 – 2018
<b>Massachusetts Institute of Technology</b> BS in Physics and Mathematics	2013 – 2017

## Publications

<b>2106.09033</b>	Stellar Shocks From Dark Matter A. Das, S. A. R. Ellis, P. Schuster, K. Zhou
<b>2007.15656</b>	Heterodyne Broadband Detection of Axion Dark Matter A. Berlin, R. T. D'Agnolo, S. A. R. Ellis, K. Zhou
<b>1912.11048</b>	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)
<b>1704.06266</b>	Casimir Meets Poisson: Improved Quark/Gluon Discrimination with Counting Observables C. Frye, A. Larkoski, J. Thaler, K. Zhou, JHEP (2017)
<b>1704.05456</b>	Generalized Fragmentation Functions for Fractal Jet Observables B. Elder, M. Procura, J. Thaler, W. Wallewijn, K. Zhou, JHEP (2017)
<b>1703.04722</b>	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

Probing Dark Sectors With Invisible Vector Meson Decays	
ILC Workshop on Potential Experiments	10/2021
LDMX Internal Meeting	10/2021
Stellar Shocks From Dark Asteroids	
COSMO '21	8/2021
APS DPF 2021 Meeting	7/2021
Phenomenology 2021 Symposium	5/2021
Searching for Scalar Dark Matter with Compact Mechanical Resonators	
SLAC 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 – 2021
<ul style="list-style-type: none"><li>• <a href="#">Wrote and edited</a> the largest physics competition in the United States (6,000 participants)</li><li>• Taught classes to finalists at annual summer camps on problem solving and lab skills</li><li>• Intensively trained students to represent the U.S. at the 2021 International Physics Olympiad, leading to its first ever 5 gold medal finish</li></ul>	
Physics StackExchange	2014 – 2020
<ul style="list-style-type: none"><li>• Wrote <a href="#">answers</a> on topics ranging from everyday physics to quantum field theory</li><li>• Total of over 1,000 answers with almost 2 million views</li></ul>	
Splash	2013 – 2019
<ul style="list-style-type: none"><li>• Spoke to high school students at annual Splash events hosted at MIT, Oxford, and Stanford</li><li>• Taught classes on quantum cryptography, dimensional analysis, chirality, and particle physics</li></ul>	