# Kevin Zhou

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## Education

**Stanford University** (expected) 2019 – 2024
PhD in Physics (advisor: Natalia Toro)

**Oxford University** (New College) 2018 – 2019
MSc in Mathematical and Theoretical Physics with distinction

**Cambridge University** (St. John's College) 2017 – 2018
Master of Advanced Study in Mathematics with distinction

**Massachusetts Institute of Technology** 2013 – 2017
Bachelor of Science in Physics and Mathematics

## Publications

**2106.09033** Stellar Shocks From Dark Matter
A. Das, S. A. R. Ellis, P. Schuster, K. Zhou

**2007.15656** Heterodyne Broadband Detection of Axion Dark Matter
A. Berlin, R. T. D'Agnolo, S. A. R. Ellis, K. Zhou

**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
- APS DPF 2021 Meeting 7/2021
- 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

- Wrote and edited the largest physics competition in the United States (6,000 participants)
- Taught classes to finalists at annual summer camps on problem solving and lab skills
- Intensively trained students to represent the U.S. at the International Physics Olympiad

Physics StackExchange 2014 – present

- Wrote answers on topics ranging from everyday physics to quantum field theory
- Total of over 1,000 answers with almost 2 million views

Splash 2013 – present

- 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