

## EDUCATION

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2018 – present

**Ph.D.** in physics

UNIVERSITY OF MARYLAND, COLLEGE PARK

I'm a 3rd year PhD student, DOE Computational Science Graduate Fellow (2018-2022), and QuICS Lanczos Graduate Fellow (2018-2020) in theoretical physics. I'm also affiliated with the Joint Quantum Institute (JQI) and the Joint Center for Quantum Information and Computer Science (QuICS). My advisor is Alexey Gorshkov.

2014 – 2018

**B.S.** in physics (cum laude with high honors in physics)

UNIVERSITY OF MARYLAND, COLLEGE PARK

Banneker Key Scholar

Honors thesis title: "Diffusion Monte Carlo approach versus adiabatic computation for local Hamiltonians".

## PUBLICATIONS

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1. T Qian, **J Bringewatt**, I Boettcher, P Bienias, A V Gorshkov. "Optimal measurement of field properties with quantum sensor networks." Preprint. (2020) [arXiv:2011.01259]
2. **J Bringewatt**, N Sato, W Melnitchouk, J Qiu, F Steffens, M Constantinou. "Confronting lattice parton distributions with global QCD analysis." Phys. Rev. D. 103, 016003 (2021) [arXiv:2010.00548]
3. **J Bringewatt**, M Jarret. "Effective gaps are not effective: quasipolynomial classical simulation of obstructed stoquastic Hamiltonians." Phys. Rev. Lett. 125, 170504 (2020), [arXiv:2004.08681]
4. **J Bringewatt**, W Dorland, SP Jordan. "Polynomial time algorithms for estimating spectra of adiabatic Hamiltonians." Phys. Rev. A 100 (3), 032336 (2019), [arXiv:1905.07461]. Editors' Suggestion.
5. **J Bringewatt**, W Dorland, SP Jordan, A Mink. "Diffusion Monte Carlo approach versus adiabatic computation for local Hamiltonians." Phys. Rev. A 97 (2), 022323 (2018), [arXiv:1709.03971]
6. K Pushkin, C Akerlof, D Anbajagane, J Armstrong, M Arthurs, **J Bringewatt**, T Edberg, C Hall, M Lei, R Raymond, M Reh, D Saini, A Sander, J Schaefer, D Seymour, N Swanson, Y Wang, W Lorenzon. "Study of radon reduction in gases for rare event search experiments." Nucl. Instrum. Methods Phys. Res., Sect. A 903, 267-276 (2018), [arXiv:1805.11306]

## TALKS AND POSTERS

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- "Lattice data in the JAM framework." Talk at Amherst Center for Fundamental Interactions (ACFI) Workshop on QCD Real-Time Dynamics and Inverse Problems (Oct. 2020)
- "Confronting lattice parton densities with global analysis." Talks at Jefferson Lab weekly seminar (Aug. 2019) and at DNP 2019 (Oct. 2019) and AI for Nuclear Physics Workshop - Bayesian Inference for Quantum Correlation Functions Working Group (Mar. 2020)
- "Estimating multiple functions with quantum sensor networks." Poster at QuICS 5-year Anniversary Symposium (Jan. 2020)
- "Effective gaps are not effective." Poster at FAR-QC kickoff meeting (Nov. 2019)
- "Polynomial time algorithms for estimating spectra of adiabatic Hamiltonians." Poster at STAQ kickoff meeting, Duke University (Nov. 2018) and QIP2019 (Jan. 2019) and at DOE Computational Science Graduate Fellowship Annual Program Review (July 2019)

- “Diffusion monte carlo approach versus adiabatic computation for local Hamiltonians.”  
Poster at QIP2018 (Jan. 2018) and at DOE Computational Science Graduate Fellowship  
Annual Program Review (July 2018) and talk at NIST SURF program final review and for  
undergraduate honors thesis defense (May 2018)

## HONORS

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2018-2022	DOE Computational Science Graduate Fellow	DEPARTMENT OF ENERGY
2018-2020	QuICS Lanczos Graduate Fellow. JOINT CENTER FOR QUANTUM INFORMATION AND COMPUTER SCIENCE	
2019	DOE Computational Science Graduate Fellowship Communicate Your Science Essay Contest Winner.	KRELL INSTITUTE
2014-2018	Banneker Key Scholar.	UNIVERSITY OF MARYLAND, COLLEGE PARK

## SERVICE TO THE SCIENTIFIC COMMUNITY

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2020-2021	Speaker Organizer for QuICS-JQI-CMTC Friday Seminar
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## TEACHING

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Fall 2016- Spring 2018	Math Tutor	UMD
Fall 2016-Spring 2018	Peer Mentor	UNIVERSITY HONORS PROGRAM AT UMD
Fall 2016	Teaching Assistant	PHILOSOPHY OF QUANTUM MECHANICS

## MENTORSHIP

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Summer 2020	Timothy Qian	MONTGOMERY BLAIR HIGH SCHOOL
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