

Travis L Scholten

Website LinkedIn Twitter Email Github

EDUCATION

University of New Mexico

PH D PHYSICS

2012 August - 2018 September

MS PHYSICS

2015 June

California Institute of Technology

BS PHYSICS

2008 August - 2012 June

ASSOCIATIONS

2019-present: IEEE

2015-present: American Physical Society

OTHER EXPERIENCE

2020 - present: Advisory Board member,
Unitary Fund

2021: Co-organizer, Open Quantum
Hardware Workshop

2020: Lead organizer, Quantum Software
Workshop

2017: Organizer, CQuIC Computing
Workshop

2016-17: Vice-Chair, GPSA Finance
Committee

2015-17: GPSA Council Representative,
Physics and Astronomy

SKILLS

Programming

Python • numpy • pandas
git/GitHub • Jupyter notebook •
seaborn • Airtable

Communication

24 talks • 3 posters • 2 podcasts • 2 panels
Invited speaker IQT 2019
2020 IEEE Quantum podcast
Quantum Computing Now podcast

AWARDS

2017: Brian E Colón Exemplary Service
Award: UNM GPSA

2016: Excellence in Ethics Award
UNM GPSA

2015: Student Research Grant
UNM GPSA

2014: Student Research Grant
UNM GPSA

EXPERIENCE

IBM Quantum | Quantum Applications Architect

2021 August - present | Yorktown Heights, NY

Quantum Computing Applications Researcher

2018 October - 2021 July | Yorktown Heights, NY

Work with startups and industry partners in the IBM Quantum Network on joint research and development and other technical projects.

- Completed 2 research projects with IBM Quantum Startup Program members & 1 Quantum Network Partner
- Presented 20+ technical talks to C-suite and technical audience

Sandia National Laboratories | Student Intern

2013 May - 2018 September | Albuquerque, NM

PhD research in quantum characterization, verification, and validation specializing in model selection, hypothesis testing, and machine learning techniques.

University of New Mexico | Teaching Assistant, Physics & Astronomy

2012 August - 2013 May | Albuquerque, NM

Taught undergraduate labs and helped with a graduate level course.

California Institute of Technology | Summer Undergraduate Research Fellow

2011 June - 2011 September | Pasadena, CA

Research project on adiabatic quantum computation.

PUBLICATIONS

Google Scholar Page

6. **Kernel Matrix Completion for Offline Quantum-Enhanced Machine Learning.** Annie Naveh, Imogen Fitzgerald, Anna Phan, Andrew Lockwood, & [Travis L. Scholten](#). *arXiv* 2112.08449

5. **Analyzing the Performance of Variational Quantum Factoring on a Superconducting Quantum Processor.** Amir H. Karamlou, William A. Simon, Amara Katabarwa, [Travis L. Scholten](#), Borja Peropadre, & Yudong Cao. *npj Quantum Inf* **7**, 156 (2021)

4. **Gate Set Tomography.** Erik Nielsen, John King Gamble, Kenneth Rudinger, [Travis L. Scholten](#), Kevin Young, & Robin Blume-Kohout. *Quantum* **5** 557

3. **Application-Motivated, Holistic Benchmarking of a Full Quantum Computing Stack.** Daniel Mills, Seyon Sivarajah, [Travis L. Scholten](#), & Ross Duncan. *Quantum* **5** 415

2. **Classifying Single-Qubit Noise Using Machine Learning.** [Travis L. Scholten](#), Yi-Kai Liu, Kevin Young, & Robin Blume-Kohout. *arXiv* 1908.11762

Towards Scalable Characterization of Noisy, Intermediate-Scale Quantum Information Processors. [Travis L. Scholten](#). PhD thesis; available via UNM Digital Repository

1. **Behavior of the Maximum Likelihood in Quantum State Tomography.** [Travis L. Scholten](#) & Robin Blume-Kohout. *New Journal of Physics* **20** 023050