Gregory Meyer

in literature: Gregory D. Kahanamoku-Meyer

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Education

2017–present **Physics PhD (expected 2023), University of California at Berkeley**
Lab of Dr. Norman Yao, Dept. of Physics. MA awarded Dec. 2019.

2016 **B.S. Physics (Intensive Track), Yale University**
Distinction in the Major; cum laude
GPA: Cumulative 3.85; Physics 3.96; Computer Science 4.00

First-Author Research Projects

Classically verifiable quantum advantage from a computational Bell test
New protocol for demonstrating quantum advantage, with efficient classical verification and lean quantum circuits. Implementation in Cirq. arXiv:2104.00687

Forging quantum data: classically defeating an IQP-based quantum test
Broke a cryptographic test of quantum advantage that had remained open for 10 years. Implementation in Julia. arXiv:1912.05547

dynamite
Python library with C/C++ backend for efficient MPI- and GPU-parallelized simulation of many-body quantum dynamics using matrix-free Krylov subspace methods. dynamite.readthedocs.io

GPU implementation of Dumer's algorithm
Current record holder (as of Oct. 2020) for breaking Learning Parity with Noise, a post-quantum cryptographic primitive.
https://decodingchallenge.org/syndrome

Programming

Languages	Python, Julia, C, C++, ...
Parallelization	MPI, OpenMP, CUDA
Experience with	Cython, NumPy, CUDA.jl, iTensor, Cirq, Qiskit, Docker
Contributor to	PETSc, Xournal++
GitHub	github.com/GregDMeyer

Graduate Electives

Quantum Computing (U. Vazirani)

Parallel Computing (K. Yelick, J. Demmel)

Cryptography (S. Garg)

Interactive and Probabilistically Checkable Proofs (A. Chiesa)

Awards and Fellowships

2018-21 **Nat'l Defense Science & Engineering Graduate Fellow (NDSEG)** *Dept. of Defense – $115,200 + tuition, fees, health care*

2018 **Graduate Research Fellow (GRFP)** (declined) *National Science Foundation – $102,000 + institutional grant*

2017 **Heising-Simons Fellowship in Physics** *UC Berkeley – $67,000*

2016 **Howard L. Schultz Award** *Yale Physics Department – $1,000*

2015 **Summer Undergraduate Research Fellow** *NIST Boulder – $9,100*

2014 **Yale Science Scholars Program** *Yale University – $4,500*

2013-14 **Alan S. Tetelman 1958 Fellow** *Yale University – $7,000*