Christopher Granade
Curricula Vitae

Research Interests in Quantum Computation and Information

- Statistical inference for quantum information applications.
- Control and simulation of noisy quantum systems.
- Applications of error correction and prevention.

Academic History

- Master of Science, Physics. Perimeter Scholars International. 2010.
- Bachelor of Science (Honors cum laude), Physics. University of Alaska Fairbanks. 2009.
- Bachelor of Science (Honors cum laude), Mathematics and Computer Science. University of Alaska Fairbanks. 2009.

Recent Work History

- Research Assistant, Institute for Quantum Computing. May 2010 to current.
- Teaching Assistant, Physics Department, University of Alaska Fairbanks. September 2008 to May 2009.
- Research Assistant, Computer Science and Artifical Intelligence Laboratory, Massachusetts Institute of Technology. June 2008 to August 2008.
- Student Researcher, Infrasound Group, University of Alaska Fairbanks. September 2006 to June 2008.

Academic Contributions

Papers, Essays and Publications

2014

- *Accelerated Randomized Benchmarking*, **Christopher E. Granade**, Christopher Ferrie, D. G. Cory. > arXiv:1404.5275
- *Quantum Hamiltonian Learning Using Imperfect Quantum Resources*, Nathan Wiebe, **Christopher E. Granade**, Christopher Ferrie, D. G. Cory. Physical Review A **89** 042314. > arXiv:1311.5269 | doi:10.1103/PhysRevA.89.042314
- *Likelihood-Free Methods for Quantum Parameter Estimation*, Christopher Ferrie, **Christopher E. Granade**. > arXiv:1304.5828 | doi:10.1103/PhysRevLett.112.130402

- *Tractable Simulation of Quantum Error Correction with Honest Approximations to Realistic Fault Models*, Daniel Puzzuoli, **Christopher E. Granade**, Holger Haas, Ben Criger, Easwar Magesan, D. G. Cory. Physical Review A 89, 022306. > arXiv:1309.4717 | doi:10.1103/PhysRevA.89.022306

- *Hamiltonian Learning and Certification Using Quantum Resources*, Nathan Wiebe, **Christopher E. Granade**, Christopher Ferrie, D. G. Cory. > arXiv:1309.0876 | doi:10.1103/PhysRevA.89.042314

2012

- *Robust Online Hamiltonian Learning*, **Christopher E. Granade**, Christopher Ferrie, Nathan Wiebe, David G. Cory. > doi:10.1088/1367-2630/14/10/103013 | arXiv:1207.1655

- *Modeling quantum noise for efficient testing of fault-tolerant circuits*, Easwar Magesan, Daniel Puzzuoli, **Christopher E. Granade**, David G. Cory. Physical Review A 87, 012324. > doi:10.1103/PhysRevA.87.012324 | arXiv:1206.5407

2011

- *Adaptive Hamiltonian Estimation Using Bayesian Experimental Design*, Christopher Ferrie, **Christopher E. Granade**, David G. Cory. Bayesian Inference And Maximum Entropy Methods In Science And Engineering: Proceedings of the 31th International Workshop on Bayesian Inference and Maximum Entropy Methods in Science and Engineering. > doi:10.1063/1.3703632 | arXiv:1111.0935
- *How to best sample a periodic probability distribution, or on the accuracy of Hamiltonian finding strategies*, Christopher Ferrie, **Christopher E. Granade**, David G. Cory. Quantum Information Processing. > doi:10.1007/s11128-012-0407-6 | arXiv:1110.3067
- *Parallel Information Transfer in a Multi-Node Quantum Information Processor*, Troy W. Borneman, **Christopher E. Granade**, David G. Cory. Physics Review Letters 108 140502. > doi:10.1103/PhysRevLett.108.140502 | arXiv:1107.4333

2009

- *Why Complexity Matters* (senior undergraduate Honors thesis). > PDF

2008

- *Ease and Toil: Analyzing Sudoku*, with Seth Chadwick and Rachel Krieg. > PDF

Academic Projects

I have contributed or am an active contributor to the following academic projects:

- Complexity Zoo
- QuaEC
- Qinfer
- Quantum Utils for MATLAB

Awards and Honors

- Oustanding Submission and INFORMS Prize Winner, Mathematical Contest in Modeling, 2008.
- University of Alaska Fairbanks Physics Department Scholarship Recipient, 2006 and 2007.
- Usibelli Honors Scholarship Recipient, 2006.
- University of Alaska Scholar, 2001-2006.