Zak Webb

Doctoral Candidate

University of Waterloo
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EDUCATION

March 2016 Expected — **Doctor of Philosophy in Physics and Astronomy (Quantum Information)**
University of Waterloo
Advisor: Andrew Childs
Thesis: The computational power of many-body systems

June 2011 — **Bachelor of Science**
University of Washington
Majors: Computer Science, Mathematics, and Physics
GPA: 3.89

HONORS AND AWARDS

2011 - 2015 — **Ontario Trillium Scholarship**
Full funding by the province of Ontario for graduate studies by international students

2007 - 2011 — **University of Washington Dean's List**

2007 — **Washington State Scholar**
Full funding for Washington state residents to universities in Washington state

Teaching Experience

Fall 2012 — **Teaching Assistant** *University of Waterloo*
Teaching assistant for introductory physics course

2009-2010 — **Tutor for CLUE** *University of Washington*
University provided tutor for walk in assistance on undergraduate physics courses

PUBLICATIONS

Preprints

October 2015 — **The Clifford group forms a unitary 3-design**
Zak Webb
arXiv:1510.02769

Journal Publications

2015, Expected — **Complexity of the XY antiferromagnet at fixed magnetization**
Andrew M. Childs, David Gosset, Zak Webb
to appear in Quantum Information and Computation
arXiv:1503.07083

May 2015 — **Momentum switches**
Andrew M. Childs, David Gosset, Zak Webb
Quantum Information and Computation 15, 601
arXiv:1406.4510

2015, Expected **The Bose-Hubbard model is QMA-complete**
Andrew M. Childs, David Gosset, Zak Webb
Extended abstract in the proceedings of ICALP 2014, pp. 308-319 (2014)
Long version to appear in Theory of Computing
arXiv:1311.3297

February 2013 **Universal computation by multi-particle quantum walk**
Andrew M. Childs, David Gosset, Zak Webb
Science 339 (6121), 2013
arXiv:1205.3782

December 2008 **A short working distance multiple crystal x-ray spectrometer**
Brian Dickenson, Gerald T. Seidler, Zak Webb, Joe A. Bradley, Ken P. Nagle, Steve M. Heald, Robert A. Gordon, I-Ming Chou
Review of Scientific Instruments 79 (123112), 2008
arXiv:0809.3617

Conference Presentations

January 2015 **18th QIP** *Sydney*, Australia (Poster)

July 2014 **41st ICALP** *Copenhagen*, Denmark (Contributed Talk)