

# VICTOR VEITCH

## PERSONAL INFORMATION

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## STATEMENT OF INTEREST

I am interested in the theory and application of mathematics, particularly applied statistics, statistical methodology, machine learning and information theory.

## EDUCATION

<i>Doctor of Philosophy, Statistical Sciences</i>	<i>2013-present</i> The University of Toronto <i>Statistical Theory and Applications</i> My research primarily focuses on Bayesian non-parametrics and the development of techniques for the statistical analysis of networks. Advisor: Prof. Daniel Roy
<i>Masters of Mathematics</i>	<i>2011-2013</i> The University of Waterloo <i>Applied Mathematics Specialization</i> Thesis: <i>Negative Quasi-Probability in the Context of Quantum Computation</i> My research was focused on quantum information science and the foundations of quantum mechanics. My thesis was recognized as the best Masters thesis in the Mathematics faculty in 2013. Advisor: Prof. Joseph EMERSON
<i>Bachelor of Science</i>	<i>2006-2011</i> The University of Waterloo <i>Honours Mathematical Physics, Pure Mathematics Minor · Dean's Honours List</i>

## WORK EXPERIENCE

<i>University of Toronto</i>	<i>2013-Present</i> Teaching Assistant, Statistical Sciences  Duties included planning and running tutorial sessions for between 15 and 200 students, preparing assignment and test questions and solutions, providing individual instruction during office hours and grading. Courses TA'd have spanned introductory statistical theory, application and mathematical probability. I have consistently received extremely positive feedback from students, and won the departmental TA award in 2015. I also worked on the development of an online statistics course as part of Ontario Online program.
<i>University of Waterloo</i>	<i>2011-2013</i> Teaching Assistant, Applied Mathematics  This work includes a number of introductory applied mathematics courses. Duties were similar to those at the University of Toronto, described above.
<i>Institute for Quantum Computing</i>	<i>2010-2011</i> Research Assistant  This work primarily focused on designing and evaluating techniques for the evaluation of quality of quantum devices; particularly using simulation and optimization with Matlab and C++.

## PUBLICATIONS

- 2014 CONTEXTUALITY SUPPLIES THE MAGIC FOR QUANTUM COMPUTATION.  
M. Howard, J. Wallman, V. Veitch, J. Emerson. **Nature** 510, 351355.  
doi:10.1038/nature13460
- 2013 THE RESOURCE THEORY OF STABILIZER QUANTUM COMPUTATION.  
V. Veitch et al. **New J. Phys.** 16 013009 doi:10.1088/1367-2630/16/1/013009
- 2013 EFFICIENT SIMULATION SCHEME FOR A CLASS OF QUANTUM OPTICS EXPERIMENTS  
WITH NON-NEGATIVE WIGNER REPRESENTATION.  
V. Veitch et al. **New J. Phys.** 15 013037 doi:10.1088/1367-2630/15/1/013037
- 2013 NEGATIVE QUASI-PROBABILITY AS A RESOURCE FOR QUANTUM COMPUTATION.  
V. Veitch et al. **New J. Phys.** 14 113011 doi:10.1088/1367-2630/14/11/113011

## PREPRINTS

- 2015 THE CLASS OF RANDOM GRAPHS ARISING FROM EXCHANGEABLE RANDOM  
MEASURES.  
V. Veitch, D.M. Roy. arxiv.org/abs/1512.03099
- 2013 THE WHOLE IS GREATER THAN THE SUM OF THE PARTS: ON THE POSSIBILITY OF  
PURELY STATISTICAL INTERPRETATIONS OF QUANTUM THEORY.  
J. Emerson, D. Serbin, C. Sutherland, V. Veitch. arxiv.org/abs/1312.1345

## COMPUTER SKILLS

<i>Basic</i>	JAVA, HASKELL, Inkscape
<i>Intermediate</i>	C++, C#, FORTRAN 95, MAPLE, L <sup>A</sup> T <sub>E</sub> X, D <sub>X</sub> , Linux, Microsoft Windows
<i>Advanced</i>	MATLAB, R

## OTHER INFORMATION

<i>Selected Talks</i>	2013 · The Resource Theory of Stabilizer Computation <i>Invited talk</i> at June meeting of the CIFAR Quantum Information Processing meeting. Edmonton, Canada.
	2013 · Negative Quasi-Probability as a Resource for Quantum Computation. Contributed talk at Quantum Information Processing 2013. Beijing, China.
<i>Awards and Honours</i>	2015 · Best Theory Poster at 10th Conference on Bayesian Nonparameterics
	2015 · University of Toronto Statistical Sciences Teaching Assistant Award
	2013 · University of Waterloo Outstanding Achievement in Graduate Studies
	2013-2016 · NSERC PGS-D
	2013-2014 · Ontario Graduate Scholarship (Declined)
	2012-2013 · Ontario Graduate Scholarship
	2012-2013 · University of Waterloo President's Graduate Scholarship
	2011-2012 · Ontario Graduate Scholarship
	2011-2012 · University of Waterloo President's Graduate Scholarship
	2011 · NSERC USRA

## *Web*

GITHUB	· <a href="https://github.com/vveitch">github.com/vveitch</a>
WIKIPEDIA	· <a href="https://en.wikipedia.org/wiki/User:Victor_veitch">en.wikipedia.org/wiki/User:Victor_veitch</a>
GOOGLE SCHOLAR	· <a href="https://scholar.google.ca/citations?user=xkn_XZgAAAAJ&amp;hl=en">scholar.google.ca/citations?user=xkn_XZgAAAAJ&amp;hl=en</a>
WEBSITE	· <a href="https://sites.google.com/site/victorveitch">sites.google.com/site/victorveitch</a>