Curriculum Vitae: Michael Nielsen

Education

Ph.D. Physics, University of New Mexico (1998), "Quantum Information Theory", advised by Carlton M. Caves

M.Sc. Physics, University of Queensland (1998), "Quantum Measurements and Quantum Chaos", advised by Gerard J. Milburn

B.Sc. and B. Sc. Hons (first class) in Mathematics, University of Queensland (1993/1994)

Employment

2019-2020	Cofounder, Experimental Media Research Studio (TBA), San Francisco
2016-2019	Research Fellow, Y Combinator Research, San Francisco
2015-2016	Research Fellow, Recurse Center, New York City
2008-2015	Independent research, writing, and advocacy
2007-2008	Senior Faculty, Perimeter Institute for Theoretical Physics, Canada
2004-2007	Australian Research Council Federation Fellow, School of Physical Sciences, the University of Queensland
2003-2007	Foundation Professor of Quantum Information Science, Joint appointment to the School of Physical Sciences and the School of Information Technology and Electrical Engineering, the University of Queensland
2000-2003	Principal Research Fellow (Associate Professor), Department of Physics, the University of Queensland
2000	Postdoctoral Fellow, Department of Physics, the University of Queensland
1998-2000	Richard Chace Tolman Prize Postdoctoral Fellow, California Institute of Technology

Recognition

- Book "Quantum Computation and Quantum Information" is the standard text in its field, and one of the ten most cited works ever in physics (~41,000 citations)
- Articles discussing Nielsen's work have appeared in *The New York Times, Science, Nature,* and many other leading venues
- Invited pieces in *Nature*, the *Wall Street Journal*, *Scientific American,* and many other leading venues.
- Book "Neural Networks and Deep Learning" has ~2,200 citations, and has been accessed by more than 5 million readers in 232 countries
- Book "Reinventing Discovery" (~960 citations) named to the *Financial Times'* and *Boston Globe's* lists of the best books of 2011
- SPARC innovator prize for work on open science

- Named in the *Science* list of ten most significant breakthroughs of 1998, for work on quantum teleportation
- Richard Chace Tolman Prize Postdoctoral Fellow at Caltech
- Best Ph.D. Dissertation Prize in Physics and Astronomy at the University of New Mexico in 1998
- Fulbright Scholar
- University Medal, graduated first in class (B. Sc. and B. Sc. Hons at the University of Queensland)

Other activity

- Supervised or co-supervised 8 Ph.D. dissertations
- Provided review or external advice for the Australian Research Council, US National Science Foundation, Sloan Foundation, the Open Society Foundations, and many other funders
- Received ~$4 million AUS in research funding
- Reviewer for more than a dozen academic journals, including *Nature*, *Science,* and *Physical Review Letters*
- Founding columnist at *Quanta Magazine* (the other founding columnists were Frank Wilczek and Ingrid Daubechies)
- Principal organizer of more than 20 workshops, conferences, and summer schools, including the premier conference in quantum computing theory, QIP 2007

Publications and talks

- 4 books, more than 60 papers, and an extensive portfolio of research software and prototypes
- 58,670 citations, h index = 55 (Google Scholar, June 29, 2020)
- More than 100 plenary, keynote, invited and similar talks, at institutions including Harvard, Cambridge, Oxford, Caltech, Stanford, MIT, Princeton, Imperial College, CERN, Google, and Microsoft Research.

Selected Recent Research Contributions

My research work the past few years has been communicated via a mix of traditional (books, papers) and non-traditional (demos & prototypes) research outputs. Here are a few items:

- Andy Matuschak and Michael Nielsen, "Quantum Country" (interactive book), San Francisco (2020)
- Shan Carter and Michael Nielsen, "Using Artificial Intelligence to Augment Human Intelligence", Distill (2018) [58 citations]
- Michael Nielsen, "Thought as a Technology" (online prototypes) (2016)
- Michael Nielsen, "Neural Networks and Deep Learning" (interactive book), San Francisco (2015) [2,207 citations]

10 Most Cited Research Contributions

Citation counts from Google Scholar, June 29, 2020.

1. Michael A. Nielsen and Isaac L. Chuang, "Quantum Computation and Quantum Information", Cambridge University Press (2000) [41,041 citations]
2. Michael Nielsen, "Neural Networks and Deep Learning" (2015) [2,207 citations]
3. T. J. Osborne and M. A. Nielsen, "Entanglement in a Simple Quantum Phase Transition", Physical Review A (2000) [1,526 citations]
4. Michael A. Nielsen, "Conditions for a Class of Entanglement Transformations", Physical Review Letters (1999) [1,047 citations]
5. Michael Nielsen, "Reinventing Discovery", Princeton University Press (2011) [962 citations]
6. Isaac L. Chuang and Michael A. Nielsen, "Conditions for Experimental Determination of the Dynamics of a Quantum Black Box", Journal of Modern Optics (1997) [793 citations]
7. M. A. Nielsen, E. Knill, and R. Laflamme, "Complete Quantum Teleportation Using Nuclear Magnetic Resonance", Nature (1998) [754 citations]
8. B. Schumacher and M. A. Nielsen, "Quantum Data Processing and Error Correction", Physical Review A (1996) [645 citations]
9. M. A. Nielsen, "Optical Quantum Computation Using Cluster States", Physical Review Letters (2004) [578 citations]
10. N. C. Menicucci, P. Van Loock, M. Gu, C. Weedbrook, T. C. Ralph, and M. A. Nielsen, "Universal quantum computation with continuous-variable cluster states", Physical Review Letters (2006) [547 citations]