

Submittee: Barry Sanders

Date Submitted: 2016-02-02 16:36

Title: 19th Conference on Quantum Information Processing (QIP 2016)

Event Type: Conference-Workshop

Location:

Banff Centre, Canada

Dates:

10-15 January 2016

Topic:

The topic of the meeting is theoretical quantum information processing. Quantum information seeks to exploit quantum physics for a radical and disruptive shift in information security, communication and computing. This high-risk high-gain approach to information processing capitalizes on quantum features such as the uncertainty principle, no cloning of states, entanglement and inherent parallelism based on the superposition principle. The topic advances and uses exciting, modern mathematical principles drawn from operator algebra, coding and information theory, algorithms and complexity, topology, differential geometry, and differential equations.

Methodology:

Lectures, poster sessions, software tutorial.

Objectives Achieved:

The conference featured breakthroughs by the leaders in the disciplines of computing, cryptography, information theory, mathematics and physics and had an excellent range of junior to senior researchers at the conference.

Scientific Highlights:

The scientific objective of the series is to gather the theoretical quantum information community to present and discuss the latest groundbreaking work in the field.

Organizers:

Sanders, Barry, Physics & Astronomy, University of Calgary (Chair)
Gour, Gilad, Mathematics & Statistics, University of Calgary (member)
Feder, David, Physics & Astronomy, University of Calgary (member)
Hoyer, Peter, Physics & Astronomy, University of Calgary (member)
Wang, Lucia, Physics & Astronomy, University of Calgary (member)

Speakers:

Hansen, Ronald, Technical University Delft
Hayden, Patrick, Stanford University
Urbanke, Ruediger, Ecole Polytechnique Federale de Lausanne
Pusey, Matthew, Perimeter Institute
Ji, Zhengfeng, Institute for Quantum Computing, University of Waterloo
Coudron, Matthew, Massachusetts Institute of Technology
Vidick, Thomas, California Institute of Technology
Aubrun, Guillaume, Institut Camille Jordan
Szarek, Stanislaw, Western Reserve University and Pierre and Marie Curie University
Ambainis, Andris, University of Latvia
Childs, Andrew, University of Maryland
Kothari, Robin, Massachusetts Institute of Technology
Somma, Rolando, Quantum Institute, Los Alamos National Laboratory
Montanaro, Ashley University of Bristol
de Beaudrap, Niel, University of Oxford
Gharibian, Sevag, Virginia Commonwealth University
Sundaram, Aarthi, National University of Singapore
Yoshida, Beni, Perimeter Institute
Pastawski, Fernando, California Institute of Technology
Yoshida, Beni, California Institute of Technology
Harlow, Daniel, Princeton University
Preskill, John, California Institute of Technology
Bravyi, Sergey, IBM Watson Research Center
Cross, Andrew, IBM Watson Research Center
O'Donnell, Ryan, Carnegie Mellon University
Wright, John, Carnegie Mellon University
Aaronson, Scott, Massachusetts Institute of Technology
Ben-David, Shalev, Massachusetts Institute of Technology
Kothari, Robin Massachusetts Institute of Technology
Li, Ke, IBM & Massachusetts Institute of Technology
Bouland, Adam, Massachusetts Institute of Technology
Fawzi, Omar, Swiss Federal Institute of Technology Zurich
Sutter, David, Institute for Theoretical Physics, ETH Zurich
Cross, Andrew, IBM TJ Watson Research Center
Li, Ke, IBM TJ Watson Research Center
Smith, Graeme, IBM TJ Watson Research Center
Yuen, Henry, Massachusetts Institute of Technology
Bavarian, Mohammad, Massachusetts Institute of Technology
Vidick, Thomas, California Institute of Technology
Bausch, Johannes, University of Cambridge
Cubitt, Toby, University College London
Ozols, Maris, University of Cambridge
Ge, Yimin, Max Planck Institute of Quantum Optics
Molnar, Andras, Max Planck Institute of Quantum Optics
Cirac, Ignacio, Max Planck Institute of Quantum Optics
Bravyi, Sergey, IBM T.J. Watson Research Center
Gosset, David, California Institute of Technology
Musto, Ben, University of Oxford
Vicary, Jamie, University of Oxford
Leverrier, Anthony, INRIA
Tillich, Jean-Pierre, INRIA
Zemor, Gilles, Bordeaux Mathematics Institute

Urbanke, Ruediger , Ecole Polytechnique Federale de Lausanne
Smolin, John, IBM TJ Watson Research Center
Zhu,Huangjun, Perimeter Institute
Beverland, Michael, California Institute of Technology
Walter, Michael Stanford University
Komar, Anna, IQIM Caltech
Yard, Jon, Microsoft Research
Bremner, Michael, University of Bristol
Montanaro, Ashley, University of Bristol
Shepherd, Dan, University of Bristol
Eldar, Lior, Massachusetts Institute of Technology
Olivier Landon-Cardinal, Caltech, McGill U
Kristan Temme, Caltech, IBM

For titles of talks and abstract, please download the link
<http://ucalgary.ca/qip2016/home/scientific-program>

Links:

<http://ucalgary.ca/qip2016/>

Comments / Miscellaneous:

PIMS funding was used for transportation, the EasyChair software system for managing refereeing papers
