Submittee: Catherine Barrett
Date Submitted: 2013-09-16 14:43
Title: CANADIAN SUMMER SCHOOL ON QUANTUM INFORMATION - 2013
Event Type: Conference-Workshop

Location:
Calgary, Alberta

Dates:
17 - 21 June 213

Topic:
The school consists of five consecutive days of talks that cover the basics of quantum information processing as well as more advanced topics, including: Quantum information theory; Quantum algorithms and lower bounds;   Implementations and models; Quantum communication, nonlocality, interactions

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Methodology:
The focus of the summer school was to provide introductory lectures on quantum information science to a general audience of graduate-level computer scientists, physicists and mathematicians presented in a lecture format.   The school consists of five consecutive days of talks that cover the basics of quantum information processing as well as more advanced topics, including quantum information theory, quantum algorithms and lower bounds, Implementations and models and quantum communication, nonlocality and interactions.

Objectives Achieved:
The event brought together sixty-seven students, postdocs and professors not only from Canada but also internationally to learn quantum information. The School featured three seventy-five minute lectures by each presenter, which gave each lecturer sufficient time to give background then proceed to in-depth study of the topic. The School featured experimentalists and theorists from Physics and Mathematics. The School material, web pages and oral announcements all thanked the generosity of sponsors . The final of the day of the School was challenged by Calgary's severe flooding event, which led to the University's closure on that day. The School was transferred minutes before Friday's first lecture to the University Residences, which were open, and all lectures proceeded in a makeshift setting. All weekend events had to be cancelled due to flooding, but the School participants were well taken care of by heroic efforts by some Calgary students, some of whom continued to help despite their own homes being evacuated. The lectures were clear and appreciated by the students, and the School was held within budget.

Organizers:
Hoyer,Peter Co-Chair (University of Calgary) ///   Sanders, Barry Co-Chair (University of Calgary) /// Simon, Christoph (University of Calgary) /// Tittel, Wolfgang(University of Calgary)

Speakers:

Alexandre Blais, Universite de Sherbrooke: Quantum information Processing with Superconducting Circuit /// Dominic Berry, Macquarie University: Elementary Quantum Algorithms; Techniques for Quantum Algorithms; Quantum Simulation Algorithms /// Nilanjana Datta, University of Cambridge: Entropies and Information Theory /// Austin Fowler, The University of Melbourne: Why use the Surface Code?; Anatomy of a Surface Code Algorithm; Modern Surface Code Research. /// Ivette Fuentes, The University of Nottingham: Technical tools in quantum information and quantum field theory; Entanglement in flat and curved spacetimes; Localized systems for relativistic quantum information processing. /// Daniel Gottesman, Perimeter Institute: Quantum Error Correction and Fault Tolerance. /// Matteo Mariantoni, University of Waterloo: Superconducting Qubits. /// Christoph Simon, University of Calgary: Quantum Memories; Quantum Repeaters; Quantum Cryptography beyond Quantum Key Distribution.

Links:

http://www.iqis.org/events/cssqi13/index.php

File Uploads:

Additional Upload 1: http://www.pims.math.ca/files/final_report/Photo_and_list_of_participants.pdf

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