

Conference Schedule

Monday December 17, 2007

7:45-8:45	Continental Breakfast
8:00-8:45	Registration
8:45-9:00	Conference Opening – Embassy Room
9:00-9:55	<i>Introduction to Fault Tolerance</i> Daniel Gottesman , Perimeter Institute
9:55-10:50	<i>Introduction to Decoherence-free Subspaces, Noiseless Subsystems, and Dynamical Decoupling</i> Lorenza Viola , Dartmouth College
10:50-11:20	Coffee Break
11:20-12:15	<i>Introduction to Quantum Error Correcting Codes and Operator Quantum Error Correction</i> Dave Bacon , University of Washington
12:15-1:10	<i>Experimental Quantum Error Correction</i> Raymond Laflamme , IQC, University of Waterloo
1:10-2:40	Lunch – Vineyard Room
2:40-3:20	<i>Complementarity of Correctable and Private Subsystems</i> David Kribs , University of Guelph
3:20-4:00	<i>On Measurements in FTQC</i> Debbie Leung , University of Waterloo
4:00-4:30	Coffee Break
4:30-4:50	<i>Experimental Implementation of the Toric Code</i> Jiannis Pachos , University of Leeds
4:50-5:10	<i>Correction of Hybrid Quantum and Classical Information</i> Cedric Beny , University of Waterloo
5:10-5:30	<i>Adiabatic Quantum Computation with Noisy Qubits</i> Mohammad Amin , D-Wave Systems Inc.
5:30-5:50	<i>A new error estimate for Adiabatic Quantum Computation</i> Alioscia Hamma , University of Southern California

Keynote

Tutorial

Invited

Contributed

Tuesday December 18, 2007

8:00-9:00	Continental Breakfast
9:00-9:55	<i>Errors and Error-Correction in Trapped Ion Systems</i> Dave Wineland , NIST
9:55-10:35	<i>Protected Quantum Memories and Anyonic Interferometry with Atomic Spin Lattices</i> Gavin Brennen , Macquarie University
10:35-11:05	Coffee Break
11:05-11:45	<i>Quantum devices based on superconducting inductors</i> Alexei Kitaev , California Institute of Technology
11:45-12:25	<i>Hamiltonian Formulation of Quantum Error Correction and Correlated Noise</i> Eduardo Novais , Duke University
12:25-1:55	Lunch – Vineyard Room
1:55-2:35	<i>Criticism of Fault-Tolerant Quantum Information Processing</i> Robert Alicki , University of Gdansk
2:35-3:15	<i>Detrimental Errors</i> Todd Brun , University of Southern California
3:15-3:45	Coffee Break
3:45-4:05	<i>Fidelity of a Quantum Error Detection Protocol</i> Alexei Ashikhmin , Bell Labs
4:05-4:25	<i>Linear Quantum Error Correction</i> Alireza Shabani , University of Southern California
4:25-4:45	<i>A Universal Operator Theoretic Framework for Quantum Fault Tolerance</i> Yaakov Weinstein , MITRE Quantum Information Science Group
4:45-5:00	Coffee Break
5:00-5:20	<i>Quantum Error Correction in Spatially Correlated Quantum Noise</i> Rochus Klesse , Cologne University
5:20-5:40	<i>A Globally Controlled Fault-Tolerant Architecture for Quantum Computation</i> Joe Fitzsimons , Oxford University
5:40-6:40	<i>Poster Session</i>

Wednesday December 19, 2007

8:00-9:00	Continental Breakfast
9:00-9:55	<i>Fault-Tolerant Quantum Computation Against Realistic Noise</i> John Preskill , California Institute of Technology
9:55-10:35	<i>Pulse Techniques for Decoupling Qubits from Noise: Experimental Tests</i> Stephen Lyon , Princeton University
10:35-11:05	Coffee Break
11:05-11:45	<i>Robust Quantum Error Correction via Convex Optimization</i> Robert Kosut , SC Solutions
11:45-12:25	<i>Error-Correcting the IBM Superconducting Flux Qubit</i> Panos Aliferis , IBM Research
12:25-1:55	Lunch – Vineyard Room
1:55-2:35	<i>Improving the Fault Tolerance of Adiabatic Quantum Computation</i> Stephen Jordan , Massachusetts Institute of Technology
2:35-3:15	<i>Topological Color Codes</i> Héctor Bombin , Universidad Complutense de Madrid
3:15-3:45	Coffee Break
3:45-4:05	<i>Distributed Quantum Error Correction</i> Rod Van Meter
4:05-4:25	<i>Hybrid Quantum Decoupling and Error Correction</i> Leonid P. Pryadko , University of California, Riverside
4:25-4:45	<i>Dynamical Error Correction for Encoded Quantum Computation</i> Kaveh Khodjasteh , University of Southern California
4:45-5:00	Coffee Break
5:00-5:20	<i>Convolutional Entanglement Distillation</i> Mark M. Wilde , University of Southern California
5:20-5:40	<i>A Comparative Code Study for Quantum Fault-Tolerance</i> Andrew Cross , Massachusetts Institute of Technology
5:40-6:40	<i>Poster Session</i>

Thursday December 20, 2007

8:00-9:00	Continental Breakfast
9:00-9:55	<i>Exploring Quantum Error Correction with Nuclear Spins</i> David G. Cory , Massachusetts Institute of Technology
9:55-10:35	<i>Fault-Tolerant Quantum Computation with High Threshold in Two Dimensions</i> Robert Raussendorf , Perimeter Institute
10:35-11:05	Coffee Break
11:05-11:45	<i>A Framework for Non-Additive Quantum Codes</i> Markus Grassl , Institute for Quantum Optics and Quantum Information, Austrian Academia of Sciences
11:45-12:25	<i>Preserved Information in Quantum Processes</i> David Poulin , California Institute of Technology
12:25-1:55	Lunch – Vineyard Room
1:55-2:35	<i>Efficient Combinatorial Schemes for Decoupling and Simulating Hamiltonians</i> Pawel Wocjan , University of Central Florida
2:35-3:15	<i>Constructions and Performance of Asymmetric Quantum Codes</i> Martin Roetteler , NEC Laboratories America
3:15-3:45	Coffee Break
3:45-4:05	<i>Fault-Tolerance in a Quantum Computer Architecture based on Semiconductor Microphotronics</i> Thaddeus D. Ladd , Stanford University
4:05-4:25	<i>Self-Protected Quantum Algorithms Based on Quantum State Tomography</i> Mark Byrd , Southern Illinois University
4:25-4:45	<i>Fault-Tolerant Holonomic Computation on Quantum Error-Correcting Codes</i> Ognyan Oreshkov , University of Southern California
4:45-5:00	<i>Subsystem Code Constructions</i> Salah Aly , Texas A&M University
5:00-6:00	<i>Poster Session</i>
7:00-9:00	BANQUET

Friday December 21, 2007

8:00-9:00	Continental Breakfast
9:00-9:55	<i>Adapting Quantum Error Correction to Specific Channels</i> Peter Shor , Massachusetts Institute of Technology
9:55-10:35	<i>Minimum Resource Approaches to Quantum Communication and Computation</i> Jacob Taylor , Massachusetts Institute of Technology
10:35-11:05	Coffee Break
11:05-11:25	<i>Running a Quantum Circuit at the Speed of Data</i> Nemanja Isailovic , University of California, Berkeley
11:25-11:45	<i>Thresholds of Correctable Noise of Quantum Error Correcting Codes Under Adaptive Concatenation</i> Jesse Fern , UC Berkeley
11:45-12:05	<i>Conditions for Approximate Error Correction</i> Prabha Mandayam , California Institute of Technology
12:05-12:20	Coffee Break
12:20-12:40	<i>Optimal Dynamical Decoherence Control</i> Goren Gordon , Weizmann Institute of Science
12:40-1:00	<i>Channel-Adapted Quantum Error Correction</i> Andrew Fletcher , MIT Lincoln Laboratory
1:00-1:10	Closing Statement
1:10-2:00	Box Lunch