# Schedule of Presentations QIC710/CS768/CO681/PH767/AM871 (Fall 2013)

LAST	MODIF	TED Dec.	17.	Noon
	MODII	ILD DO	/ 9	110011

Novembe	r 28	(Thursday):

2:30-3:00pm	Iason Boisselle	Additivity of channels using Guassian states

3:00-3:30pm Mehdi Karimi Using the mathematics of quantum information to prove classical results

3:30-4:00pm Abbas Mehrabian Quantum query complexity of the connectivity of a graph

November 29 (Friday):

10:00-10:30am Anirudh Krishna Quantum accuracy threshold for concatenated distance-3 codes

10:30-11:00am Zimeng Wang Oracle interrogation

11:00-11:30am Lydia Vermeyden Envariance as a proof for Born's rule

#### December 12 (Thursday):

9:30-10:00am	Jean-Philippe MacLean	Entanglement witnesses
10:00-10:30am	Olivia di Matteo	Mutually unbiased bases

10:30-10:45am **BREAK** 10:45-11:15am John Schanck Solving the Pell equation Applications of quantum walks 11:15-11:45am Chunhao Wang

11:45-1:00pm LUNCH BREAK Quantum error models 1:00-1:30pm Marie Barnhill 1:30-2:00pm Rahul Deshpande Quantum simulation

2:00-2:30pm Zhihan Gao Quantum algorithms for matching and network flows **BREAK** 

2:30-2:45pm 2:45-3:15pm Ian Kennedy Quantum annealing 3:15-3:45pm Annie Jiyun Park Entanglement fidelity

December 16 (Monday):

9:00-9:30am Eric Crawford Discrete quantum walk algorithms with quadratic speedup over classical counterparts

Jaakko Kaupinmaki Continuous-time quantum algorithms 9:30-10:00am

10:00-10:30am Winnie Lam Proof systems for the shortest vector problem

10:30-10:45am BREAK

10:45-11:15am Dmitry Serbin Randomized benchmarking 11:15-11:45am Joshua Young Quantum walk search algorithm

#### December 17 (Tuesday):

9:00-9:30am	Nayeli Azucena Rodriguez Briones	Heat-bath algorithmic cooling
9:30-10:00am	Sean Hunt	Ouantum Turing machines

10:00-10:30am Dmitri Iouchtchenko Effects of shared entanglement on communication

10:30-10:45am **BREAK** 

Shihan Sajeed Choosing optimal parameters for the BB84 protocol 10:45-11:15am

11:15-11:45am Anirudh Sankar Merkle puzzles in a quantum world

# December 18 (Wednesday): PLEASE NOTE LATER START TIME

9:30-10:00am	Jérémy Béjanin	Stabilizer codes, and the 5-qubit code
10:00-10:30am	Kevin Liu	An introduction to quantum games
10 20 10 15	DDEAK	

10:30-10:45am BREAK

10:45-11:15am Lindsay Orr Complexity of the k-local Hamiltonian problem for physically relevant systems

11:15-11:45am John Rinehart Quantum entropy and channel capacity

#### December 19 (Thursday):

1:00-1:30pm	Arnaud Carignan-Dugas	Retrieving information out of Hawking radiation
1:30-2:00pm	Poompong Chaiwongkhot	Quantum Shannon information
2:00-2:30pm	Linda Farczadi	Quantum oracle interrogation

2:30-2:45pm **BREAK** 

2:45-3:15pm Dieter Fishbein A quantum algorithm for solvable groups

Measurement based quantum computation: teleportation quantum computation 3:15-3:45pm Piers Lillystone

OEC with the surface code 3:45-4:15pm Alex Parent

# December 20 (Friday):

1:00-1:30pm Nicolas Gonzales	Threshold accuracy for quantum computation
------------------------------	--

1:30-2:00pm Robie Hennigar From black boxes to black holes: recovering quantum information from black holes

2:00-2:30pm Asif Khan Quantum interactive proof systems

2:30-2:45pm 2:45-3:15pm Sumit Sijher The toric code

**BREAK** 

3:15-3:45pm Sean Walker Measurement based quantum computation

3:45-4:15pm Hamiltonian simulation for quantum field theories Darryl Hoving