



Meeting on Quantum Information Processing and Applications, 2013

*Harish-Chandra Research Institute
Chhatnag Road, Jhansi, Allahabad-211019, India*



Program Schedule (02 December - 08 December)

02 December 2013		
Time	Speaker	Title
8:00-8:45		Registration
8:45-9:00		Welcome
Chairperson: Rajagopal A K		
09:00-09:45	Sanpera Anna	<i>Bipartite Versus Multipartite Entanglement in Strongly Correlated Systems</i>
09:45-10:30	Ghosh Saikat	<i>Towards a Universal Count of Resources Used in a Precision Measurement</i>
10:30-11:00		Tea
11:00-11:45	Majumdar A S	<i>Fixing the Lower Limit of Entropic Uncertainty Using Quantum Memory</i>
11:45-12:30	Parashar Preeti	<i>Geometric Discord: Some Analytic Results</i>
12:30-14:30		Lunch
Chairperson: Winter Andreas		
14:30-15:15	Sinha Urbasi	<i>Quantifying the Quantum</i>
15:15-16:00	Bandyopadhyay J	<i>Power-law Random Banded Unitary Matrices: A new random matrix ensemble</i>
16:00-16:30	Wiesniak Marcin	<i>Minimal Multipartite Entanglement Detection</i>
16:30-17:00		Tea
17:00-17:30	Narang Geetu	<i>Decoherence in Multiqubit Systems</i>
17:30-18:15	Yarlagadda Sudhakar	<i>Polaron Dynamics and Decoherence in an Interacting Two-Spin System Coupled to Optical Phonon Environment</i>
18:15		Tea
19:30		Dinner

03 December 2013		
Time	Speaker	Title
Chairperson: Amico Luigi		
09:00-09:45	Kumar Anil	Quantum Simulations by NMR
09:45-10:30	Home Dipankar	Probing Quantumness and its Macrolimit of the Schrödinger Coherent State for Harmonic Oscillator using Leggett-Garg inequality
10:30-11:00	Tea	
11:00-11:45	Sen Ashoke	Review of the Firewall Paradox
11:45-12:30	Banerjee Subhashish	Quantum Information: From the perspective of Quantum Optics
12:30-14:30	Lunch	
Chairperson: Anil Kumar		
14:30-15:15	Arvind	State Tomography with Weak Measurements
15:15-16:00	Narayanan Andal	A Mechanical Switch for Quantum State Transfer in Dual Cavity Optomechanical Systems
16:00-16:30	Biswas Anindya	Shared Purity of Multipartite Quantum States
16:30-17:00	Tea	
17:00-17:45	Raju Suvrat	State Dependent Operators and the Interior of a Black Hole
17:45-18:00	Crow Robert	Building a Global Quantum Information Industry
18:00	Tea	
19:30	Dinner (arranged by IQC, Waterloo)	

04 December 2013		
Time	Speaker	Title
Chairperson: Sanpera Anna		
09:00-09:45	Amico Luigi	Local Response of Topological Order to an External Perturbation
09:45-10:30	Mahesh T S	Ancilla-Assisted Quantum Information Processing
10:30-11:00	Tea	
11:00-11:45	Jha Anand Kumar	Two-Photon Fields: Coherence, Interference and Entanglement
11:45-12:30	Dutta Amit	Quantum criticality, quenches and the Loschmidt echo
12:30-14:30	Lunch	
Chairperson: Latorre Jose Ignacio		
14:30-15:15	Rao Sumathi	Majorana Modes and Non-Abelian Statistics
15:15-16:00	Sudha Shenoy	Local Invariant Spin Squeezing Criteria for Multiqubit States
16:00-16:30	Tea	
16:30-17:00	Vathsan Radhika	Aspects of Uncertainty and Complementarity
17:00-17:30	Kolodynski Jan	Quantum Metrology in Realistic Scenarios
17:30	Tea and Poster	
19:30	Dinner	

05 December 2013		
Time	Speaker	Title
Chairperson: Kus Marek		
09:00-09:45	Roy S M	Remote Tomography and Entanglement Swapping via von Neumann-Arthurs-Kelly Interaction
09:45-10:30	Latorre J I	Quantum Counting of Prime Numbers
10:30-11:00	Tea	
11:00-11:45	Shaji Anil	Probing the Environment Using System Dynamics in Open Quantum Evolution
11:45-12:30	Ghose Partha	Entanglement in Classical Optics
12:30-14:30	Lunch	
Chairperson: Roy S M		
14:30-15:15	Kus Marek	A Universal Framework for Entanglement Detection
15:15-16:00	Sirsi Swarnamala	Representation and Local Unitary Classification of Pure and Mixed Symmetric N-qubit States
16:00-16:45	Markham Damian	Flow of Information and Classical simulatability in MBQC and Adiabatic QC
16:45-17:15	Tea	
17:15-18:00	Goswami Debabrata	Experimental Quantum Correlations in Condensed Phase: Possibilities of Quantum Information Processing
18:00	Tea	
19:30	Conference Dinner	

06 December 2013		
Time	Speaker	Title
Chairperson: Markham Damian		
09:00-09:45	Subrahmanyam V	Entanglement of Correlated Electron States and the Metal-Insulator Crossover Scaling Form
09:45-10:30	Vijayaraghavan R	Quantum Measurement and Feedback with Superconducting Circuits
10:30-11:00	Tea	
11:00-11:45	Guha Saikat	On the Quantum Limits of Classical Communication and Secret-Key Generation over a Lossy Optical Channel
11:45-12:30	Grudka Andrzej	Simple Method of Obtaining Bell Inequalities from Quantum Advantage in One Way-Communication Complexity
12:30-14:30	Lunch	
Chairperson: Parashar Preeti		
14:30-15:15	Mukherjee Manas	Ramp Dynamics for Entanglement Generation and Cooling
15:15-16:00	Biswas Asoka	Inseparability Inequalities for Multi-Spin Systems based on Bipartition
16:00-16:30	Bera Manabendra N	Limit on Time-Energy Uncertainty with Multipartite Entanglement
16:30-17:00	Tea	
17:00-17:30	Sai Vinjanampathy	Pre-Verification of Quantum Processes
17:30-18:15	Ghosh Sibasish	Minimal State-Dependent Proof of Measurement Contextually for a Qubit
18:15	Tea and Poster	
19:30	Dinner	

07 December 2013		
Time	Speaker	Title
Chairperson: Sudha Shenoy		
09:00-09:45	Winter Andreas	Strong Converse for the Classical Capacity of Entanglement-Breaking and Hadamard Channels
09:45-10:30	Joag Pramod	Quantum Algorithm for Linear Programming (LP) Problems
10:30-11:00	Tea	
11:00-11:45	Qureshi Tabish	Master-Key Controlled Quantum Key Distribution
11:45-12:30	Sarkar Debasis	Local Quantum Uncertainty and Bounds on Quantumness for $\mathcal{O} \otimes \mathcal{O}$ invariant class of states
12:30-14:30	Lunch	
Chairperson: Yarlagadda Sudhakar		
14:30-15:15	Mitra Chiranjib	Experimental Quantification of Entanglement and Quantum Discord in Spin Chains
15:15-16:00	Datta Animesh	Sensing and Imaging at the Quantum Limit
16:00-16:30	Pramanik Tanumoy	Improving the Fidelity of Teleportation Through Noisy Channels Using Weak Measurement
16:30-17:00	Tea	
17:00-17:30	Moroder Tobias	Lower Bounding Convex Roofs
17:30-18:15	Srikanth R	Probing the Role of Leggett-Garg Inequality in Quantum Key Distribution
18:15	Tea	
19:30	Dinner	

08 December 2013		
Time	Speaker	Title
Chairperson: Joag Pramod		
09:00-09:45	Lakshminarayan Arul	Local Unitary Invariants from Entanglement Detecting Maps and Applications to Dynamical Systems
09:45-10:30	Chakrabarty Indranil	Retrieving and Routing Quantum Information in a Quantum Network
10:30-11:00	Tea	
11:00-11:45	Chaturvedi S	A quantum dynamical framework for Brownian heat engines
11:45-12:30	Fanchini F F	Non-Markovianity Through Accessible Information
12:30-14:30	Lunch	
Chairperson: Lakshminarayan Arul		
14:30-15:15	Plenio Martin	TBA
15:15-15:45	Maxein Dominik	A Reversible Quantum Memory for Orbital Angular Momentum Qubits
15:45-17:00	Tea	
17:00-17:45	Christensen Stefan	Quantum Interference Between a Single Spin Excitation and a Macroscopic Atomic Ensemble
17:45-18:30	Prakash Hari	TBA
18:30	Concluding remarks & Tea	
19:30	Dinner	