

QFA – 2021

18th October 2021 (Monday)

INAUGURATION (1:30 PM to 2:55 PM)

Introduction by Coordinator IDRP-QIC (S. Banerjee: 1:30 Pm to 1:35 Pm)

Address by Director IIT Jodhpur (S. Chaudhury: 1:35 Pm to 1:55 Pm)

Address by Mission Director, NM-ICPS (M. Mohan: 1:55 Pm to 2:15 Pm)

Plenary Talk by DG MCC, DRDO HQ (S. Kamath: 2.15 Pm to 2:50 Pm)

3:00 pm to 4:00 pm

Dr. Michael Hall (Australian National University)

Plenary Talk

“Recycling qubits for the sequential sharing of Bell nonlocality”

4:05 pm to 4:55 pm

Dr. Christophe Couteau (University of Troyes, France)

“A new platform for quantum photonics applications”

Tea Break (5:00 pm to 5:30 pm)

5:30 pm to 6:20 pm

Dr. P. K. Panigrahi (IISER Kolkata)

“Conventional Vector Parallelism Quantifies Multiparty Entanglement”

6:25 pm to 7:15 pm

Dr. Arun Pati (HRI, Allahabad)

“CLASSICAL COMMUNICATION WITH INDEFINITE CAUSAL ORDER”

7:20 pm to 8:10 pm

Dr. Richard MacKenzie (University of Montreal, Canada)

“Qubits as edge state detectors: illustration using the SSH model”

19th October 2021 (Tuesday)

12:00 PM to 12:50 PM

Dr. Archan S Majumdar (S N Bose National Institute of Basic Science)
“Self-testing of entanglement and measurements using spatial and temporal correlations”

Lunch Break (12.55 pm to 1:55 pm)

2:00 pm to 3:00 pm

Dr. Karol Życzkowski (Jagiellonian University, Poland)
Plenary Talk
“Iso-entangled Mutually Unbiased Bases and mixed states t-designs”

3:05 pm to 3:55 pm

Dr. Marin Bukov (Sofia University, Bulgaria)
“Reinforcement Learning for Many-Body Ground State Preparation based on Counter-Diabatic Driving”

4:00 pm to 4:50 pm

Dr. Debasis Sarkar (Calcutta University)
“Quantum Correlations in Quantum Network Scenario- case of more complex network”

Tea Break (5:00 pm to 5:30 pm)

5:30 pm to 7:00 pm

Academia - Industry Panel Discussion

Break (7:00 pm to 7:15 pm)

7:20 pm to 8:10 pm

Dr. Tomasz Paterek (University of Gdańsk, Poland)
“Mediated dynamics: foundations and applications”

20th October 2021 (Wednesday)

11:00 am to 11:50 am

Dr. Shantanav Chakraborty (IIIT Hyderabad)
“How fast do quantum walks mix?”

12:00 pm to 12:50 pm

Dr. Himadri Dhar (IIT Bombay)
“Periodic quantum state transfer and revival in hybrid quantum systems”

Lunch Break (12.55 pm to 1:55 pm)

2:00 pm to 2:50 pm

Dr. Usha Devi (University of Bangalore)
“Canonical forms of two-qubit states under local operations”

2:55 pm to 3:45 pm

Dr. Samyadeb Bhattacharya (IIIT Hyderabad)
“Detecting genuine multipartite entanglement by eternal non-Markovianity”

3:50 pm to 4:40 pm

Dr. Dariusz Chruściński (Nicolaus Copernicus University, Poland)
“On the universal constraint for relaxation rates for quantum dynamical semigroup”

Tea Break (4:45 pm to 5:15 pm)

5:20 pm to 6:10 pm

Dr. Jyrki Piilo (University of Turku, Finland)
“Quantum jumps and rate operators in open quantum system dynamics”

6:15 pm to 7:05 pm

Dr. Ángel Rivas (University of Madrid, Spain)
“Strong coupling thermodynamics of open quantum systems”

7:10 pm to 8:00 pm

Dr. Bassano Vacchini (University of Milan, Italy)
“Entropic quantities for the description of information exchange in open quantum systems”

8.05 Pm to 8:55 Pm

David Bachmann (University of Freiburg)
“Eigenmodes of turbulence -- Exploring new possibilities for free-space quantum communication”

21st October 2021 (Thursday)

9:30 AM to 10:30 AM

Dr. Daniel Lidar (University of Southern California, U.S.)
Plenary Talk

12:00 pm to 12:50 pm

Dr. R. Srikanth (PPISR, Bangalore)
“Counterfactual security of quantum cryptography”

Lunch Break (12.55 pm to 1:55 pm)

2:00 pm to 2:50 pm

Dr. Indranil Chakrabarty (IIIT Hyderabad)
“Quantum Conditional Entropy: A Resource”

2:55 pm to 3:45 pm

Dr. Alok Pan (NIT Patna)
“Generalized n -locality inequalities and their optimal quantum violation”

3:50 pm to 4:40 pm

Dr. Guruprasad Kar (ISI, Kolkata)
“Multicopy Adaptive Local Discrimination: Strongest Possible Two-Qubit Nonlocal Bases”

Tea Break (4:45 pm to 5:15 pm)

5:20 pm to 6:20 pm

Academia - Startup Discussion

6:25 pm to 7:15 pm

Dr. Fabrizio Piacentini (INRiM, Italy)
“Temporal teleportation with pseudo-density operators: How dynamics emerges from temporal entanglement”

7:20 pm to 8:10 pm

Dr. Apoorva Patel (IISc Bangalore)
“Software simulator for noisy quantum circuits”

22nd October 2021 (Friday)

12:00 pm to 12:50 pm

Dr. Prabha Mandayam (IIT Madras)

“Achieving fault tolerance against amplitude-damping noise”

Lunch Break (12.55 pm to 1:55 pm)

2:00 pm to 2:50 pm

Dr. Jacob D. Biamonte (Skolkovo Institute of Science and Technology, Moscow)

2:55 pm to 3:45 pm

Dr. Sai Vinjanampathy (IIT Bombay)

“Algorithmic Primitives for Quantum-Assisted Quantum Control”

3:50 pm to 4:40 pm

Dr. Aram Harrow (Massachusetts Institute of Technology, USA)

“Hybrid classical-quantum algorithms for optimization and inference”

Tea Break (4:45 pm to 5:15 pm)

5:20 pm to 6:10 pm

Dr. Tabish Qureshi (Jamia Milia Islamia)

“Coherence, Interference and Visibility”

6:15 pm to 7:05 pm

Dr. Thomas Konrad (University of KwaZulu-Natal, South Africa)

“Quantum control based on coherent or measurement-based feedback”

7:10 pm to 8:00 pm

Dr. Christian Boudreault (Collège militaire royal de Saint-Jean 15 Jacques-Cartier Nord, Canada)

“Universal quantum computation using symmetric qubit clusters”

23rd October 2021 (Saturday)

10:55 AM to 11:45 AM	Dr. R. P. Singh (PRL, Ahmedabad) <i>“Free space quantum communication: Experiments at PRL”</i>
11:50 AM to 12:40 PM	Dr. Anirban Pathak (JIIT, Noida) <i>“Is quantum cryptography a completely quantum process?”</i>
<i>Lunch Break (12.40 pm to 1:55 pm)</i>	
2:00 pm to 2:50 pm	Dr. C. M. Chandrashekar (IMSc Chennai) <i>“Operational approach for quantum simulation of complex quantum systems”</i>
2:55 pm to 3:45 pm	Dr. Arul Lakshminarayan (IIT Madras) <i>“Dual-unitary and Bernoulli circuits as quantum many-body systems”</i>
3:50 pm to 4:40 pm	Dr. Aditi Sen De (HRI, Allahabad) <i>“Quantum Thermal Machine”</i>
<i>Tea Break (4:45 pm to 5:15 pm)</i>	
5:20 pm to 6:10 pm	Dr. Pankaj Agrawal (IOP, Bhubaneswar)
6:10 pm to 7:00 pm	Dr. Sandeep Goyal (IISER Mohali) <i>“A linear optical scheme to implement arbitrary discrete POVM”</i>
7:05 pm to 7:55 pm	Dr. Sibasish Ghosh (IMSc Chennai) <i>“Information leak and incompatibility of physical context: An improved approach”</i>
7:55 pm to 8:00 pm	Vote of thanks