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ICPQIQC: 29 Jan – 02 Feb 2024

Day-01: 29th January 2024 (Monday)	
Time	**Programme**
08:00-09:30	Registration
09:30-10:20	Inauguration
10:20-10:45	Tea Break
Chair: *Tanusri Saha-Dasgupta;* SNBNCBS	
10:50-11:35	**Ultrafast Photonics as a Probe of Quantum Topology** *Ajay K. Sood* Indian Institute of Science, Bangalore, India
11:40-12:15	**The Heisenberg limit for laser coherence, with preliminary experimental proposals** *Howard Wiseman* Griffith University, Australia
12:20-12:55	**In search of efficient ways of entanglement routing and solving bottleneck issues** *Anirban Pathak* Jaypee Institute of Information Technology, Noida, India
13:00-14:25	Lunch Break
Chair: *Amitabha Lahiri;* SNBNCBS	
14:30-15:05	**Shallow-Depth Variational Quantum Hypothesis Testing** *Sai Vinjanampathy* IIT Bombay, India
15:10-15:45	**From combinatorics to maximally entangled multipartite states** *Arul Lakshminarayan* IIT Madras, India
15:50-16:15	Tea Break
Chair: *Parijat Dey,* SNBNCBS	
16:20-16:55	**Negative quasiprobability and its implications in quantum foundations** *Alok Pan* IIT Hyderabad
17:00 -17:15	**Quantum pattern engines: work from temporal correlations** *Varun Narasimhachar* IHPC, A*STAR, Singapore

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ICPQIQC: 29 Jan – 02 Feb 2024

Day-02: 30th January 2024 (Tuesday)	
Time	**Programme**
09:00-09:25	Registration
Chair: *Archan S. Majumdar*, SNBNCBS	
09:30-10:15	**Occam's Razor, Boltzmann's Brain, and Wigner's Friend: Can we reason about our place in the universe without defining "us?"** *Charles H. Bennett* IBM Research, USA
10:20-10:55	**Characterizing Quantum Networks** *Otfried Gühne* University of Siegen, Germany
11:00-11:25	Tea Break
Chair: *Partha Ghose*, Tagore Centre	
11:30-12:05	**Interference at the heart of quantum** *Urbasi Sinha* Raman Research Institute, India
12:10-12:45	**Towards testing macrorealism and quantumness of an arbitrarily massive object** *Dipankar Home* Bose Institute, India
12:50 -13:05	**Squashed quantum non-Markovianity: a measure of genuine quantum non-Markovianity in states** *Manabendra Nath Bera* IISER Mohali, India
13:10-14:25	Lunch Break
14:30-17:30	Poster Session -I

BOSE*Stat*@100

ICPQIQC: 29 Jan – 02 Feb 2024

Day-03: 31st January 2024 (Wednesday)	
Time	**Programme**
Chair: *Prasanta K. Panigrahi*, IISER Kolkata	
09:30 -10:15	**The value reproducibility and the intersubjectivity of quantum measurements based on the theory of quantum perfect correlations** *Masanao Ozawa* Chubu University and Nagoya University, Japan
10:20-10:55	**From indefinite causal order to indefinite input-output direction** *Giulio Chiribella* QICI Quantum Information and Computation Initiative, HKU
11:00-11:30	Tea Break
Chair: *Dipankar Home*, Bose Institute	
11:35-12:10	**Network quantum information processing** *Antonio Acín;* ICFO, Spain
12:15-12:50	**Orbital Angular momentum entanglement** *Anand K. Jha;* IIT Kanpur, India
12:55 -14:25	Lunch Break
Chair: *Nirmalya Ghosh*, IISER Kolkata	
14:30-15:05	**Telecom-band Entangled Photons for Fiber-based & Integrated Quantum Communication & QI Applications** *Joyee Ghosh;* IIT Delhi, India
15:10-15:45	**TBA** *Saikat Ghosh;* IIT Kanpur, India
15:50-16:15	Tea Break
Chair: *Sunandan Gangopadhyay*, SNBNCBS	
16:20-16:35	**Is There a Finite Complete Set of Monotones in Any Quantum Resource Theory?** *Chandan Datta;* IIT Jodhpur, India
16:40- 16:55	**Noise is resource-contextual in quantum communication** *Ananda Gopal Maity;* OIST, Japan
17:00-17:15	**Why does nature reject theories that are more or less incompatible than quantum theory?** *Sumit Mukherjee*; IISER Kolkata, India
18:30 -21:30	Conference Dinner

BOSE*Stat*@100

ICPQIQC: 29 Jan – 02 Feb 2024

Day-04: 01st February 2024 (Thursday)	
Time	**Programme**
Chair: *Guruprasad Kar*, ISI Kolkata	
09:30-10:15	**How to teach the Bose gas** *Reinhard F. Werner* Leibniz Universität Hannover, Germany
10:20-10:55	**Fundamental limitations on Gaussian quantum key distribution** *Gerardo Adesso* University of Nottingham, UK
11:00-11:25	Tea Break
Chair: *Swapan Rana*, ISI Kolkata	
11:30-12:05	**Incompatible incompatibilities, and how to make them compatible again** *Francesco Buscemi* Nagoya University, Japan
12:10 -12:45	**Photonic quantum computing using quantum walks** *C. M. Chandrashekar* IISc Bengaluru, India
12:50 -13:05	**Unconditionally secure relativistic multi-party biased coin flipping and die rolling** *Damián Pitalúa-García* University of Cambridge, UK
13:10-14:25	Lunch Break
14:30-17:30	Poster Session -II

BOSE*Stat*@100

ICPQIQC: 29 Jan – 02 Feb 2024

Day-05: 02nd February 2024 (Friday)	
Time	**Programme**
Chair: *Debasis Sarkar*, Calcutta University	
9:30 -10:15	**Tests of semi-classical gravity and related models in novel regimes** *Adrian Kent;* University of Cambridge, UK
10:20-10:55	**TBA** *Sibasish Ghosh;* IMSc Chennai, India
11:00-11:25	Tea Break
Chair: *Preeti Parashar*, ISI Kolkata	
11:30-12:05	**TBA** *Arun K Pati;* CQuERE, TCG, CREST, India
12:10-12:45	**Laboratory tests of the quantum behaviour of gravity** *Sougato Bose* University College London, UK
12:50-13:05	**Non-Local and Quantum Advantages in Network Coding for Multiple Access Channels** *Ashutosh Rai;* KAIST, South Korea
13:10 -14:25	Lunch Break
Chair: *Saquib Shamim*, SNBNCBS	
14:30-15:05	**Free-space quantum communication: Road to satellite quantum communication – A Review** *R. P. Singh;* PRL Ahmedabad, India
15:10-15:25	**Quantum networks boosted by entanglement with a control system** *Tamal Guha;* The University of Hong Kong
15:30-15:45	**Activation of the communication utility of entanglement breaking channels** *Saptarshi Roy;* The University of Hong Kong
15:50-16:15	Tea Break
Chair: *Arijit Haldar*, SNBNCBS	
16:20-16:55	**Bose's notion of indistinguishability -- its extension in the symmetric group sense- quantum statistics of indistinguishable particles** *Subhash Chaturvedi;* IISER Bhopal, India
17:00-17:15	**Nonlocal Advantage in Vehicle Routing Problem** *Amit Mukherjee;* IIT Jodhpur, India
17:20 -18:00	Concluding Session

BOSE*Stat*@100

ICPQIQC: 29 Jan – 02 Feb 2024

Poster Session I (30th January)		
Name and Affiliation	Title of the Poster	Board No.
Abhinash Kumar Roy; Macquarie University, Australia	**Causal order witness and random process matrix using semi-definite programming**	1
Abhishek Sadhu; Raman Research Institute, India	**Practical limitations on robustness and scalability of quantum Internet**	2
Akshaya J; TCG CREST, India	**Adapting the HHL algorithm to different eras of quantum computing**	3
Anandamay Das Bhowmik; Indian Statistical Institute, Kolkata, India	**From no causal loop to absoluteness of cause: discarding the quantum NOT logic**	4
Ananya Chakraborty; S.N.Bose National Centre for Basic Sciences; India	**Advantage of Qubit Communication Over The C-bit in Multiple Access Channel**	5
Anirban Roy Chowdhury; S.N. Bose National Centre for Basic Sciences; India	**Role of Mutual Information in the Page Curve of Hawking Radiation**	6
Aparajita Bhattacharyya; Harish Chandra Research Institute, India	**Modelling probe Hamiltonians for gaining advantage in quantum metrology**	7
Arijit Chatterjee; IISER Pune, India	**Quantum Coherence: Its Use in Observing Lee-Yang Zeros and Its Protection Against Decoherence**	8
Arindam Mitra; IIT Bombay, India	**Relating CP divisibility of dynamical maps with compatibility of channels**	9
Arkaprabha Ghosal; The Institute of Mathematical Sciences, India	**Optimal quantum teleportation of collaboration**	10
Arnab Chakrabarti; Rajiv Gandhi University, India	**Prethermalization in driven open quantum systems**	11
Arnab Mukherjee; S.N Bose National Centre for Basic Sciences; India	**Fulling-Davies-Unruh effect for accelerated two-level single and entangled atomic systems**	12
Arun Kumar Das; S.N Bose National Centre for Basic Sciences; India	**Measurement incompatibility and quantum advantage in communication**	13
Asmita Kumari; S.N Bose National Centre for Basic Sciences; India	**Sharing of bipartite nonlocality by unbounded sequential pair of observers**	14
Balakrishnan Viswanathan; IIT Madras, India	**Quantum imaging with undetected photons enabled by twin-photon position correlations**	15
Biplab Ghosh; Vivekananda College for Women, India	**Exploring quantum properties of bipartite mixed states under coherent and incoherent basis**	16
Bivas Mallick; S.N. Bose National Centre for Basic Sciences, India	**Assessing non-Markovian dynamics through moments of the Choi state**	17

ICPQIQC: 29 Jan – 02 Feb 2024

ICPQIQC: 29 Jan – 02 Feb 2024

BOSE*Stat*@100

ICPQIQC: 29 Jan – 02 Feb 2024

Poster Session II (01st February)

Name and Affiliation	Title of the Poster	Board No.
Pritam Roy; S.N. Bose National Centre for Basic Sciences, India	**Device-Independent Quantum Secure Direct Communication Under Non-Markovian Quantum Channel**	1
Priya Batra; IISER Pune, India	**Physics Informed Neural Network for Robust Quantum Controls**	2
Rajdeep Paul ; IIT Hyderabad, India	**Self-testing of unsharpness parameters based on optimal quantum violation of non-contextual inequality**	3
Rajeev Gangwar; IISER Mohali, India	**Ancilla-Assisted Protection of Information: Application to Atom-Cavity Systems**	4
Rakesh Kumar Saini; Macquarie University, Australia	**Distance from Incompleteness**	5
Ram Krishna Patra; S.N. Bose National Centre for Basic Sciences, India	**Principle of Information Causality Rationalizes Quantum Composition**	6
Ramadas N; IIT Madras, India	**Equivalence of absolutely maximally entangled states and infinite quantum solutions to the problem of 36 officers of Euler**	7
Ramniwas Meena; IIT Jodhpur, India	**Characterization of quantumness of non-Gaussian states under the influence of Gaussian channel**	8
Ranendu Adhikary; Indian Statistical Institute, Kolkata, India	**Self-testing of true multipartite entangled states**	9
Ritesh Kumar Singh; IIT Hyderabad, India	**Robust Self-testing of multiparty GHZ state through the Svetlichny's inequality**	10
Sachin Sonkar; IISER Mohali, India	**Spin-based quantum Otto engines and majorization**	11
Sagnik Ray; IISER Thiruvananthapuram, India	**No Epistemic Explanation for Anti-Distinguishability of Quantum Mixed Preparations**	12
Saheli Mukherjee; S.N. Bose National Centre for Basic Sciences, India	**Interplay between the Hilbert-space dimension of the control system and the memory induced by quantum SWITCH**	13
Sahil; The Institute of Mathematical Sciences, India	**Uncertainty relations in pre- and post selected systems**	14
Sahil Gopalkrishna Naik; S.N. Bose National Centre for Basic Sciences, India	**Distilling Non locality in Quantum Correlations**	15
Samrat Sen; S.N. Bose National Centre for Basic Sciences, India	**Advantage of Hardy's nonlocal correlation in reverse zero-error channel coding**	16