

Session Program

6-9 Dec 2023



10th International Conference on Gravitation and Cosmology: New Horizons and Singularities in Gravity (ICGC 2023)

Workshop on Classical & Quantum Gravity

IIT Guwahati

Wednesday 6 December

14:15

Workshop on Classical & Quantum Gravity

Session | Location: IIT Guwahati | Conveners: KINJALK LOCHAN, Prof. Swapna Mahapatra

14:15-14:45
Regular spacetimes: black holes, wormholes and bubbles (Invited talk)
Speaker
Sayan Kar

14:45-15:00
Influence of gravity on the quantum speed limit in neutrino oscillations (Session 1)
Speaker
Abhishek Jha

14:45-15:00
Pole-skipping in holography with scalar-Gauss-Bonnet coupling (Session 2)
Speaker
Banashree Baishya

15:00-15:15
New regular black holes: geometry, matter sources and shadow profiles (Session 1)
Speaker
Mr Anjan Kar

15:00-15:15
Singularity free Emergent Universe from Dynamical wormhole (Session 2)
Speaker
Bikash Chandra Paul

15:15-15:30 Thermodynamics of multi-horizon spacetimes (Session 2)
Speaker
Chiranjeeb Singha

15:15-15:30
Gravitational radiation from binary systems in $f(R)$ gravity: A semi-classical approach (Session 1)
Speaker
Ashish Narang

15:30-15:45 The Conspiracy of dS Space in String Theory (?) (Session 2)
Speaker
Ms Dibya Chakraborty

15:30-15:45
Phases of scalar and fermionic field theories in thermal Anti-de Sitter Spaces (Session 1)

Speaker Ms ASTHA KAKKAR
<div>15:45-16:00</div> An analytical approach to compute conductivity of p-wave holographic superconductors (Session 2) Speaker Diganta Parai
<div>15:45-16:00</div> Effective quantum states for trapped surfaces (Session 1) Speaker Ayan Chatterjee
<div>16:00-16:15</div> Are multiple reflecting boundaries capable of enhancing entanglement harvesting? (Session 2) Speaker Dipankar Barman
<div>16:00-16:15</div> Particle dynamics and new horizon structure around Kerr-Newman singularity (Session 1) Speaker Mr Ayanendu Dutta
<div>16:15-16:30</div> Unruh-de Witt detectors in curved spacetime (Session 2) Speaker Hari K
<div>16:15-16:30</div> Energetics of a self-gravitating quantum system of charged particles (Session 1) Speaker BALJEET KAUR LOTTE

16:30

Thursday 7 December

14:30

Workshop on Classical & Quantum Gravity

Session | **Location:** IIT Guwahati | **Conveners:** Prof. Swapna Mahapatra, KINJALK LOCHAN

14:30-14:45

End-state of gravitational collapse of scalar and vector fields: Strong naked singularities (Session 2)

Speaker

Koushiki Bhattacharyya

14:30-14:45

Spontaneous Symmetry Breaking in Rindler frame and AdS space (Session 1)

Speaker

Haridev S R

14:45-15:00

Boundary terms and Brown-York quasi-local parameters for scalar-tensor theory (Session 2)

Speaker

Krishnakanta Bhattacharya

14:45-15:00

Analyzing quantum gravity spillover in the semiclassical regime (Session 1)

Speaker

Harkirat Singh Sahota

15:00-15:15

Membrane paradigm for slowly spinning compact objects (Session 2)

Speaker

M. V. S. Saketh

15:00-15:15

A master equation for gravitational wave memory (Session 1)

Speaker

Indranil Chakraborty

15:15-15:30

Charged Scalar Hair on Reissner-Nordström Black Holes (Session 2)

Speaker

Muhammed Shafeeque

15:15-15:30

Unruh effect via radiative energy level shift (Session 1)

Speaker

Jaffino Stargen D

15:30-15:45

QBHs in the Sky (Session 1)

Speaker

Kabir Chakravarti

15:30-15:45

Fate of an infalling Passenger at the Cauchy Horizon of a Reissner-Nordström Black Hole (Session 2)

Speaker

Mr Nihar Ranjan Ghosh

15:45-16:00

Gravitational collapse with torsion and nonsingular Universe in a black hole (Session 2)

Speaker

Nikodem Poplawski

15:45-16:00

Rindler trajectories and Rindler horizons in the Schwarzschild spacetime (Session 1)

Speaker

Kajol Paithankar

16:00

Friday 8 December

14:15

Workshop on Classical & Quantum Gravity

Session | **Location:** IIT Guwahati | **Conveners:** Prof. Swapna Mahapatra, KINJALK LOCHAN

14:15-14:45

Even a tiniest positive cosmological constant has a long tail (Invited Talk)

Speaker

Sk Jahanur Hoque

14:45-15:00

The breaking point of general relativity through $f(R)$ scalaron gravity and higher dimensional Kaluza-Klein gravity near Sgr A* (Session 1)

Speaker

P.C Lalremruati

14:45-15:00

Causal description of marginally trapped regions in D dimensions (Session 2)

Speaker

Sashideep Gutti

15:00-15:15

Stochastic aspects for cosmic fluids (Session 2)

Speaker

Seema Satin

15:00-15:15

Gyroscopic Precession in the Vicinity of a Black Hole's Event Horizon and Naked Singularity for Static and Stationary Spacetime (Session 1)

Speaker

Paulami Majumder

15:15-15:30

Harmonic coordinates in binary black hole mergers (Session 1)

Speaker

Dr Prayush Kumar

15:15-15:30

Is the no-hair theorem a feature of gravity or General Relativity? (Session 2)

Speaker

Mr Semin Xavier

15:30-15:45

Maximal volume of a black hole in 2+1 dimensions (Session 1)

Speaker

Rahul Nigam

15:30-15:45

Compactified Hyperboloidal Evolution in Numerical Relativity (Session 2)

Speaker

Dr Shalabh Gautam

15:45-16:00

Galactic wormholes: Geometry, stability, and echoes (Session 2)

Speaker

Shauvik Biswas

15:45-16:00

Cosmology of Bianchi type-I metric using renormalization group approach for quantum gravity (Session 1)**Speaker**

Rituparna Mandal

16:00-16:15

Extra dimension(s) of vanishing proper length: A non-Einsteinian phase in gravity and the implications (Session 1)**Speaker**

sandipan sengupta

16:00-16:15

Raychaudhuri Equation in the Context of a Collapsing Fermionic Distribution Incorporating Effective Four-Fermi Interaction (Session 2)**Speaker**

Shibendu Gupta Choudhury

16:15-16:30

Dyonic Kerr-Sen black holes revisited: shadow profiles and consequences (Session 2)**Speaker**

Dr Soumya Jana

16:30

Saturday 9 December

14:30

Workshop on Classical & Quantum Gravity

Session | Location: IIT Guwahati | Conveners: KINJALK LOCHAN, Prof. Swapna Mahapatra

14:30-15:00 TBD (Invited Talk)

Speaker
Loganayagam R.

15:00-15:15
Some classical aspects of Ellis-Bronnikov wormholes embedded in a warped background. (Session 2)

Speaker
Suman Ghosh

15:00-15:15
Gravitational wave memory for various black hole and wormhole geometries (Session 1)

Speaker
Soumya Bhattacharya

15:15-15:30
Quantum-to-classical transition of leading-order background fluctuations (Session 1)

Speaker
Sree Mahesh Chandran

15:15-15:30
Analytic three-dimensional hairy charged black holes and thermodynamics (Session 2)

Speaker
supragyan priyadarshinee

15:30-15:45
An Effective Theory model for Black Hole Membranes from Constraints of Symmetry (Session 2)

Speaker
Swastik Bhattacharya

15:30-15:45 Love for an Expanding universe and SdS black holes (Session 1)

Speaker
Sreejith Nair

15:45-16:00
Unified Insights in Gravity Theories: Asymptotic Symmetries and Celestial Holography (Session 2)

Speaker
Ms Tabasum Rahnuma

15:45-16:00 A detection mechanism for black hole memory effect (Session 1)

Speaker

Srijit Bhattacharjee

16:00-16:15

Radiative processes of single and entangled detectors on circular trajectories in (2+1) dimensional Minkowski spacetime (Session 1)**Speaker**

Subhajit Barman

16:00-16:15

Particle creation in a dynamical gravitational wave background (Session 2)**Speaker**

Tanmoy Chakraborty

16:15-16:30

Perturbing the perturbed: Quasi-normal mode instability in asymptotically de Sitter black holes (Session 1)**Speaker**

Subhodeep Sarkar

16:15-16:30

High-energy corrections to CGHS model: a systematic procedure (Session 2)**Speaker**

Tausif Parvez

16:30-16:45

On the propagation of gravitational waves in matter-filled Bianchi I universe (Session 1)**Speaker**

Sucheta Datta

16:30-16:45

Emergent Spin in Quantum Cosmology of Bianchi Type-I Universe (Session 2)**Speaker**

vishal kumar

17:00