



**Seminar, Department of Physical Sciences,
Bose Institute, Kolkata**
**Extremal Black Holes in AdS/CFT: From Weak Gravity
to Photon Rings**
Dr. Upamanyu Moitra (University of Amsterdam)



Abstract: In this talk, I will summarize some remarkable lessons one can learn by studying massive and massless charged particle trajectories in a charged black hole background in AdS spacetime. The interplay between Newtonian and Coulomb interactions for a charged particle, when translated into the boundary CFT language, allows one to naturally formulate the Weak Gravity Conjecture for AdS black holes. There turns out to be an interesting connection between the WGC and ISCO. A consideration of massless particles, on the other hand, leads to some novel features – including the emergence of a new time-scale of relaxation of perturbations. I will discuss a relatively simple ϵ prescription for the JWKB approximation and its utility in this set-up.

Date/time: July 11, 2025 (Friday) at 12:00 Noon

Venue: Room 204, Physics Seminar Room, (Second floor, UAC, BI)