



ICTS

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TATA INSTITUTE OF FUNDAMENTAL RESEARCH

## ICTS String Seminar

- Title** : Emergent photons vs confinement: the roles of vortices and monopoles
- Speaker** : Mendel Nguyen (Durham University, United Kingdom)
- Date** : Thursday, 13 November 2025
- Time** : 3:30 PM (IST)
- Abstract** : Two competing pictures of the confinement mechanism in 3+1D non-abelian gauge theory have been the proliferation of center vortices and the proliferation of magnetic monopoles. In this talk, I will provide a unified and surprising picture of confinement, which clarifies some confusion in the literature concerning the role of vortices. In particular, I will argue that whereas the simultaneous proliferation of vortices and monopoles leads to the gapped confining phase, vortex proliferation without monopole proliferation leads instead to a gapless Coulomb phase.
- Venue** : Chern Lecture Hall
- Zoom Link: <https://icts-res-in.zoom.us/j/88092766911?pwd=R3ZrVk9yeW96ZmQ4ZG9KRzVhenRKZz09>
- Meeting ID: 880 9276 6911
- Passcode: 232322