



TATA INSTITUTE OF FUNDAMENTAL RESEARCH

## **ICTS String Seminar**

**Title** : Quantum Field Theory as a set of coupled ODEs

**Speaker** : Manuel Loparco (École Polytechnique Fédérale de Lausanne, Switzerland)

Date : Monday, 09 December 2024

**Time** : 2:30 PM (IST)

Abstract: The decomposition of the Hilbert space into Unitary Irreducible Representations of the

spacetime isometry group is a foundational aspect of QFT. I will review how this works in de Sitter spacetime, motivated by cosmology, and I will present a proof of the irreversibility of renormalization group flows in 2D de Sitter spacetime that is based on this decomposition. Then, I will present some ongoing work on understanding how photons in de Sitter appear in

the Hilbert space of massive free theories.

Venue : Chern Lecture Hall

Zoom Link: https://icts-res-in.zoom.us/j/88092766911?pwd=R3ZrVk9yeW96ZmQ4ZG9KRzVhenRKZz09

Meeting ID: 880 9276 6911

Passcode: 232322