## Department of Theoretical Physics

## Tata-Infosys Lecture Series

## **Thermal equivariance and its applications**

Mukund Rangamani (UC, Davis, USA)

**Date / Time : Dec** 5<sup>th</sup> & 6<sup>th</sup>, 2017, 11.30 am

Dec 7<sup>th</sup>, 2017, 10.00 am

Venue: A-304, TIFR



I will describe how techniques from topological field theory and equivariant cohomology find a role in physical problems. I will define the notion of thermal equivariance which will involve gauging thermal diffeomorphisms, and argue that these constructions naturally lead to entropy being interpretable as a Noether current. I will outline an application to constructing dissipative hydrodynamic effective actions, reproducing previously known facts about the admissible constitutive relations.