School of Mathematics
Tata Institute of Fundamental Research

N O T I C E

Speaker	:	*Aditya Karnataki*
Affiliation	:	*BICMR, Peking University*
Title	:	*Families of (φ, τ)-modules*
		and Galois representations
Date & Time	:	*Friday, 17 December, 2021 at 11.30 a.m.*
Venue	:	**Mathematics Seminar Room (A-369)**

Abstract

Let K be a finite extension of $\mathbb{Q}_p$. The theory of (φ, Γ)-modules constructed by Fontaine provides a good category to study p-adic representations of the absolute Galois group $Gal(\bar{K}/K)$. This theory arises from a "devissage" of the extension $\bar{K}/K$ through an intermediate extension K_∞/K which is the cyclotomic extension of K. The notion of (φ, τ)-modules generalizes Fontaine's constructions by using Kummer extensions other than the cyclotomic one. It is desirable to establish properties of (φ, τ)-modules parallel to the cyclotomic case. In this talk, we explain construction of a functor that associates to a family of p-adic Galois representations a family of (φ, τ)-modules, analogous to a construction of Berger and Colmez in the (φ, Γ)-modules case. This is joint work with Léo Poyeton.

Milind Pilankar