

p -adic dynamical systems

October 30—November 3, 2017 at IISER Pune

Overview

The study of p -adic dynamical systems was started around 25 years ago by Lubin, who proposed to “lay out some techniques for the study of the behavior of the iterates of a general p -adic analytic transformation”. The purpose of the course is to explain Lubin’s results, and how they are tied to the modern theory of local fields, p -adic analysis and p -adic Hodge theory. Along the way, we’ll encounter a new generalization of Coleman power series. In the course, we will give some p -adic background, review some of Lubin’s constructions and results, and discuss their relationship with the theory of formal groups.

Topics	The following topics will be covered in this course. <ol style="list-style-type: none">1. Local fields and p-adic analysis2. Formal groups3. Iterated extensions and Coleman power series4. p-adic dynamical systems5. p-adic Hodge theory Number of participants for the course will be limited to thirty.
You should attend if...	<ul style="list-style-type: none">▪ you are a graduate/advanced undergraduate student or faculty working/interested in number theory.▪ you are interested in learning about p-adic numbers and some of its applications.
Fees	The participation fees for taking the course is as follows: International participants: US \$250 Academic Institutions in India: Rs 500 The above fee includes all instructional materials. The participants will be provided with accommodation on payment basis.

The Faculty

Prof. Berger is a faculty in ENS de Lyon. He works in p -adic representation theory and related areas. More specifically, in p -adic Galois representations, p -adic Hodge theory, rings of p -adic periods, (ϕ, Γ) -modules, p -adic and mod p -representations of p -adic groups, locally analytic vectors in p -adic representations and p -adic dynamical systems. One of his well-known results is the proof of Fontaine’s p -adic monodromy conjecture for p -adic Galois representations using p -adic differential equations.

Course Coordinators

Dr. Baskar Balasubramanyam
Phone: (020) 2590 8007
Email: baskar@iiserpune.ac.in

Dr. Steven Spallone
Phone: (020) 2590 8134
Email: sspallone@iiserpune.ac.in