Special Stanford Algebraic Geometry/ Number Theory Seminar

p-ADIC ANALYTIC CONTINUATION OF OVERCONVERGENT MODULAR FORMS

PAYMAN KASSAEI
Max Planck Institute

Abstract

It is well-known that to study the space of modular forms of a fixed weight and level over Q_P, it is useful to embed this finite-dimensional space in a p-adic Banach space of overconvergent modular forms, and use methods of p-adic analysis and geometry. An important theorem of Coleman (Inv. Math, 96) states that overconvergent modular forms of small slope are classical, and hence provides us with a way to identify elements of the above finite-dimensional space within p-adic Banach spaces of overconvergent modular forms.
I will present a new method for proving (a generalization of) Coleman's theorem which applies to give similar results in the context of quaternionic and unitary Shimura curves. The new method is based on analytic continuation of modular forms and uses a result of Buzzard (JAMS 03). I will first briefly review p-adic overconvergent modular forms, and then present the steps involved in the method.

Monday, May 2
noon
Room 383-N

http://math.stanford.edu/~vakil/s0405/