

BOSTON UNIVERSITY NUMBER THEORY SEMINAR

Langlands reciprocity for $GL_n(\mathbb{Q}_p)$

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Monday, January 30 at 4:15 pm
111 Cummington Street, MCS B21
Tea and cookies in MCS 144 at 3:45 pm

Abstract: The Langlands Program is a network of conjectures and theorems which generalize the reciprocity laws of number fields, function fields and local fields. In this expository talk we focus on the local Langlands correspondence for $GL_n(\mathbb{Q}_p)$, which puts into bijection smooth irreducible representations of that group with n -dimensional representations of the Weil group. Harris and Taylor gave a proof of the bijection in 2001, along with some extra geometric content about the cohomology of Shimura varieties. Recently P. Scholze has given a simpler proof of the same results. We will explore some of the innovations that go into his proof, including a new characterization of the correspondence which interfaces very well with the trace formula. This is the second in a series of two talks (possibly three).