

## **abstract**

GALOIS REPRESENTATIONS AND AUTOMORPHIC FORMS SEMINAR

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

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Let  $p$  and  $l$  be two distinct prime numbers, and fix a positive integer  $d$ . I will explain how the  $F_l$ -cohomology complex of the Lubin-Tate tower of height  $d$  of a  $p$ -adic field  $K$  realizes mod  $l$  versions of both the semi-simple Langlands correspondence for  $GL_d(K)$  and the "Langlands-Jacquet" transfer from  $GL_d(K)$  to the central division  $K$ -algebra of invariant  $1/d$ . Then I will give an explicit description of the supercuspidal part of the integral  $l$ -adic cohomology of this LT tower in terms of certain universal deformations. Finally, I will speculate about how to get a cohomological realization of the full Langlands correspondence mod  $l$ , including the mysterious nilpotent part of this correspondence. My current attempt involves a certain equivariant Lefschetz operator on the cohomology complex.