



Mathematics and CS Seminar

Representations of p -adic groups and applications to automorphic forms

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Host: Timothy Browning

The Langlands program is a far-reaching collection of conjectures that relate different areas of mathematics including number theory and representation theory. A fundamental problem on the representation theory side of the Langlands program is the construction of all (irreducible, smooth, complex) representations of p -adic groups. In the first half of the talk I will provide an overview of our understanding of the representations of p -adic groups, with an emphasis on recent progress. In the second half I will outline how new results about the representation theory of p -adic groups can be used to obtain congruences between arbitrary automorphic forms and automorphic forms which are supercuspidal at p . This simplifies earlier constructions of attaching Galois representations to automorphic representations, i.e. the global Langlands correspondence, for general linear groups. Moreover, our results apply to general p -adic groups and have therefore the potential to become widely applicable beyond the case of the general linear group. This second half is based on joint work with Sug Woo Shin.

Thursday, December 19, 2019 01:30pm - 03:30pm

Heinzel Seminar Room / Office Bldg West (I21.EG.101)



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