

Speaker: Sug Woo Shin

Title: On $\mathrm{GSpin}(2n)$ -valued automorphic Galois representations

Abstract: I will present my joint work with Arno Kret, where we construct a $\mathrm{GSpin}(2n)$ -valued l -adic Galois representation attached to a cuspidal cohomological automorphic representation π of a suitable quasi-split form of $\mathrm{GSO}(2n)$ over a totally real field, under the hypothesis that π has a Steinberg component at a finite place. This uses input from the cohomology of certain Shimura varieties for $\mathrm{GSO}(2n)$; as such we need to take a suitable form of $\mathrm{GSO}(2n)$ depending on the parity of n . (We take the split form if and only if n is even.)

Speaker: Jacob Haley

Title: Parameterizations of Unramified Tori

Abstract: If G is a reductive group over a p -adic field k , then DeBacker gives a parameterization of the $G(k)$ -conjugacy classes of maximal unramified k -tori using Bruhat–Tits theory. On the other hand, for classical groups, Waldspurger gives a parameterization in terms of triples of partitions. Given one of these triples, Waldspurger constructs a regular semisimple element for the maximal unramified torus by defining an endomorphism on an algebra whose structure is determined by the parts of the three partitions. After giving an overview of the two parameterizations, we will give a comparison, emphasizing the case of the symplectic group.

Speaker: Yeongseong Jo

Title: Local symmetric square L -functions for $GL(2)$

Abstract: In the influential work, Gelbart and Jacquet analyzed the integral representation for local symmetric square L -functions on $GL(2)$ at finite places based on the work of Shimura. In doing so, Gelbart and Jacquet explicitly constructed the local functorial lifting from $GL(2)$ to $GL(3)$. In this talk we present a natural way to define the L -function from the family of integrals for the space of good sections proposed by Piatetski-Shapiro and Rallis. We show that this analytic

local L -function for an irreducible admissible representation of $GL(2)$ over a p -adic local field agrees with the corresponding symmetric square Artin L -function for its Langlands parameter through the local Langlands correspondence.

Speaker: Ian Gleason

Title: On the geometric connected components of unramified local Shimura varieties.

Abstract: Through the recent theory of diamonds, P. Scholze constructs local Shimura varieties attached to any reductive group. These are rigid-analytic spaces that generalize the generic fiber of a Rapoport–Zink space. It is widely expected that these interesting spaces realize in their cohomology instances of the local Langlands correspondence. In this talk, we describe the set of connected components of unramified local Shimura varieties (more generally moduli spaces of mixed characteristic shtukas), and describe the relation to local class field theory.

Speaker: Phil Kutzko

Title: “A Jew and an Irishman went to Heaven”: My Friendship with Paul Sally.

Abstract: I have had the honor on several occasions to speak or write about my relationship with Paul J. Sally, Jr. – one of the finest human beings I have known in my 73 years on this earth. I, and others, have detailed Paul’s mathematical prowess, his remarkable commitment to social justice and his keen and subtle sense of humor. Today, with so many young folks in the audience, I would like to provide a context for our relationship as well as for the professional lives that we led: that not too many years before we entered the world of mathematics, it was a profession that would not have been particularly happy to see the likes of either of us. Paul and I discussed this throughout our time together and I learned a great deal from him about the similarities, and the differences, of the way in which each of us experienced this context. I will share what I learned from him and how his perceptions, as well as his work in social justice, shaped my own activities in this area. And I hope, in closing, to discuss some policy implications for our profession.