Introduction to Relative Aspects in Representation Theory, Langlands Functoriality and Automorphic Forms

16 - 20 May, 2016

LECTURES

Alexandru Ioan Badulescu:

An introduction to trace formula and application to the Jacquet-Langlands correspondence for GL(n), following his paper on the subject in Inventiones, 2008 (383-438).

Fiona Murnaghan:

Reductive p-adic symmetric spaces/varieties, distinguished representations, parabolic subgroups adapted to involutions of reductive groups, relative (i.e. symmetric space) analogue of Jacquet's subrepresentation theorem, relatively supercuspidal representations and relative discrete series representations.

Omer Offen:

Relative trace formula and applications to symplectic periods both locally and globally.

Dipendra Prasad:

The local Langlands correspondence: Functoriality, L-functions, gamma functions and the epsilon factors.

RESEARCH TALKS

Raphaël Beuzart-Plessis: Introduction to the local Gan-Gross-Prasad conjectures for orthogonal and unitary groups.

The local Gan-Gross-Prasad conjectures provide a very precise description of certain branching-laws between real and p-adic Lie groups. These predictions are formulated in terms of the local Langlands correspondence seen as a way to parametrize irreducible representations. In this talk I will give an introduction to these conjectures for special orthogonal and unitary groups (in the so-called Bessel case). If time permits I will even sketch a proof of a weak form of the conjectures for supercuspidal representations. This proof is due to Waldspurger for special orthogonal groups and has been adapted to unitary groups by the speaker.

Joshua Lansky: Tame Supercuspidal Representations of GL(n) Distinguished by Orthogonal Groups.

For a nonarchimedean local field F, let G = GL(n,F) and let H be the stabilizer group in G of a nondegenerate symmetric bilinear form over F. We determine the tame supercuspidal representations of G distinguished by H. In many cases, we also determine the dimension of H-invariant linear forms on these representations.