

Lie Groups and Representation Theory Seminar at the University of Tokyo

リ一群論・表現論セミナー

SPEAKER **Birgit Speh** (Cornell University)

DATE July 18 (Thu), 2013, 16:30–17:30

PLACE Room 117, Graduate School of Mathematical Sciences

TITLE Representations of reductive groups and L -functions. (I)

DATE July 26 (Fri), 2013, 10:30–12:00

PLACE Room 118, Graduate School of Mathematical Sciences

TITLE Representations of reductive groups and L -functions. (II)

ABSTRACT This an introduction to the theory of L -functions and in particular of the local L -factors of representations in real and complex groups. Some familiarity with infinite dimensional representations would be very helpful, but I will not assume any knowledge of number theory. We will start in the first lecture by considering L -functions for Groessen characters and classical automorphic forms, in other words for automorphic representations of $G(1)$ and $GL(2)$. This will motivate the definition of the local L -factors of representations of $GL(1, \mathbb{R})$ and $GL(2, \mathbb{R})$. We will discuss Rankin convolutions and define the L -factors for infinite dimensional tempered representations of $GL(n, \mathbb{R})$.

In the second lecture we will quickly discuss Rankin Selberg integral approach to L -factors and then Shahidi's method of constructing L -functions by relating them to intertwining operators, leading to the definition of the the L -factors of tempered non degenerate representations. The lecture closes with a discussion of L -factors for nontempered representations.