Sophia University
Mathematics Colloquium

When: Friday, July 5, 2019, 17:30－18:30

Where: Room No. 201, Main Bldg., Ichigaya-Campus

Speaker: Matthias Strauch (Indiana University)

Title: Differential operators and representations over a p-adic field

Abstract:

The Lie algebra of a Lie group G is a major tool in the study of representations of G. The enveloping algebra of the Lie algebra thus acts as a ring of a differential operators on a given representation of G (or its subspace of differentiable vectors). It is therefore a natural approach to construct representations geometrically by using differential operators on manifolds on which the group G acts. In this talk, we will explain certain aspects of an analogous theory (jointly developed with C. Huyghe, D. Patel, and T. Schmidt) when G is a p-adic Lie group which acts on a topological vector space over a p-adic field. After introducing the main objects, we will explain the use of this theory in the case of a particular example of a geometrically constructed representation, namely the so-called first Drinfeld covering of the p-adic upper half plane.

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