

The Mathematics Research Center Distinguished Lecturer Series

presents



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Old and New problems on diffeomorphism groups

Diffeomorphism groups are very natural objects to study. They are huge, complicated groups. They have natural topology and their classifying spaces classify fiber bundles with the fiber being the manifolds in question. So we need to know the topology of the diffeomorphism groups and that of their classifying spaces. The flat bundles are important in the study of fiber bundles.

They are classified by the classifying spaces of the diffeomorphism groups with the discrete topology. Then the topology of them reflects algebraic properties of the diffeomorphism groups such as simplicity, perfectness, etc. We review some of the problems left in the study of diffeomorphism groups. The first talk is an introduction and an overview. In the second and third talks, we look at the question of uniform perfectness of diffeomorphism groups and the question of the perfectness of the group of real analytic diffeomorphisms of real analytic manifolds.

LECTURE 1: **Thursday, October 27 4:30pm**
 Room 380-W

LECTURE 2: **Tuesday, November 1 4:00pm**
 Room 384-I

LECTURE 3: **Monday, November 14 4:00pm**
 Room 383-N

(Reception at 3:00pm, before the talk, on the fourth floor.)