

Title: Thin Sets, Differentiability of Functions and Geometric Measure Theory

Speaker: Olga Maleva

Abstract: We discuss universal differentiability sets (those on which every Lipschitz function must be differentiable at some point) and show that in a space with separable dual every open ball contains a closed universal differentiability subset of Hausdorff dimension 1. Moreover, this subset can be chosen to be totally disconnected. We show how the methods used in the construction of such sets may lead to a solution of a long-standing open problem in the geometric measure theory.

The talk is based on joint work with M. Dore.