

WORKSHOP1823B COHOMOLOGICAL AND METRIC PROPERTIES OF GROUPS OF HOMEOMORPHISMS OF \mathbb{R}

JOSÉ BURILLO, KAI-UWE BUX, AND BRITA NUCINKIS

Abstract

During the proposed workshop we shall study groups of homeomorphisms of \mathbb{R} from combinatorial, cohomological, geometrical as well as dynamical points of view. This includes Thompson's groups, studied for their very interesting properties. They have some ramifications in logic (associativity and commutativity laws), topology (homotopy idempotents) and measure theory and probability (amenability). Thompson's groups have been generalized to larger families of interesting groups such as braided Thompson's groups, higher dimensional Thompson's groups, or the Monod and Lodha-Moore groups. All of them appear as groups of homeomorphisms of different spaces and are interesting in their own right. These groups have been the subject of very intensive research over the last 50 years.

This workshop intends to bring together experts from all over the world to continue the study and development of this intriguing class of groups. We shall focus on the following areas:

- New advances towards deciding the amenability of F .
- Growth of Thompson's groups.
- Decision problems related to subgroups of $Homeo(\mathbb{R})$, for instance, the conjugacy problem for the Lodha-Moore groups.
- Groups of quasi-automorphisms of the binary tree and their decision problems.
- Metric properties and distortion of embeddings between groups of this family.
- Cohomological and topological properties of groups in the family.