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Speaker: Aleksandra Kwiatkowska

Title: Simplicity of the automorphism groups of countable structures

Abstract: The program of understanding the normal subgroup structure of groups that arise as automorphism groups of countable structures dates back at least to the '50s, when Higman described all proper normal subgroups of the automorphism group of rationals $(\mathbb{Q}, <)$. In recent several years Tent-Ziegler, following the work of Macpherson-Tent, proved simplicity for many automorphism groups of countable graphs and metric spaces. In the talk, we prove simplicity for the automorphism groups of order and tournament expansions of homogeneous structures like the bounded Urysohn metric space and the random graph. In particular, we show that the automorphism group of the linearly ordered random graph is a simple group. This is joint work with Filippo Calderoni and Katrin Tent.