Jindrich Zapletal
Canonical Ramsey theory on Polish spaces

This is an outline of a research program and a joint book with M. Sabok and V. Kanovei. In parallel to dual Ramsey theorems on finite sets, given a Borel equivalence relation E on a Polish space X, we ask whether there is a large Borel subset B of X such that E on B is significantly simpler than E on the whole space. The word "large" is interpreted as "positive with respect to a given sigma-ideal I on the space", and the word "simpler" is interpreted in the sense of Borel reducibility of equivalence relations. We get a rich landscape indexed by two variables, I and E, with connections to Ramsey theory, Borel reducibility theory and forcing, with many theorems, natural open questions and promising research directions.