Combinatorics of Markov compacta

Andrzej Nagórko
University of Warsaw, Poland
(joint work with **Greg Bell**)

We develop a formalism that allows us to describe Markov compacta with finite sets of diagrams that are building blocks of the entire sequence. This encodes complex, continuous spaces with discrete collections of combinatorial objects. We show that topological properties of the limit (such as k-connectedness, local k-connectedness or the disjoint arcs property) may be detected by looking at combinatorial properties of the diagrams.

Markov compacta were introduced by M. Gromov and were motivated by some examples in geometric group theory. In particular, boundaries at infinity of hyperbolic groups belong to this class.