

**Filip Strobin (Lodz University of Technology)**

Detecting attractors of IFSs and GIFSs among compact metrizable spaces

In the first part of my talk I will focus on the question, which zero-dimensional compact metrizable spaces are IFS attractors. Roughly speaking, such a space  $X$  is an IFS attractor iff  $X$  is uncountable or  $X$  is countable and its scattered height is a successor ordinal. During my presentation I will give more details and present this result with more qualitative form. I will also show that a finitely dimensional compact metrizable space  $X$  with an open zero-dimensional uncountable subset is homeomorphic to the attractor of some IFS on euclidean space.

In the next part of my talk I will move to generalized IFSs (GIFSs in short), introduced by Miculescu and Mihail in 2008. The idea is that, instead of families of selfmaps of a metric space  $X$ , GIFSs consist of maps defined on a finite Cartesian product  $X^m$  with values in  $X$  (in such a case we say that a GIFS is *of order*  $m$ ; clearly, GIFSs of order 1 are classical IFSs). It turns out that a great part of the classical Hutchinson–Barnsley theory has natural counterpart in this GIFSs' framework. In my presentation I will make an overview of known examples of GIFSs' attractors which are not IFSs' attractors. In particular, I will show that each zero-dimensional compact metrizable space  $X$  (in particular, countable with limit scattered height) is an attractor of some GIFS of order 2.