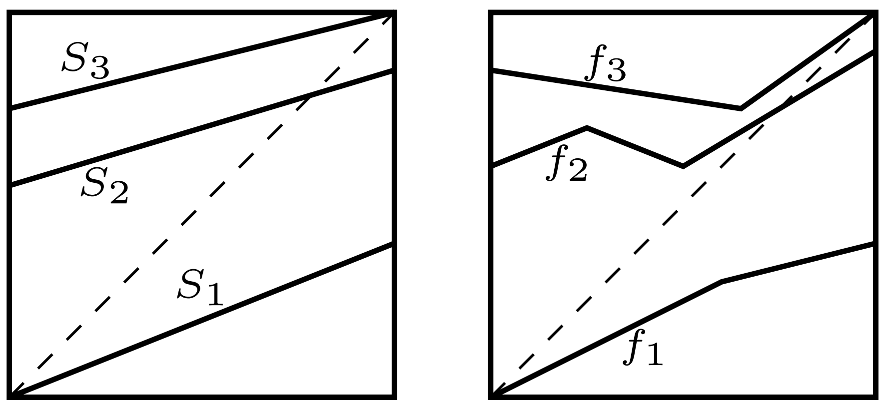
Title: **Continuous Piecewise Linear Iterated Function Systems on the line**

We study the dimension theory of Continuous Piecewise Linear Iterated Function Systems (CPLIFS) on the line. A CPLIFS $\mathcal{F}$ consists of finitely many continuous contracting self mappings $\{f_1, \ldots, f_m\}$ of $\mathbf{R}$ such that for all $i = 1, \ldots, m$ the mapping f_i is strictly contractive, piecewise linear and all of its slopes are different from zero. However, we do not assume that these maps are injective. Our goal is to compute the dimension (Hausdorff and box) of the attractor Λ of the CPLIFS $\mathcal{F}$.



Self-similar IFS
$\mathcal{S} = \{S_1, S_2, S_3\}$

CPLIFS
$\mathcal{F} = \{f_1, f_2, f_3\}$

If the cylinders $\{f_i(\Lambda)\}_{i=1}^m$ are sufficiently well separated (non-overlapping case) and the mappings are injective then the dimension of the attractor Λ can be expressed by results due to Franz Hoffbauer and Peter Raith (Vienna). In this talk we focus on the overlapping case. A natural upper bound on the dimension of the attractor is the root $s_{\mathcal{F}}$ of a naturally associated pressure function called *non-additive upper capacity topological pressure* (introduced by Barreira). Roughly speaking, $s_{\mathcal{F}}$ is the most natural guess for the value of the upper box dimension of Λ. We prove that if the slopes of the functions of $\mathcal{F}$ are small then **typically** (in the sense of the packing dimension of the exceptional set) the dimension of the attractor is equal to $s_{\mathcal{F}}$.

The new results of the talk are joint with Dániel Prokaj.