

PhD research topic proposal
BME, Doctoral School of Mathematics and Computer Science

Name and degree of supervisor :

Balázs Bárány, PhD

Are you willing to supervise Stipendium Hungaricum applicants?

No

Title of the topic:

Geometric properties of non-conformal sets

Short description:

Benoit Mandelbrot described the fractal sets as "irregular and fragmented patterns around us". Such fractal sets can be constructed using iterated function systems. The main purpose of the project is to study the geometric properties of the attractors of IFSS consisting of non-conformal mappings, like Hausdorff- and Tricot-dimension and measure, the dimension of shrinking target subsets, and multifractal analysis.

The task of the PhD student is first to get a deep understanding of the existing results of the field and then make significant progress. The prospective student will be part of our very strong Dynamical Systems research group.

Requirements:

ergodic theory, measure theory, probability theory

Contact:

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Place of work:

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