

ADMISSION TO DOCTORAL STUDIES

Session September 2024

Field of doctoral studies: **Mathematics**

Doctoral supervisor: **Radu MICULESCU**

TOPICS FOR THE ADMISSION TO DOCTORAL STUDIES

TOPIC 1: Generalized iterated function systems

Contents / Main aspects to be considered – *The concept of generalized iterated function system (for short GIFS) consisting of contractions defined on the finite Cartesian product X^m with values in X , where (X,d) is a metric space. The fractal operator associated with a GIFS, the attractor of a GIFS, the code space associated with a GIFS and the Hutchinson measure associated with a GIFS.*

Recommended bibliography:

1. F. Strobil, J. Swaczayna, On certain generalisation of the iterated function systems, Bull. Aust. Math. Soc., 87 (2013), 37-54.
2. F. Strobil, Attractors of generalized IFSs that are not attractors of IFSs, J. Math. Anal. Appl., 422 (2015), 99-108.
3. F. Strobil, J. Swaczayna, A code space for a generalized IFS, Fixed Point Theory, 17 (2016), 477-494.
4. F. Strobil, On the existence of the Hutchinson measure for generalized iterated function systems, Qual. Theory Dyn. Syst., 19 (2020), 85.

Prerequisites: *A basic course on Hutchinson-Barnsley fractals*

X Scientific Doctorate (full-time only)

Professional Doctorate – in the fields of Music and Science of sport and physical education (full-time or part-time)

X without tuition fee (state budget funded)

with tuition fee or with funding from other sources than the state budget

Doctoral supervisor,

Prof. Dr. Radu MICULESCU

Signature



Coordinator of the field of doctoral studies,

Prof. Dr. Radu PALTANEA

Signature

