НАЦИОНАЛЕН СЕМИНАР ПО СТОХАСТИКА

секция „Изследване на операциите, вероятности и статистика"

Поредната сбирка на *Националния семинар по стохастика* ще се проведе на **31 юли 2019** г. (сряда) от **14:00** часа в зала **403** на ИМИ-БАН. Доклад на тема:

"Extracting extreme aspects from series of random dynamical systems"

ще изнесе Milan Stehlik (Johannes Kepler University in Linz, Austria).

Abstract: Extracting chaotical and stochastic parts of information from time series needs very specific techniques. Motivated by two applications, image processing for cancer discrimination and methane emissions modelling we will explain the necessary techniques for statistical learning on chaotical and stochastic parts from data. In particular, Tsallis Entropy will be introduced and its role in information theory for dynamical system explained. Iterated function systems will be used as an example for chaos re-simulation. In particular, a construction of stochastic fractals will be discussed. All can be well integrated to both natural and technical sciences, which gave us an optimal instrument for the decomposition of data to stochastic, deterministic and chaotic part.

In particular, several important issues regarding cell cycle dynamics will be given. The correlation dimension algorithm used by Sandler et al. is not a good choice, since albeit the method is algoritmizable, it is not possible to use it for any comparisons (and in particular for calibration with real data), since it is not satisfying so called monotonicity condition.

Поканват се всички интересуващи се.