Univerzita Karlova
Matematicko-fyzikální fakulta

Vás zve na osmnáctou

Jarníkovskou přednášku

Taming Infinities

kterou přednese
držitel Fieldsovy medaile z r. 2014

Prof. Dr. Martin Hairer

(Imperial College London)

**ve středu dne 2. října 2019
ve 14.00 hod.**

v posluchárně V. Jarníka (M1),
děkanát MFF UK, 2. patro
Ke Karlovu 3, Praha 2

Abstract: Some physical and mathematical theories have the unfortunate feature that if one takes them at face value, many quantities of interest appear to be infinite! What's worse, this doesn't just happen for some exotic theories, but in the standard theories describing some of the most fundamental aspects of nature. Various techniques, usually going under the common name of "renormalization" have been developed over the years to address this, allowing mathematicians and physicists to tame these infinities. We will tip our toes into some of the conceptual and mathematical aspects of these techniques and we will see how they have recently been used to study equations whose meaning was not even clear until now.

Martin Hairer received his PhD from the University of Geneva in 2001 and is currently professor at Imperial College London. He has held visiting fellowships and invited positions at a number of institutions, including the Newton Institute for Mathematical Sciences, the Institute for Advanced Study in Princeton, the École Normale Supérieure in Paris, the Institut des Hautes Études Scientifiques, and the University of Toulouse. He serves on the editorial boards of Probability Theory and Related Fields, Communications in Mathematical Physics and the Annales de l'Institut Henri Poincaré. He also currently serves on the scientific advisory boards of the Institute Henri Poincaré, of the Oberwolfach Research Institute for Mathematics, and of the Hausdorff Center for Mathematics.

Martin Hairer's main research interests cover various areas of probability theory, including stochastic dynamics and the study of stochastic partial differential equations (SPDEs). In particular, he developed the theory of regularity structures which provides a consistent framework to formulate and analyse singular SPDEs. His work was awarded several prizes, most notably the Fermat prize (2013) and the Fields Medal (2014).