

Abstracts

Luigi Ambrosio (SNS Pisa)

Well posedness of ODEs and continuity equations with nonsmooth vector fields, and applications to PDEs

Massimiliano Gubinelli (Bonn)

Weak universality of fluctuations and singular stochastic PDEs

Mesoscopic fluctuations of microscopic (discrete or continuous) dynamics can be described in terms of nonlinear stochastic partial differential equations which are universal: they depend on very few details of the microscopic model. Due to the extreme irregular nature of the random field sample paths, these equations turn out to not be well-posed in any classical analytic sense. In this talk I will review recent progress in the mathematical understanding of such singular equations and of their (weak) universality. If time permits I will discuss the case of the one dimensional Kardar-Parisi-Zhang equation and of the three dimensional Stochastic Allen-Cahn equation.

Clement Mouhot (Cambridge)

DeGiorgi-Nash-Moser and Hörmander theories: new interplays