



Einladung
zum
Mathematischen Kolloquium

Am Mittwoch, **10. April 2019**, um 16:30 Uhr im Hörsaal des
Mathematischen Instituts (Raum 203), Weyertal 86–90, 50931 Köln
spricht :

Prof. Dr. Cristina Toninelli
(Université Paris-Dauphine)

zum Thema

Bootstrap percolation and kinetically constrained spin models:
critical time scales

Abstract:

Recent years have seen a great deal of progress in understanding the behavior of bootstrap percolation models, a particular class of monotone cellular automata. In the two dimensional lattice there is now a quite complete understanding of their evolution starting from a random initial condition, with a universality picture for their critical behavior. Much less is known for their non-monotone stochastic counterpart, namely kinetically constrained models (KCM). In KCM each vertex is resampled (independently) at rate one by tossing a p -coin if it can be infected in the next step by the bootstrap model. In particular infection can also heal, hence the non-monotonicity. Besides the connection with bootstrap percolation, KCM have an interest in their own: when $p \rightarrow 0$ they display some of the most striking features of the liquid/glass transition, a major and still largely open problem in condensed matter physics.

I will discuss some recent results on the characteristic time scales of KCM as $p \rightarrow 0$ and the connection with the critical behavior of the corresponding bootstrap models.

Tee um 16 Uhr in der Bibliothek des Mathematischen Instituts.
Alle Interessenten sind herzlich eingeladen.