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Einladung
zum
Mathematischen Kolloquium

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

Es 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 $p \to 0$ 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 $p \to 0$ 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.

Die Dozenten der Mathematik