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Dienstag 29.05.18  
17:00-18:15  
Raum F426

**Konstanz**

# **Frauen in der Mathematik**

## Phase transitions for interacting particles in $\mathbb{R}^d$

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Probability theory helps to understand systems made of many individual agents with random behavior. One question of interest is: How is it possible that collective orderly behavior emerges out of individual randomness? Does collective behavior depend in a smooth fashion on underlying system parameters? In statistical physics, the individual "agents" are particles (atoms, molecules...) and the questions are intimately tied to the theory of phase transitions - e.g., from ice to liquid water to vapor. A satisfactory theory for particles in  $\mathbb{R}^d$  is still elusive. The talk will introduce some notions on statistical physics and present some partial results.

