

Theoriekolloquium

Am **23. Mai 2019** um **14.15 Uhr** in **W2 1-143** hält

Herr Prof. Dr. Johannes Berg (Köln)

einen Vortrag mit dem Titel

The inverse Ising problem

Inverse problems in statistical physics are motivated by the challenges of “big data” in different fields, in particular high-throughput experiments in biology. In inverse problems, the usual procedure of statistical physics needs to be reversed: Instead of calculating observables on the basis of model parameters, we seek to infer parameters of a model based on observations. This talk is focussed on the inverse Ising problem, namely how to infer the coupling strengths between spins given observed spin correlations, magnetisations, or other data. Applications include the reconstruction of neural connections, protein structure determination, and the inference of gene regulatory networks. I discuss different approaches to the inverse Ising problem developed by the statistical physics community, as well as a particularly strong approach, pseudolikelihood, from statistics.

Interessierte sind herzlich eingeladen.

gez. Prof. Dr. Andreas Engel