



**UNIVERSITÄT  
BIELEFELD**



Faculty of Physics



Faculty of Mathematics

# Seminar

Colloquium Mathematical Physics

**Jon Keating**

Oxford University

## Random matrices, spin glasses, and machine learning

I will describe some problems relating to machine learning and their connections to random matrix theory and spin glasses. These connections give a mathematical framework for understanding in qualitative terms the effectiveness of certain algorithms that are important in machine learning, but developing them into precise models remains a major challenge. I will reflect on the different roles played by models in computer science and physics, focussing on those involving random matrices.

**Wednesday, 23 July 2021, 1615 hrs CEST**

Zoom Conference Call— Please contact Gernot Akemann  
(akemann@physik.uni-bielefeld.de) for details regarding access