

**Institute for Applied Mathematics, Bonn University**

## **Oberseminar Stochastik**

**Thursday, 1 February 2024, 16:30**

**Lipschitz-Saal (LWK 1.016)**

**Loucas Pillaud-Vivien**

**École des ponts ParisTech**

## **Some insights on the role of stochasticity in modern machine learning**

Neural networks are nowadays trained successfully to solve a large variety of learning tasks. As a core algorithm, the role of the stochastic gradient descent seems to be of paramount importance. Yet, its behaviour is largely not understood, which is in part due to the non convexity and degeneracy of the underlying objective. In this talk, I will present some continuous models that could allow to build a (first) intuition on the problem. A particular emphasis will be put on the role of stochasticity to "lead" the dynamics towards "good" solutions.