

## **STATISTICAL ASPECTS OF THE NON-ABELIAN X-RAY TRANSFORM**

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**Time: Thu, March. 3, 19:00-20:00**

**Venue: Zoom ID: 618 038 6257, Password: SCMS**

**Abstract:** I will discuss some recent developments providing theoretical guarantees for Bayesian inversion with Gaussian priors for a class of nonlinear inverse problems. These developments will be illustrated in a specific inverse problem: the non-abelian X-ray transform. This problem underpins new experiments designed to measure magnetic fields inside materials by shooting them with neutron beams from different directions, like in a CT scan. The theoretical guarantees will be of two types: first I will discuss consistency and then a suitable Bernstein von-Mises theorem.

This is joint work with F. Monard and R. Nickl.