School of Mathematics
Tata Institute of Fundamental Research

Prof. Jens Marklof, University of Bristol

Lecture series delivering 3 lectures between **22 – 24 February, 2023**
Venue: **Lecture room AG-69 (4pm to 5.30pm)**

Random lattices and their applications in number theory geometry and statistical mechanics.

Abstract:

Lattices are fundamental objects in physics, mathematics and computer science. Starting from a cubic lattice, say, we can perturb the structure by linear transformations (shearing, stretching, rotating) to obtain new lattices. In this series of lectures, I will discuss the resulting "space of lattices", the dynamics of group actions on this space, natural probability measures, as well as some powerful applications to long-standing problems in various areas of mathematics and mathematical physics.