ROBERT MOODY, University of Victoria

Spatial stochastic processes and the inverse problem in pure point diffraction.

The fundamental problem in the theory of diffraction is the inverse problem of finding all the solutions to a given diffraction pattern. This talk is about new class of mathematical structures, which we call spatial stochastic processes, that provide a good setting for this type of problem. We indicate how this works in the case of pure point diffraction to classify all solutions to the inverse problem. The work is joint with Daniel Lenz.