

## MCQM PhD Lecture: Jonas Lampart (Université de Bourgogne)

*Wednesday, 24 April 2024 11:30 (1 hour)*

Title: Contact interactions and generalised boundary conditions

Abstract: Hamiltonians for a particle interacting with a point-like obstacle can be constructed as self-adjoint extensions of the Laplacian restricted to functions vanishing near the obstacle. These are characterised by a generalised boundary condition. They can be embedded into a larger family of Hamiltonians that also allow the particle to be absorbed or emitted at the obstacle.

After explaining these elementary constructions in detail, I will outline some generalisations to non-relativistic models in quantum field theory.