



Departmental PhD Thesis Exam

Wednesday, August 27th, 2025 at 2:00 p.m. (sharp)
via Zoom / BA6183

PhD Candidate : Ethan Ross

Supervisor : Lisa Jeffrey

Thesis title : Stratified Vector Bundles and Geometric Quantization



Abstract

Geometric Quantization is a family of procedures which take as input a decorated symplectic manifold and produces a complex vector space. This thesis develops an extension of this framework to a class of singular spaces called stratified symplectic spaces. This approach necessitated the development of the theory of stratified vector bundles and distributions. As an application, I showed that quantization commutes with reduction for singular quotients of toric manifolds and cotangent bundles.