Mathematics Department Colloquium

Organizer(s): Kenneth Ribet

Thursday, 4:10–5:00pm, 60 Evans

Sept. 3 **Scott Morrison**, UC Berkeley

Small Fusion Categories

I'll introduce the notion of fusion category, along with its physical motivation. My favourite problem at the moment is trying to classify the "small" fusion categories. One good notion of "small" is "having an object with small dimension," making the problem roughly the quantum version of classifying finite groups having a small irreducible representation. The dimension of an object in a fusion category isn't necessarily an integer, and a basic problem is describing the spectrum of possible dimensions. I'll tell you a neat trick relating this problem to the classification of finite-depth subfactors of small index, and report on recent progress there, and its consequences for the dimensions of objects in fusion categories.