Department Colloquium
Thursday, September 28

4:30pm; Bldg. 380, Room 380-W

James Norris
(Cambridge, UK)

"Master field on the sphere"

ABSTRACT: The Yang-Mills measure is a natural probability distribution on G-connections over a given surface S, where G is a given Lie group. When S is the sphere, this is strongly related to the Brownian bridge in the group G. In this talk, I will describe the high-dimensional (large N) limit of the Yang-Mills measure over the sphere when the group is that of $N \times N$ unitary matrices. This makes rigorous some work in the physics literature where the limit object is called the master field on the sphere. The talk will assume no knowledge of connections or the Yang-Mills measure.

This is joint work with Antoine Dahlqvist.