



**Speaker:** Brian Hall  
University of Notre Dame

Tuesday, October 8, 2013  
11:00 AM  
258 Hurley Hall

**Title:** The large- $N$  limit of the heat equation on unitary groups

**Abstract:**

I will discuss the behavior of heat flow on the group of  $N$  by  $N$  unitary matrices, in the limit as  $N$  goes to infinity. With a properly chosen scaling of the metric, the fundamental solution of the heat equation has interesting concentration properties in this limit; this analysis can be seen as a type of random matrix model. I will then describe the behavior of the Segal-Bargmann transform in the limit.