

*Mathematical Research
at Notre Dame*



UNIVERSITY OF
NOTRE DAME
Department of Mathematics

Speaker: Brian Hall
University of Notre Dame

Friday, October 7, 2011

4:00 pm

231 Hayes-Healy Hall

Title: Holomorphic methods in geometry and mathematical physics

Abstract:

One tool for studying functions on a manifold is to try to analytically continue nice functions on the manifold to some complexification of it. This approach works particularly well for highly symmetric manifolds, such as symmetric spaces. I will talk about the case of compact symmetric spaces (such as spheres) and the appearance of the dual noncompact symmetric space (such as hyperbolic space) in the imaginary directions. At the end, I will touch briefly on the reverse problem, starting on a noncompact symmetric space. Despite the duality between compact and noncompact symmetric spaces, the problem of starting on the noncompact side is much more complicated. I will mention also some of the connections of this subject with mathematical physics and quantization.

There will be pizza provided by the department following the lectures.