

GEORGETOWN UNIVERSITY

Department of Mathematics

COLLOQUIUM

A Clifford algebra approach to the projective and
hyperbolic spaces

Speaker: Professor Adam Koranyi

Lehman College, City University of New York

Friday, November 13 2009
3.15 p.m. St. Mary's 326

Abstract: There are four classical projective spaces, real, complex, quaternionic and octonionic. In each one the corresponding hyperbolic space is embedded in a natural way. The first three are easy to handle case-by-case but the fourth is very unpleasant because of the non-associativity of the octonions. In the talk, after giving some examples, a construction based on Clifford algebras will be sketched. This gives all the spaces without case-by-case computations and without the pain caused by octonions. Proofs of geometric properties also become quite easy.

Refreshments will be served after the talk.