Colloquium

Speaker: David Barrett
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Wednesday, May 3, 2017
4:00 PM
129 Hayes-Healy Hall

Title: Projective dual CR structures

Abstract:

In n-dimension complex euclidean space the Cauchy-Riemann equations are given by an n-dimensional family of complex vector fields annihilating holomorphic functions. For every point in a real hypersurface M there is an (n-1)-dimensional family of these vector fields that are tangent to M; the collection of these vector fields describes a "CR structure" on M, and the functions on M annihilated by these vector fields are known as "CR functions".

For certain hypersurfaces M (including the strongly convex ones, for example) projective duality considerations furnish M with a secondary CR structure and a corresponding secondary space of CR functions.

This talk will consider relations between the two function spaces, including the construction of a natural C-bilinear (thus non-hermitian) pairing between them. A sample result states that each function in either space will have "zero angle" from the other space (with respect to the pairing) if and only if M is projectively equivalent to the sphere.