University of Notre Dame Department of Mathematics

LOGIC SEMINAR

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Will give a lecture entitled:

A complex analytic germ in a real analytic set in a complex analytic manifold

On

Tuesday, April 5, 2011

At

12:45 PM

In

127 Hayes-Healy Hall

Abstract

(Joint work with J. Adamus and R. Shafikov, UWO.)

Real objects occur naturally in the study of complex analytic objects, for instance as boundary of domains. It is natural to try to understand how much of the ambient complex structure such a real object inherits. Given a real analytic set X in a complex manifold and a positive integer d, denote by $\mathcal{A}^d$ the set of points p in X such that there exists a germ of a complex analytic set of dimension d passing through p and contained in X. We prove that $\mathcal{A}^d$ is a closed semianalytic subset of X. A key argument involves interplay between finiteness of Morley rank and o-minimal dimension, in a way similar to the proof of DCC for groups definable in o-minimal structures.