Department of Mathematics
University of Notre Dame

PDE, COMPLEX ANALYSIS AND DIFFERENTIAL GEOMETRY SEMINAR

Guest Speaker: Mei-Chi Shaw
University of Notre Dame

Date: Tuesday, October 25, 2016
Time: 11:00 AM
Location: 258 Hurley Hall

NOTE: Change of Day

Lecture Title:
Hearing pseucoconvexity with L^2 Dolbeault Cohomology Groups

Abstract

The range of the Cauchy-Riemann operator for a domain Ω in $\mathbb{C}^n$ or a a Stein manifold is much studied. In this talk we will discuss some recent results on the non-Hausdorff property of L^2 Dolbeault cohomologies of some Stein domain. In particular, we give an example of a pseudoconvex Stein domain Ω with smooth boundary in a compact complex Kähler manifold $\mathcal{X}$ whose range of $\bar{\partial}$ is not closed in L^2. We will also characterize Lipschitz domains with holes through their L^2 Dolbeault cohomology groups. These results are joint work with Debraj Chakrabarti, Siqi Fu and Christine Laurent-Thiébaut.

Mei-Chi Shaw - University of Notre Dame