Mitrea, Marius (University of Missouri, USA)

Calderón-Zygmund theory and boundary problems on Riemannian manifolds

Abstract: In this talk I will explore the manner in which Global Analysis, ψDo's techniques, Singular Integral Operators, and Geometric Measure Theory can provide effective tools in the treatment of boundary value problems on Riemannian manifolds. Special emphasis is placed on the L^p-Dirichlet problem for the Hodge-Laplacian, as well as more general strongly elliptic systems, in a class of uniformly rectifiable domains with unit conormal sufficiently close to VMO. This is joint work with Dorina Mitrea, Irina Mitrea, and Michael Taylor.