Poggi, Bruno (Universitat Autonoma de Barcelona, Spain)

The Dirichlet problem as the boundary of the Poisson problem

Abstract: In this talk we will describe a recent result about how solutions to the Dirichlet problem with boundary data in L^p, $p > 1$ in rough domains may always be sharply approximated by a family of solutions to certain corresponding inhomogeneous Poisson problems with 0 boundary data. We will see a connection between this approximation result and an also newly-understood characterization of the dual space to the space of functions with L^p-bounded (modified) non-tangential maximal function. This is joint work with Mihalis Mourgoglou.