TEMPLE UNIVERSITY

Department of Mathematics

Analysis Seminar

Room 617 Wachman Hall

Monday, March 12, 2018, 2:40 p.m.

Nonlinear one-radius mean value properties in metric measure spaces

by José González Llorente

Universidad Autónoma de Barcelona

Abstract: The Mean Value Property for harmonic functions is at the crossroad of Potential Theory, Geometric Function Theory and Probability. In the last years substantial efforts have been made to build up stochastic models for certain nonlinear PDE's like the p-laplacian or the infinity-laplacian and the key is to figure out which are the corresponding (nonlinear) mean value properties. After introducing a "natural" nonlinear mean value property related to the p-laplacian we will focus on functions satisfying the so called one-radius mean value property. We will review some classical results in the linear case ($p = 2$) and then recent nonlinear versions in the more general context of metric measure spaces.