

TEMPLE UNIVERSITY

Department of Mathematics

Analysis Seminar

Room 617 Wachman Hall

Monday, September 10 2018, 2:40 p.m.

*Multi-layer potentials for higher order systems
in non smooth domains*

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Abstract: In his 1978 ICM plenary address A.P. Calderón has famously advocated the use of boundary layer potentials “for much more general elliptic systems than the Laplacian”. One may also attach a Geometric Measure Theoretic component to this directive by insisting on considering the most general geometric setting in which the said boundary layer potentials continue to exhibit a natural behavior.

The present talk is based on joint work with G. Hoepfner, P. Liboni, D. Mitrea and M. Mitrea, and fits into this broad program. Its goal is to discuss key features exhibited by all boundary multi-layer potential operators associated with higher order elliptic systems of partial differential operators in various classes of sets of locally finite perimeter, including uniformly rectifiable domains in \mathbb{R}^n .