

TEMPLE UNIVERSITY

Department of Mathematics

Analysis Seminar

Room 617 Wachman Hall

Monday, February 27th, 2023, 2:30 p.m.

Calderón-Zygmund theory for the poly-Cauchy operator and Higher-order Hardy spaces in Uniformly Rectifiable domains

by Jeongsu Kyeong

Temple University

Abstract: The poly-Cauchy operator is a natural generalization of the classical Cauchy integral, in which the salient role of the Cauchy-Riemann operator $\bar{\partial}$ is now played by $\bar{\partial}^m$, for $m \in \mathbb{N}$. Building on Fatou-type results for polyanalytic functions, the talk will be focused on Calderón-Zygmund theory (jump relations, higher-order boundary traces) and the study of higher-order Hardy spaces in uniformly rectifiable domains in the complex plane.

This is joint work with Irina Mitrea (Temple University), Dorina Mitrea and Marius Mitrea (Baylor University).