TEMPLE UNIVERSITY

Department of Mathematics

Analysis Seminar

Room 617 Wachman Hall

Monday, January 22nd, 2024, 2:30 p.m.

On elliptic and parabolic PDEs in double divergence form

by Seick Kim

Yonsei University

Abstract: We consider an elliptic, double divergence form operator L^*, which is the formal adjoint of the elliptic operator in non-divergence form L. An important example of a double divergence form equation is the stationary Kolmogorov equation for invariant measures of a diffusion process. We are concerned with the regularity of weak solutions of $L^*u = 0$ and show that Schauder type estimates are available when the coefficients are of Dini mean oscillation and belong to certain function spaces. We will also discuss some applications and parabolic counterparts.