

# TEMPLE UNIVERSITY

Department of Mathematics

## Analysis Seminar

Room 617 Wachman Hall

Monday, October 16, 2017, 2:40 p.m.

*Regularity results for degenerate elliptic and parabolic equations in non-divergence form*

by Farhan Abedin

Temple University

### **Abstract:**

I will present some new results concerning regularity of solutions to certain degenerate elliptic and parabolic equations in non-divergence form. In the first half of the talk, I will discuss recent work on Harnack's inequality for operators structured on Heisenberg vector fields, with coefficients that are uniformly positive definite, continuous, and symplectic. This is joint work with Cristian Gutierrez (Temple) and Giulio Tralli (University of Rome). In the second half, I will outline work in progress with Giulio Tralli on parabolic equations of Kolmogorov type.