

The College of Arts & Sciences
Department of Mathematical Sciences

Candidate Colloquium

Thierry DePauw

East China Normal University

Monday, February 11th
Room 277, 60 West Charlton
3:30 – 4:30 pm

Quantitative Radon-Nikodym theorems and applications to regularity theory in the calculus of variations

We will review the Radon-Nikodym theorem in different settings, including the Lebesgue density theorem in Euclidean space involving different differentiation bases. Quantitative versions involve Campanato-Morrey spaces and pertain to regularity theory for PDEs. In the geometric setting, i.e. when measurable functions and the Lebesgue measure are replaced by rectifiable sets and the Hausdorff measure, many positive results are known for the differentiation basis of centred Euclidean balls. For norms not associated with an inner product not much yet is known.

Refreshments will be served 3:15 – 3:45 pm in the Faculty & Graduate Student Lounge Room 4118 French Hall West