

## PROBABILISTIC TECHNIQUES IN NONLOCAL PDE

Nonlocal PDE has been an active research area in differential equations for the last two decades. In this talk we will show that probabilistic techniques can be used to derive several fundamental properties of nonlocal pdes. In particular, we shall find ABP maximum principle, Hopf's lemma, anti-maximum principle, Liouville property, etc. Also, the beauty of this method is that we can consider a large family of non-local operators which do not have a global scaling property as the fractional Laplacian operator.