For Favour of Posting



Department of Mathematics **The Chinese University of Hong Kong** 



Phone: (852) 3943 7988 • Fax: (852) 2603 5154 • Email: <u>dept@math.cuhk.edu.hk</u> (Math. Dept.) Room 220, Lady Shaw Building, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong



## Heat kernels for non-symmetric non-local operators

## **Professor Zhen-Qing CHEN** Department of Mathematics, University of Washington

## <u>Abstract</u>

In this talk, we will discuss a family of time-dependent non-local operators which can be expressed as a sum of non-divergence form elliptic differential operator and a nonlocal operator of fractional order type. I will present recent results on the existence and uniqueness of heat kernels for this class of operators. I will further present sharp two-sided estimates, gradient estimate and fractional derivative estimate for the heat kernels under some mild conditions. Our approach uses a combination of analytic and probabilistic methods. Based on joint work with E. Hu, L. Xie and X. Zhang.

Date:March 17, 2017 (Friday)Time:4:00pm ~ 5:00pmVenue:Room 222, Lady Shaw Building,<br/>The Chinese University of Hong Kong, Shatin

All are Welcome