



復旦大學  
FUDAN UNIVERSITY

Applied Math  
Ph.D. Seminar

## Well-posedness and global behavior of the Peskin problem

**Speaker:** Ke Chen (Fudan University)

**Time:** 2021-05-27, 16:10 to 17:00

**Location:** Rm 1801, Guanghua East Tower

**Abstract:** The Peskin problem models the dynamics of a closed elastic filament immersed in an incompressible fluid. In this talk we will present local and global well-posedness results for the 2D Peskin problem in critical spaces. Specifically, we will prove the local well-posedness for any initial data in  $VMO^1$  satisfying the so-called well-stretched assumption. Then, we will show that when the initial string configuration is sufficiently close to an equilibrium in  $BMO^1$ , global-in-time solution uniquely exists and it will converge to an equilibrium as  $t \rightarrow \infty$ . This is based on a joint work with Prof. Quoc-Hung Nguyen.