SPEAKER:

Zhongwei Shen, University of Kentucky

TITLE:

Homogenization of Parabolic Equations with Different Scales

ABSTRACT:

In this talk I will describe some recent work, joint with Jun Geng at Lanzhou University, China, on quantitative homogenization of parabolic equations with periodic coefficients varying rapidly in space and time, in different scales. We prove large-scale interior and boundary Lipschitz estimates, as well as large-scale $C^{1,\alpha}$ and $C^{2,\alpha}$ estimates by utilizing higher-order correctors. The problem of convergence rates is also studied.