



**The Hong Kong Polytechnic University
Department of Applied Mathematics**

Colloquium

Multiscale Model Reduction for Heterogeneous Problems

By

**Prof. Li Guanglian
The University of Hong Kong**

Abstract

Heterogeneous problems with high contrast, multiscale and possibly also random coefficients arise frequently in practice, e.g., reservoir simulation and material sciences. However, due to the disparity of scales, their efficient and accurate simulation is notorious challenging. First, I will describe some important applications, and review several state-of-the-art multiscale model reduction algorithms, especially the Generalized Multiscale Finite Element Method (GMsFEM). Then I will describe recent efforts on developing a mathematical theory for GMsFEM, and ongoing works on algorithmic developments and novel applications.

Date : 27 August, 2020 (Thursday)

Time : 15:00-16:00 (Hong Kong Standard Time GMT +8)

Venue : Online Talk via Zoom(Meeting ID: 931 9239 2419)

Click to join :<https://polyu.zoom.us/j/93192392419?pwd=TkFoT0J0elpzeUJoUmMwajFNTU5Rdz09>

* The Talk will be given in English.



[Click to join \(Zoom\)](#)

***** ALL ARE WELCOME *****

For enrolment, please send your name and email to chingching.lu@polyu.edu.hk on or before 25 AUG 2020