Liu Bie Ju Centre for Mathematical Sciences
City University of Hong Kong

Mathematical Analysis and its Applications Colloquium

Organized by Prof. Ya Yan Lu and Prof. Roderick S. C. Wong

A Posteriori Error Estimation Techniques for Finite Element Methods

by

Professor Zhiqiang Cai

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Date : 16 March, 2017 (Thursday)
Time : 4:30 pm to 5:30 pm
Venue : Room B6605
Blue Zone, Level 6, Academic 1 (AC1)
City University of Hong Kong

ABSTRACT:

Adaptive mesh refinement (AMR) algorithms are one of two necessary tools for grand challenging problems in scientific computing. Reliability of computer simulations is responsible for accurate computer predictions/designs. Efficient and reliable a *posteriori* error estimation are, respectively, the key for success of AMR algorithms and the reliability of computer predictions/designs.

Since Babŭska's pioneering work in 1976, the a posteriori error estimation has been extensively studied, and impressive progress has been made during the past four decades. However, due to its extreme difficulty, this important research field of computational science and engineering remains wide open. In this talk, I will describe (1) basic principles of the *a posteriori* error estimation techniques for finite element approximations to partial differential equations and (2) our recent work.

Light refreshments will be provided before the colloquium from 4:00 pm to 4:30 pm. Please come and join us!

** **All interested are welcome** **

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