THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

DEPARTMENT OF APPLIED MATHEMATICS
應 用 數 學 系

The Hong Kong Polytechnic University
Department of Applied Mathematics

Colloquium

Global in time numerical stability for nonlinear PDEs

By

Prof. Cheng WANG
University of Massachusetts Dartmouth

Abstract

Uniform in time numerical stability for certain nonlinear PDEs, such as incompressible fluid flow and a few bi-stable gradient flow models, are presented in this talk. For 2-D incompressible Navier-Stokes equation, a global bound in L^2 and H^m norms for the numerical solution is obtained. For the bi-stable gradient flows, such as the epitaxial thin film growth with slope selection, the convexity splitting nature of the numerical scheme assures its non-increasing energy. Some long-time numerical simulations will also be presented.

Date: 6 April 2022 (Wednesday)
Time: 10:00-11:00 (Hong Kong Standard Time GMT +8)
Venue: Online Talk via Zoom (Meeting ID: 967 6594 8924)
Speaker: Prof. Cheng Wang, University of Massachusetts Dartmouth
Host: Prof. Zhonghua Qiao, The Hong Kong Polytechnic University
Click to join:
https://polyu.zoom.us/j/96765948924?pwd=N1BiTE5CYlh4RUovRUk4d1o3TUVOUT09

Click to join

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

For enrolment, please send your name and email to wai-yan.moon@polyu.edu.hk on or before 5 April 2022