



The Hong Kong University of Science & Technology

Department of Mathematics

PhD Student Seminar

**A Mathematical Model of Cardiovascular
Disease**

By

Mr. Lian ZHANG

Abstract

Abdominal aortic aneurysm(AAA) is one of the leading cause of death worldwide. In this talk, we propose a mathematical model of AAA, which describes the interaction of blood flow, arterial wall and smooth muscle cells. This model is a coupled system consisting of Navier-Stoke equation, hyperelastic equation and convection-diffusion equation. We use finite element method and multi-rate time schemes to discretize the coupled system. Our simulated results are consistent with the existed experimental data.

Date: Wednesday, 29 August 2018

Time: 10:30 a.m.- 11:30 a.m.

Venue: Room 5508 (near lift 25, 26)

All are welcome!