

## MATH-IMS Joint Pure Mathematics Colloquium Series The Chinese University of Hong Kong

*This Colloquium Series in Pure Mathematics is organized by the Department of Mathematics and the Institute of Mathematical Sciences (IMS) at The Chinese University of Hong Kong. The series focuses on all areas of pure mathematics together with theoretical developments and applications.*

**Date:** January 22, 2024 (Monday)

**Time:** 10:30AM-11:30AM (Hong Kong Time)

**Venue:** AB1 501a

### PDE aspects of geometric flows

*Speaker: Professor Peter Topping  
University of Warwick*

**Abstract:** A geometric flow is a way of evolving a geometric object, e.g. a smooth closed curve in the plane, in order to improve it in some sense, e.g. to regularize it and make it rounder. Led by Ricci flow, this field has proved to be extremely successful in solving hard problems in other areas, and a typical colloquium might survey some of these applications. In this talk I would like to focus instead on some of the nonlinear PDE phenomena that occur along the way. I plan to illustrate them by focusing on the most visual and non-technical examples. I will be aiming the talk at non-specialists.

**Bio:** Professor Peter Topping is a Full Professor at Warwick University. He obtained his Ph.D. from Warwick University in 1997. Professor Topping's research focuses on geometric analysis. He has made important contributions to the study of geometric flows, especially Ricci flows and harmonic map heat flows. In 2005, he was awarded the LMS Whitehead Prize and in 2006 the Philip Leverhulme Prize. He is a ICM speaker in 2014.