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: February 11, 2022 (Friday)
Time: 4:00-5:00PM (Hong Kong Time)
Zoom Link: https://cuhk.zoom.us/j/98846779826

Lojasiewicz estimates and applications to geometric flows

Speaker: Professor Melanie Rupflin
University of Oxford

Abstract: Many interesting geometric objects are characterised as minimisers or critical points of natural geometric energies. To deform a given geometric object towards such an optimal state, it is hence natural to consider the corresponding gradient flow. In this talk we consider one of the most powerful tools that can be used to analyse gradient flows of analytic energies, so called Lojasiewicz estimates, and discuss in particular how such estimates can be obtained also in settings where singularities form and where the classical results on Lojasiewicz-Simon estimates hence do not apply.

Bio: Prof. Rupflin studied mathematics for both her diploma and her PhD at ETH Zurich in Switzerland. She then spent a year as a Research Fellow at the University of Warwick and a further four years in Germany, as a postdoc at the universities of Leipzig and Hannover and at the Max-Planck-Institute in Potsdam. She is now Fellow and Tutor in Pure Mathematics at Trinity College, and Associate Professor in the Mathematical Institute of the University of Oxford. Prof. Rupflin's main field of interest is geometric analysis, in particular the study of geometric flows and problems related to harmonic maps and minimal surfaces.