



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

Non-smooth optimization method and Applications to variational problem, Machine learning and Mean field games

By

Prof. Kazufumi Ito
NC State University

Abstract

In this talk we investigate non-smooth optimization methods for a general class of variational problems. Our goals are to develop an innovative and comprehensive approach and the mathematical theory for a general class of nonsmooth and nonconvex optimization. Non-smooth optimization methods are used to obtain an enhanced solution method in various applications, e.g., including image analysis and inverse problems. In general we need to overcome the nonsmoothness and nonconvexity of problems. We develop the mathematical theory for a general class of nonsmooth and nonconvex optimization problems for various applications. The optimality system is of the form of equilibrium constraints and saddle points problems for the primal and dual variables. Then, we will develop a fast convergent algorithm using the semi-smooth Newton method for the optimality system.

Date : 9 December, 2020 (Wednesday)

Time : 9:30-10:30 (Hong Kong Standard Time GMT +8)

Venue : Online Talk via Zoom(Meeting ID: 997 8099 1000)

Speaker: Prof. Kazufumi Ito, NC State University

Host: Dr. Zhou Zhi, The Hong Kong Polytechnic University

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

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