The Hong Kong Polytechnic University
Department of Applied Mathematics

Colloquium

Level set methods in convex optimization

by

Prof. James Burke

Department of Mathematics, University of Washington

Abstract

Many applied convex optimization problems have favorable objective functions and complicated constraints which precludes first-order methods from being immediately applicable. In this talk we describe an approach that exchanges the roles of the objective and constraint functions, and instead approximately solves a sequence of parametric level-set problems. A zero-finding procedure, based on inexact function evaluations and possibly inexact derivative information, leads to an efficient solution scheme for the original optimization problem. We present the theoretical and practical properties of this approach for a broad range of problems, including low-rank semidefinite optimization, sparse optimization, and generalized linear models for inference.

Date : 24 February, 2016 (Wednesday)
Time : 3p.m. – 4p.m.
Venue : TU801, The Hong Kong Polytechnic University

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