



SEMINAR ANNOUNCEMENT

Lagrangian-dual Functions and Generalized Equations of Optimization Problems



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Date : 11 February 2009 (Wednesday)
Time : 10 am – 11 am
Venue: SPMS-Executive Classroom 1, MAS-03-06
School of Physical and Mathematical
Sciences

In this talk, we discuss the Lagrangian-dual problem of a class of convex optimization problem. We first study the semismoothness of the Lagrangian-dual function. This property is then used to investigate the second-order properties of the Moreau envelope of the dual function. We show that the Lagrangian-dual function and the gradient of the Moreau envelope are piecewise smooth and semismooth, respectively, for certain instances of the optimization problem. Further, we study the semismoothness of solutions to generalized equations over cone reducible nonpolyhedral convex sets, which is closely related to a class of optimization problems with cone constraints. In addition, we show that a locally Lipschitz homeomorphism function is semismooth at a given point if and only if its inverse function is semismooth at its image point.

Speaker Biography

Dr. Meng Fanwen is currently a Research Fellow at The Logistics Institute – Asia Pacific, National University of Singapore. His research collaborators in Singapore government bodies include the Economic Development Board and the Ministry of Defence. His collaborators in the industries include leading logistics providers like DHL, CWT, and multinational companies such as GM, Motorola and DFS. Dr. Meng obtained his PhD in 2003 from the Department of Mathematics at the National University of Singapore. From September 2002 to September 2004, he was a Research Engineer at the Centre for Industrial Mathematics and NUS Business School at the National University of Singapore. From October 2004 to September 2006, he was a Postdoctoral Research Fellow in the University of Southampton (UK), conducting an EPSRC research project related to Stochastic Mathematical Programs with Equilibrium Constraints. His current research interests include nonlinear programming, stochastic programming, robust optimization, logistics and supply chain management, and risk management. Some of his research work has appeared in the premium OR journals, such as *Mathematical Programming*, *SIAM Journal on Optimization*, *Mathematics of Operations Research* and *European Journal of Operational Research*.

Host: Prof. Chee Yeow Meng, Head, Division of Mathematical Sciences, School of Physical and Mathematical Sciences

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