MATHEMATICS DEPARTMENT GRADUATE SEMINAR
12 SEPTEMBER 2006

PROF. IGOR GRIVA
GMU DEPARTMENT OF MATHEMATICAL SCIENCES

Title: Case Studies in Shape and Trajectory Optimization: Catenary Problem.

Abstract: This talk presents a case study in modern large-scale constrained optimization to illustrate how recent advances in algorithms and modelling languages have made it easy to solve difficult problems using optimization software. We consider the shape of a hanging chain, which, in equilibrium, minimizes the potential energy of the chain. We emphasize the importance of the modelling aspect, present several models of the problem and demonstrate differences in iteration numbers and solution time.