

THE MATHEMATICS DEPARTMENT PRESENTS

A MATHEMATICS COLLOQUIUM

THURSDAY, May 10, 2007

BOND HALL 227

4:00 pm

Title: The Levenberg-Marquardt Method

Speaker: Laura Smith, Western Washington University

Abstract: Developed for finding numerical solutions to the nonlinear least squares problem, the Levenberg-Marquardt Method is a robust method that has been very influential. It was previously believed that this method converged quadratically only for functions with nonsingular Jacobians. However, in recent years it has been proven that functions with a local error bound condition, a weaker condition than nonsingularity, will have quadratic convergence.

During this presentation, I will discuss the history and development of the method and provide an example implementing an algorithm. In addition, we will examine the local error bound condition and briefly look at the proof for quadratic convergence.

Refreshments will precede the talk at 3:30pm in Bond Hall 300
courtesy of Yun-Qiu Shen.