

1077-VK-2209 **Yajun Yang*** (yajun.yang@farmingdale.edu), Farmingdale State College of SUNY, 2350 Broadhollow Road, Farmingdale, NY 11735, and **Sheldon P. Gordon**, Farmingdale State College of SUNY, 2350 Broadhollow Road, Farmingdale, NY 11735. *Searching for the Best Quadratic Approximation of a Function.*

This talk examines the question of finding the best quadratic function to approximate a given function on an interval. The prototypical function considered is $f(x) = e^x$. Two approaches are considered, one based on Taylor polynomial approximations at various points in the interval under consideration, the other based on the fact that three non-collinear points determine a unique quadratic function. Three different techniques for measuring the error in the approximations are considered. (Received September 21, 2011)