

APPLIED MATHEMATICS SEMINAR
Department of Mathematics
University of West Georgia
4:00 PM, MONDAY, FEBRUARY 12, 2007, BOYD 304

Speaker: Dr. Amin Boumenir, UWG

Title: **The Computation of Eigenvalues of Singular Sturm-Liouville Operators**

Abstract

The problem of computing eigenvalues of a singular Sturm-Liouville problem is reduced to the computation of eigenvalues of a Hilbert-Schmidt infinite matrix. The uniform convergence of the generalized determinant allows for the approximation of eigenvalues by the finite section. A key feature of the method that leads to a fast algorithm is to combine generating functions with the Laplace transform to compute explicitly the entries of the determinant without numerical integration. This is joint work with Vu Kim Tuan.

All are welcome.