

DISCRETE MATHEMATICS SEMINAR
Department of Mathematics
University of West Georgia
4:30 PM, MONDAY, AUGUST 28, 2006, BOYD 330

Speaker: Dr. Rui Xu, UWG

Title: **Realizing Degree Sequences with Graphs having 3-Flows**

Abstract

The following open problem was proposed by Don Archdeacon (the Managing Editor of Journal of Graph Theory): Characterize all graphical sequences π such that some realization of π admits a nowhere-zero 3-flow. It is also proposed by Luo et al in their paper (Combinatorica, 2004). We solve this problem and get the following complete characterization: A graphical sequence $\pi = (d_1, d_2, \dots, d_n)$ with minimum degree at least two has a realization that admits a nowhere-zero 3-flow if and only if $\pi \neq (3^4, 2), (k, 3^k), (k^2, 3^{k-1})$, where k is an odd integer.

All are welcome.