

## **Industrial Engineering Seminar Announcement**

---

**Linda Ng Boyle, Ph.D.**

Assistant Professor

Dept. of Mechanical and Industrial Engineering

University of Iowa

### **“Differences in Driver Performance at Rural Expressway Intersections”**

Rural expressway intersections consist of a multi-lane, median-divided highway and a two-lane stop-controlled rural road with lower speed limits. Due to varying speeds between the minor and major roads, drivers may have difficulty maneuvering through these intersections. Older drivers have particular difficulty selecting appropriate gaps in the traffic stream due to decreased cognitive and visual abilities which may influence their response times and decision making ability. The goal of this study was to examine differences in driving performance at these intersections with respect to age (younger, middle-aged, and older) and intersection (high-, and low-crash area). There were 60 drivers in the study, divided evenly between younger (18 to 25), middle-aged (35 to 55), and older (65 to 80) age-groups. All participants were asked to perform three driving maneuvers (going straight across, making a left turn, making a right turn) from the minor roads. Data was collected from an on-road study using an instrumented vehicle and included driving performance measures, visual scanning patterns, and heart rate variability. Age and intersection-related differences immediately before entering and within these intersections were examined. The presentation will describe the results of the study and its implications for policies and crash countermeasures.

**Tuesday, April 15, 2008**

**1:30 – 2:20 p.m.**

**101 Loew Hall**