# CE 890 Graduate Seminar

**SPEAKER:** Abdoulaye Diogo Balde (Advisor: Dr. Sunanda Dissanayake)

**TOPIC:** "Speed Management in Rural Communities: Innovative Low Cost Approaches"

**DATE:** April 14, 2010

**TIME:** 4:00 p.m. (refreshments at 3:45 p.m.)

**PLACE:** 2144 Fiedler Hall

## ABSTRACT

Speeding accounts for about 31 percent of all fatal crashes in the United States each year, and its annual economic cost is estimated to be approximately $40.4 billion according the National Highway and Transportation Safety Administration (NHTSA). Studies have found that rural areas account for higher traffic fatalities. In 2007, 23 percent of the U.S. population lived in rural areas; however, rural fatalities accounted for 57 percent of all traffic fatalities. Similarly, 33 percent of the fatalities in rural areas occurred in speeding-related crashes as compared to 31 percent in urban areas. In Kansas, 63.4% of traffic crashes occurred in urban areas in 2007; however, 71.0% of fatal crashes occurred in rural areas. Another concern is the speed of entering traffic on highways passing through rural communities on the main street in Kansas. Typically main streets carry large amount of other road users such as bikers and walkers in addition to local traffic. With limited budgets available in rural communities it is important to identify low cost techniques with promising results to slow down traffic through the rural communities. The use of optical speed bars appears to be one such approach with potential benefits. These optical illusions consist of small pavement markings that will make the user feel as if they are approaching the rural community at a higher rate of speed than acceptable. The small pavement markings will be perpendicular to the existing markings and will be spaced at a large distance initially but will decrease in spacing to give a visual perception of moving at a high rate of speed. The objective of this research is to evaluate the effectiveness of optical speed bars for speed reduction on the approaches to rural communities in Kansas. Five locations on the approaches to four rural communities were considered in testing the optical speed bars at reducing motorists speed. Vehicle speed was collected before and after installation of the optical speed bars. The speed data was statistically analyzed for possible reduction of speed due to the effects of the optical speed bars.