Oakland University researcher develops vehicle network privacy metrics, methods

The Oakland University and School of Engineering and Computer Science communities are invited to attend George Corser's defense of his Ph.D. dissertation. Seating is limited. RSVP with Haroldeane Perzyk at perzyk@oakland.edu.

Securing Location Privacy in Vehicular Applications and Communications

Committee: Huirong Fu, Ph.D. (Chair), Jia Li, Ph.D.,
Dan Steffy, Ph.D., Jie Yang, Ph.D.

Vehicular communications systems may one day save thousands of lives and billions of dollars, but these systems transmit information which could be deanonymized to obtain personal information, an invasion of privacy. This dissertation presents a systematic study resulting in novel definitions, metrics and methods for evaluating and applying location privacy preserving protocols specifically in vehicular settings. In addition to new definitions and metrics, this study developed privacy methods which would (1) accommodate vehicular mobility patterns, (2) defend against collusion by MAC and application layer attackers, (3) produce privacy solutions which depend on cooperation neither by large numbers of other motorists nor by trusted third parties, and (4) function in low vehicle densities, notably during the transition period between system initialization and full saturation, (5) provide protection even when applications require frequent and precise location queries, and (6) provide protection over a geographical range beyond a vehicle's wireless communications range.

Time:	**2-4 pm**
Date:	**Friday, October 30, 2015**
Location:	**238 DHE**