

SEMINAR

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12:30 – 1:30 pm

Seminar Room 4080 AIR Building

RISK BASED TRAFFIC SAFETY

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Abstract

Traffic crashes and accidents at intersections, roundabouts and roadway segments result from many complex factors, but at a basic level, they are outcomes of the interactions among vehicles and other road users. Since few direct measurements of these interactions are available, engineers and planners instead attempt to understand them by studying crashes and accidents reports. As crashes account for a tiny fraction of safety conflicts, these reports fail to provide a full understanding of what is happening at the points of accidents. This is especially true of crashes involving pedestrians and bicycles, for which data are sparse, making it difficult to determine reliable patterns. In this talk we will present risk based traffic safety models using multiple data streams, including near miss data, systemic data, historical traffic accidents, and drivers' naturalistic behavior data. We will also briefly discuss ongoing research at Rutgers on the development of Plan4Safety software, which is currently being used by the State of New Jersey for traffic safety analysis and planning.

Mohsen A. Jafari is a professor and Chair of Industrial & Systems Engineering at Rutgers University and is a principal at the Rutgers Center for Advanced Infrastructure and Transportation, where he oversees Transportation Safety Resource Center and Information Management Group. He recently started Laboratory for Sustainable Systems (LESS) at Rutgers University. His current research interests include control and optimization of large complex systems in transportation and energy applications. He has been principal or co-principal to over \$18.0M R&D funding from the US and international government agencies and industry. His work has led to three patents, 118 technical articles, over 60 conference papers and 100+ invited and contributed presentations. He actively collaborates with universities and national labs in the US and abroad. He has advised eighteen Ph.D. theses and nine post-doctoral & research fellows. Presently, he is advising additional five Ph.D. theses. He is a member of IEEE and was recipient of the IEEE excellence award in service and research, SAP curriculum award and two Transportation safety awards. He has been consultant to several fortune 500 companies, and national and international government agencies.