

## **The FMRI and ITE Student Chapter at FAU Presents:**

### **C-ITS, LAST-MILE DELIVERY AND RISK MANAGEMENT IN SMART CITIES**

#### **Lecture Presentation By,**

Prof. Stephanedes, MSEE, PhD, PE

**Abstract:** A framework for C-ITS, last-mile delivery and risk management is being developed for smart cities with emphasis on road environmental hazards and incidents. The framework includes passenger and freight movements for business and tourism operations. The framework regards the system as a whole and integrates component interactions for incident detection and human behavior. The road system is monitored in terms of key performance indicators, such as synthetic trip delay that includes the individual delays that are contributed by the involved subpopulations. Modular analysis develops component tools such as crossdocking performance, incident detection and lane departure, and traces the impact of detected hazard on component risk and synthetic risk. Effective response to estimated risk will be subject to feedback and feedforward control policies, modulated by fleet mix and exogenous input. The risk management framework is applied to the city of Patras, Greece, in the first wave of European cities selected to participate in the First Digital Cities Challenge.

**Presenter Bio:** Prof. Stephanedes, MSEE, PhD, PE is a specialist in Transportation and Traffic Theory, and Transport Telematics. He was for 20 years with Dept. of Civil Engineering of Univ. of Minnesota, where he became Professor and Director of Graduate Studies. He was funded by U.S. Government, including NSF, FHWA, UMTA, DOE, Office of Univ. Research of U.S. DOT, Minnesota DOT and California DOT. Prof. Stephanedes was instrumental in creating the Univ. of Minnesota Transportation Program, the Institute of Excellence for Intelligent Transportation Systems, one of 5 such Institutes in the U.S., and the ITS Center of Minnesota. In EU he led a major effort in identifying the impacts of telematics at DGXIII. Since 1997 he directed numerous EU multinational research projects. He led design and installation of the new Traffic Control Center and System Infrastructure in Attiki Prefecture prior to 2004 Olympics. He is author/co-author of 5 books and over 200 publications, reference CRC Handbook chapters, and General Secretary at Board of Directors of ITS Hellas. Prof. Stephanedes is currently working on the behavior of vehicles in incident-prone conditions in Smart Cities, and estimation of 3-d incident precursor and risk vectors of autonomous transport in a Smart Campus. He is Director of Environmental Engineering and Transportation Division, Transportation and Traffic Study Unit (TESS), and ITS Program at Department of Civil Engineering, University of Patras.

**Date: December 12, 2018**

**Time: 12 PM**

**Place: Engineering East Building,  
Room 303**



**A Community of Transportation Professionals**