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## **ITS: Cooperative Situation Awareness**

### **Abstract**

Situation awareness is the ability for a vehicle to understand its surroundings. This implies the perception of vehicle state and its surroundings, the state of other vehicles, pedestrians, etc, and the environmental and traffic conditions. Cooperative situation awareness involves sharing information across a network, where the information must be more precise and globally consistent, and the build of a 'macroscopic' picture of traffic conditions. This is fundamental for infrastructure design and managing traffic flow but especially to understand the situation and intentions of agents in the traffic, to eliminate accidents and enable automation.

In the talk a brief introduction will be presented of perception, comprehension and prediction concepts, the situation awareness components, in term of Intelligent Transportation Systems. Some results that our group have obtained in collaboration with other researchers and future trends from our perspective.

### **Biographical Sketch**

Favio R. Masson received the Electronic Engineer and Ph.D. degrees in Control Systems from the Universidad Nacional del Sur (UNS), Bahía Blanca, Argentina, in 1993 and 2004, respectively. He was a Visiting Scholar and Postdoctoral Fellow at the University of Sydney, Australia, in 2001 and 2007 respectively. He is currently an Adjunct Professor with the Departamento de Ingeniería Eléctrica y de Computadoras, UNS, and Researcher with the National Research Council of Argentina (CONICET). His research interests include field robotics automation and intelligent transport systems. The major impact of his fundamental research is in autonomous system, navigation, and safety. Dr. Masson was the founder of the first technological company (Spin Off) at the UNS and one of the few cases in Argentina. The company commercialise a system for vehicle safety in open pit mining that implements concepts of cooperative sharing of information and automation.