

## TOPIC

### **Cyber-Resilient Intelligent Transport Systems**

The need to integrate transport systems (driven by the need to enhance people's mobility and achieve equality in accessing transport services) has made the transport system vulnerable to cyber attacks due to the imperfections of cross-communication technologies, as well as discord amongst varying commercial and geopolitical interests.

The cyber-resilience property can be looked at from a variety of viewpoints. Typically, computer scientists and IT specialists try to address the problem by way of developing algorithms aimed at shielding the system from cyber attacks. However, sooner or later, one or more cyber attacks will penetrate the system and propagate through its hierarchy throughout.

The Cyber-Resilience issue can also be looked at from the viewpoint of the Control Systems Theories and addressed by developing algorithms for: (i) detecting cyber attacks that may appear at any point of the system hierarchy; and thereafter (ii) taking the attacked system back to its equilibrium state even if the detected cyber attack reappears and continues its presence. This talk will discuss results achieved so far.

## ABOUT THE SPEAKER

### **Dr Ljubo Vlacic, FIET RPEQ CPEng CEng(UK)**

Professor Emeritus Ljubo Vlacic is with Griffith University's Institute for Integrated & Intelligent Systems. He is a control systems scientist and practitioner, renowned for his contributions to co-operative driverless vehicles and intelligent control systems research and development.

His research achievements have made news headlines and been broadcast through media outlets throughout the world.

He has held a number of leading roles in both industry and academia. In recognitions of his achievements, he has received 19 awards including the IEE Achievement Medal (World-wide), Sir Lionel Hooke Award, Queensland Professional Engineer of the Year Award and the Gold Coast Business Events Ambassador Award. He has organised 12 national and international scientific conferences.

Currently, he is: (i) Editor-in-Chief, IEEE-Intelligent Transportation Systems Magazine; (ii) Chair of the IET AusForum; (iii) Chair, IET Local Network Queensland; and (iv) General Chair of the 2020 Australian & New Zealand Control Conference.

He graduated from the University of Sarajevo in 1973 (Control) and completed his MPhil and PhD studies in Control in 1976 and 1986 respectively. He also graduated from the Conservatorium of Music, University of Sarajevo and has played violin with various philharmonic and symphony orchestras.