From Smart Transportation to Smart City Platform
Alberto Leon-Garcia, University of Toronto

By 2050, over 70% of the world's population will live in cities that occupy only 2% of the world's land mass and consume 75% of its resources, leading to challenges on how to maintain economic advancement, environmental sustainability, and social resiliency. Smart city technologies (cloud computing, software-defined networking (SDN), Internet of Things (IoT)) present a major opportunity to create software application platforms that allow cities to tackle challenges such as traffic congestion, air and noise pollution, safety and crime, climate change, economic growth, and delivery of city services. In this talk we first introduce the CVST platform that was created to support applications in smart transportation. We will demo the CVST platform for transportation in the Greater Toronto Area, San Francisco, and New York City. We will also demo the analytics capabilities of the platform and show how these support smart applications. We will then discuss our approach to extend the CVST platform into a platform that can support smart city applications for private and public service providers as well as individual citizens.

Bio: Professor Alberto Leon-Garcia is Distinguished Professor in Electrical and Computer Engineering at the University of Toronto. He is a Fellow of the Institute of Electronics an Electrical Engineering "For contributions to multiplexing and switching of integrated services traffic". He is also a Fellow of the Engineering Institute of Canada and the American Association for the Advancement of Science. He has received the 2006 Thomas Eadie Medal from the Royal Society of Canada and the 2010 IEEE Canada A. G. L. McNaughton Gold Medal for his contributions to the area of communications. Professor Leon-Garcia is author of the leading textbooks: Probability and Random Processes for Electrical Engineering, and Communication Networks: Fundamental Concepts and Key Architecture. Leon-Garcia was Founder and CTO of AcceLight Networks in Ottawa from 1999 to 2002. He is currently Scientific Director of the NSERC Strategic Network for Smart Applications on Virtual Infrastructures, and Principal Investigator of the ORF Research Excellence project on Connected Vehicles and Smart Transportation. SAVI has designed and deployed a national testbed that converges cloud computing and software-defined networking. CVST has designed and deployed an application platform for smart transportation.