



IEEE SMC Chapter in Collaboration with Systems & Control Centre,  
City University

## **Distinguished Lecture Monday 04 April 2016**

Room: B104, Northampton Square, City University-London  
Time: 17.30-18.30

### **A System of Autonomous Vehicles: Modeling, Diagnostics, Localization, Navigation and Cloud-Based Control**

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With the advent of the Internet in mid-1990's people of the world got connected. System of systems (or cyber-physical systems) have been advocated within US military and US aerospace industry for over 10 years. System of Systems (SoS) are integration of independent operatable and non-homogeneous legacy systems to achieve a higher goal than the sum of the parts. SoS is a generalization of Internet where people, machines or machines and machines are now connected. For the past half century or so, large amount of data has been accumulating in all aspects of our lives. Advances in sensor technology, the Internet, wireless communication, and inexpensive memory have all contributed to an explosion of "Big Data".

The objective of this presentation is to describe the fundamental problems addressed for a system of autonomous vehicles (airborne, land and undersea). Issues like modeling, diagnostic, big data analytic, control, testing, evaluation and outreach all will be discussed. A UTSA open stack cloud infrastructure is also being used to do most compute-intensive tasks.

## Professional Biography



**Mo M. Jamshidi** (Fellow IEEE, Fellow ASME, A. Fellow-AIAA, Fellow AAAS, Fellow TWAS, and Fellow NYAS) received BS in EE, Oregon State University, Corvallis, OR, USA in 1967, the MS and Ph.D. degrees in EE from the University of Illinois at Urbana-Champaign, IL, USA in June 1969 and February 1971, respectively. He holds honorary doctorate degrees from University of Waterloo, Canada, 2004 and Technical University of Crete, Greece, 2004. Currently, he is the Lucher Brown Endowed Chaired Professor at the University of Texas, San Antonio, TX, USA. He has been an advisor to NASA (including 1st MARS Mission), USAF, USDOE and EC/EU (Brussels). He has over 730 technical publications including 68 books (11 text books), research volumes, and edited volumes in English and a few foreign languages. He is the Founding Editor or co-founding editor or Editor-in-Chief of 5 journals including *IEEE Control Systems Magazine* and the *IEEE Systems Journal*. He is an Honorary Professor at three Chinese Universities (Nanjing and Xi'an), Deakin University (Australia), Birmingham University and Loughbrough University (UK), and Obuda University (Hungary). In October 2005 he was awarded the IEEE's Norbert Weiner Research Achievement Award. In 2014 he received the IEEE-US Career Award in Systems Engineering. He is a member of the University of the Texas System Chancellor's Council since 2011. He is currently involved in research on system of systems engineering with emphasis on cloud computing, robotics, UAVs, biological and sustainable energy systems. He has over 6800 citations on Scholar Google.