Distributed Algorithms for Multi-vehicle Localization

Abstract: In this talk we will present United Technologies Research Center current research initiative in Autonomous and Intelligent Systems (AIS) with particular emphasis on multi-vehicle navigation with imperfect and intermittent sensor in GPS denied/degraded environments. In particular, we will present methods for robust and adaptive filtering and provide some preliminary results on performance analysis of this type of filters when sensors change their characteristics in an unknown fashion. We will then discuss some novel methodologies for distributed scalable localization based on graph embeddings.

Speaker Bio: Alberto Speranzon received a "Laurea" degree in Computer Engineering from University of Padova, Italy, in November 2000. In May 2006 he received a Ph.D. in Automatic Control from the School of Electrical Engineering, Royal Institute of Technology, Stockholm, Sweden. Between May 2006 and October 2006 he was post-doc at the same institute. Between November 2006 and August 2008 he was Marie Curie Research Fellow at Unilever R&D Port Sunlight, United Kingdom. During the period 2007 and 2008 he regularly visited the University of California at Berkeley, USA. Currently he is a scientist at the United Technologies Research Center, East Hartford, CT, USA. His research interests are in the broad area of distributed computation over networked systems, analysis of large scale systems and adaptive estimation for autonomous vehicles.