

Department of Electrical and Computer Engineering

Title: «*Online distributed prediction of traffic flow in a motorway network*»

**Prof. Jan H. van Schuppen (Emeritus),
Control Research/Delft University of Technology**

**Wednesday, 23th January 2013, 17:00 – 18:30
Room KENTP. – A008, Old Campus
University of Cyprus**

Abstract:

At traffic control centers in The Netherlands there is a need to produce online predictions of the traffic flow in the motorway network under consideration. The predictions are needed to evaluate possible future traffic situations, to evaluate several control scenarios, and to compute online traffic control. Due to the size of the network considered, in a particular case 80×50 km. and the short time available for the computations, about a few seconds, preferably less, only a distributed implementation of the prediction algorithm seems able to meet these specifications. No online prediction seems available anywhere. In the lecture the distributed prediction algorithm for traffic flow in a motorway network will be described in detail and the first results will be discussed. The lecture is about work in progress.

Biography:

Jan H. van Schuppen is since 1 October 2012 affiliated as researcher with the the company Van Schuppen Control Research and as professor emeritus with the Department of Mathematics of the Delft University of Technology in Delft, The Netherlands. Formerly he was affiliated with the research institute Centrum voor Wiskunde en Informatica (CWI) in Amsterdam, The Netherlands. Van Schuppen's research interests include control of distributed and of hierarchical systems, control of discrete-event systems and of hybrid systems, stochastic control, realization, and system identification. In applied research his interests include engineering problems of control of motorway traffic, decentralized control of electric power systems, and control and system theory for the life sciences. He is Advisory-Editor of the journal Mathematics of Control, Signals, and Systems, was Associate Editor-at-Large of the journal IEEE Transactions Automatic Control, and was Department Editor of the journal Discrete Event Dynamic Systems. He was and is the advisor of 18 Ph.D. students, 12 post-docs, and 9 master level students. Finally, he was also the coordinator of the C4C Project (CON4COORD, Grant agreement INFSO-ICT-223844).