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The Department of Automatic Control & Systems Engineering  
is pleased to announce the following seminar:

## **Minimax based congestion control problem for TCP network systems with EDP flows**

**Dr Yuanwei Jing**

*Professor of Control Science and Control Engineering,  
Northeastern University, China*

**Tuesday, 07 August 2018 at 14:00**  
Sir Henry Stephenson Building, LT02

### **Abstract**

The congestion control problem for TCP network systems with UDP flows is considered. A nonlinear TCP network model with strict-feedback structure is established. The unknown UDP flow is considered as the disturbance to the system, and the maximum UDP flow is calculated by using the minimax approach. And then, a congestion control algorithm is proposed by using backstepping approach. Further, a state-feedback congestion controller is presented to make the TCP networks asymptotically stable. The simulation results show the superiority and feasibility of the proposed method.

### **Biography**

Dr Yuanwei Jing was born on 20.11.1956 in Shenyang, Liaoning, P.R.China. Currently, he is a full-time Professor of Control Science and Control Engineering at the Northeastern University, Shenyang, China.

During the year 2008-2014 he was awarded honorary 'Excellent Class-tutor for Undergraduate Students' by Northeastern University in Shenyang, China. In the years 2010 he was awarded the 2nd Prize of National Technical Invention by the People's Republic of China. He obtained his degree B.Sc. in Applied Mathematics from Liaoning University, Shenyang, China, in the year 1981. He received his Master and PhD degrees in Automatic Control Theory and Applications from the Northeastern University, Shenyang, China, in 1984 and 1988, respectively. He has been a Visiting Scholar to St. Cyril & St. Methodius University of Skopje, Rep. of Macedonia in 1996 and 2011, and to Dogus University, Istanbul, Rep. of Turkey in 2011. He has been a Visiting Professor at the Lakehead University of Thunder Bay, Canada in 2016. He was a Senior Research Fellow & Visiting Professor at the Missouri University of Kansas City, USA, during 1998-1999.

He participated into and served on the Steering Committee of Chinese Conference on Decision and Control (CCDC) as the Chair of Interactive Sessions from 2008 to now. He has supervised 3 postdoctoral, 36 PhD, and 57 ME. Internationally, he has contributed one invited theme chapter in monographs by Springer, more than 50 journal articles and also more than 230 conference papers in the IFAC and the IEEE proceedings series alone.

He served the International Federation of Automatic Control (IFAC) in the capacities of Vice-Chair of TC 9.3 on Developing Countries, during 2002-2005.