Modeling and Analysis of Complex Real-time Systems

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**DATE**  2 February 2015 (Monday)  
**TIME**  10:30 am - 11:30 am  
**VENUE**  CS Seminar Room, Y6405, 6th Floor  
Yellow Zone, Academic 1  
City University of Hong Kong  
83 Tat Chee Avenue  
Kowloon Tong

**ABSTRACT**

Traditionally a real-time system is modeled as a collection of independent periodic tasks repeatedly invoked with certain periods. Modern real-time systems are more and more complex. The simple periodic task model cannot precisely capture their complex timing behaviors. On the other extreme, automata-based models have powerful expressiveness, but suffer limitation in scalability.

In this talk, I introduce our recent work in real-time workload models that are both expressive and can be efficiently analyzed. Covered topics include graph-based task models, finitary real-time calculus and the interaction between them.

**BIOGRAPHY**

Nan Guan is an associate professor at Northeastern University, China. He received a PhD degree from Uppsala University, Sweden. He works in real-time cyber-physical systems. He received the EDAA Outstanding Dissertation Award of 2014, the Best Paper Award of RTSS in 2009, the Best Paper Award of DATE in 2013, the Best Poster Award at the PhD forum of IPDPS 2012. He has also been nominated for the best paper awards of ASPDAC 2009, RTAS 2010, RTSS 2010 and RTAS 2011. He is the program co-Chair of EMSOFT 2015.

All are welcome!

In case of questions, please contact Dr Jason Xue at Tel: 3442 9815, E-mail: jasonxue@cityu.edu.hk, or visit the CS Departmental Seminar Web at http://www.cs.cityu.edu.hk/.