

Department of Computer Science  
University of Houston

**DISTINGUISHED LECTURER SEMINAR 2012**

**WHEN:** THURSDAY, SEPTEMBER 20, 2012  
**WHERE:** PGH 563  
**TIME:** 11:00 AM

**SPEAKER:** Dr. Kwei-Jay Lin, University of California, Irvine

Host: Dr. Albert Cheng

**TITLE:** A Framework for Real-time Service-Oriented Architecture

**Abstract:** Service-oriented Architecture (SOA) is a software paradigm to publish, discover and compose distributed service processes that can meet user-defined quality of service (QoS) specifications. As the paradigm is being adopted by industrial and CPS systems, many SOA-based applications need to meet end-to-end real-time requirement.

In this talk, we present the RT-Llama (Real-Time inteLLigent Accountability Middleware Architecture) project that proposes a capacity-based scheduling framework and support for real-time SOA applications.

During admission control, a capacity-based schedulability analysis is used by on-line admission algorithms for mixed periodic and aperiodic service process requests with end-to-end constraints. Our study shows the feasibility and efficiency of making SOA real-time.

**BIO:** Dr. Kwei-Jay Lin is a Professor in the Department of Electrical Engineering and Computer Science and the University of California, Irvine and an Adjunct Professor at the National Taiwan University and National Tsinghua University in Taiwan, Curtin Institute of Technology in Australia, Zhejiang University in China, and Freiburg University in Germany. He was a Visiting Research Fellow at the Institute of Information Science, Academia Sinica in Taiwan during Spring 2011. He is an IEEE Fellow, and the Editor-in-Chief of the Springer journal on Service-Oriented Computing and Applications, and Editor-in-Chief of the Software Publication Track, Journal of Information Science and Engineering. He was Associate Editors of the IEEE Trans. on Parallel and Distributed Systems and the IEEE Trans. on Computers. He was a co-chair of the IEEE Technical Committee on Business Informatics. He has served on many international conferences, recently as conference chairs of CEC 2012, SOCA 2011 and 2012, program vice-chair of ICPP 2010 and ICPADS 2011. His research interest includes service-oriented systems, M2M systems, middleware, real-time computing, and distributed computing.