The Institute of Electrical and Electronics Engineers (IEEE)
Galveston Bay Section Monthly Meeting
With Section ComSoc Chapter

November 17th 2016 (Thursday) Luncheon Meeting

TOPIC: "A High-Performance AES-Encrypted On-Chip Bus Architecture for Internet-of-Things (IoT) System-on-Chips (SoCs)"

SPEAKER: Dr. Xiaokun Yang. Assistant Professor
College of Science and Engineering, UHCL

PRESENTATION: With industry expectations of billions of new smart connected things today, commonly referred to as the IoT, we see a growing demand for highly cost-effective and energy-efficient system-on-chips (SoCs). In this context, we propose a low-cost and low-power on-chip bus architecture that can frame data transfers separately and efficiently. FPGA results show that our bus design reduces the dynamic energy to 66.93% and achieves up to 1.30 times higher valid throughput compared with the Advanced eXensible Interface (AXI) based implementation. Additionally, the high-performance security design, EDA design/integration automation, and performance evaluation methodology will also be introduced in this presentation.

SPEAKER: Dr. Xiaokun Yang received his Ph.D. from the Department of Electrical and Computer Engineering (ECE), Florida International University (FIU), USA in the Spring 2016, his dual M.S. from the Department of ECE at FIU and the Department of Software Engineering at Beihang University, China in 2007.
From 2007 to 2012, he has also worked as a Senior ASIC Design/Layout Engineer at Advanced Micro Devices (AMD), China Electronic Corporation (CEC), and PowerLayer MicroSystems (PLM). His chip tape-out experiences include AMD CPUs/APUs (Kabini, Kaveri, Bonaire, Kryptos, and Samara), 802.11 a/b/g/n MIMO mixed-signal SoCs (CEC TL3 and TL5), and PLM high-definition TV (HDTV) SoCs (PLM3K and PLM5K).
He is currently an Assistant Professor at the College of Science and Engineering, University of Houston, Clear Lake.

Gilruth Recreation Center NASA-JSC, Discovery Room (downstairs)
Free parking. No security processing required. Easy drive in off Space Center Blvd. See website below for map.
Interested non-IEEE engineers, technicians, scientists, IEEE Members and guests alike are welcome!
11:30 AM - Light Lunch with reservation ($10.00 donation)

12:00 PM – 1:00 PM - Program and Q&A
Please RSVP Before Noon on Monday, NOV 14th, 2016
Number of lunches is limited. Please reserve early