IEEE JOINT SSCS & CAS SEMINAR: EMBEDDED PROCESSING FOR AUTOMOTIVE SYSTEM DESIGN & 75TH TRANSISTOR ANNIVERSARY

Save the date & join us !

The IEEE Student Branch of the University of Grenoble Alpes invites you to join the seminar held by two distinguished lecturers Professors Sugako Otani & Makato Ikeda.
This event is hosted and supported by the TIMA laboratory (CNRS, Grenoble -INP, Université Grenoble alpes), with collaboration of STMicroelectronics.
Register quickly to access in person or online for this outstanding event!

https://events.vtools.ieee.org/m/372610

DATE AND TIME

Date: 18 September 2023
TIME: 01:30 PM
(UTC +01:00)

LOCATION

Barbillon Amphitheater
46 Av. Félix Viallet
Grenoble, Rhone-Alpes
France 38000
Zoom link available
on registration page

SPEAKERS

Prof. Makoto Ikeda

Topic: **75th transistor anniversary**

SSCS Distinguished Lecturer: Commemorative Lecturers for Transistor 75th Anniversary
E: ikeda@silicon.t.u-tokyo.ac.jp

Biography:

Makoto Ikeda received the BE, ME, and Ph.D. degrees in electrical engineering from the University of Tokyo, Tokyo, Japan, in 1991, 1993 and 1996, respectively. He joined the University of Tokyo as a research associate, in 1996, and now professor at Systems Design Lab (d.lab), the University of Tokyo. At the same time he has been involving the activities of VDEC (VLSI Design and Education Center, the University of Tokyo), to promote VLSI design educations and researches in Japanese academia. He worked for hardware security, asynchronous circuits design, smart image sensor for 3-D range finding, and time-domain signal processing. He has been serving various positions of various international conferences, including ISSCC ITPC Chair, IMMD sub-committee chair (ISSCC 2015 -), A-SSCC 2015 TPC Chair, VLSI Circuits Symposium PC Chair. He is a member of IEEE, IEICE Japan, IPSJ and ACM.

Abstract : Acceleration of Encryption Algorithm, Elliptic Curve, Pairing, Post Quantum Cryptoalgorithm (PQC) and Fully Homomorphic Encryption (FHE)

This lecture will cover basics of public-key encryption, and example design optimization of elliptic-curve based encryption algorithm, including pairing operations, and its security measures. Then extend design optimization on lattice-based encryption algorithms including post quantum crypto-algorithm, and fully homomorphic encryption algorithm

Prof. Sugako Otani

Topic: **Embedded processing for Automotive System design**

SSCS Distinguished Lecturer
E: sugako.otani.uj@renesas.com

Biography:

Sugako Otani is a system and processor architect at Renesas Electronics Corporation. Her current research focuses on application-specific architectures, ranging from IoT devices to automotive. She joined Mitsubishi Electric Corporation, Japan, in 1995 after receiving an M.S. in physics from Waseda University, Tokyo. She received a Ph.D. in Electrical Engineering and Computer Science from Kanazawa University in 2015. From 2005 to 2006, she was a Visiting Scholar at Stanford University.

Abstract : Automotive System Design

The automotive industry is in the midst of a significant transformation. "CASE: Connected, Autonomous, Shared & Service, Electric" has been advocated as a trend. Along with this trend, automotive E/E (Electrical/Electronic) architecture will evolve from the current distributed architecture to a domain architecture and then to the future zone architecture in the autonomous driving era. The lecture introduces the requirement of automotive system design for in-vehicle devices and their key technologies, including processors for the infotainment system and advanced vehicle control. The lecture also covers automotive functional safety, security, and maintenance & upgrades with OTA(Over the air).