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CECS Seminar

"Sensors: Innovation at Intersections"

Khaled Salama

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Friday, August 3rd
10:00 a.m.- 11:00 a.m.
Engineering Hall 2430

Abstract: Energy efficiency is a key requirement for wireless sensor nodes, biomedical implants, and wearable devices. The energy consumption of the sensor node needs to be minimized to avoid battery replacement, or even better, to enable the device to survive on energy harvested from the ambient. Capacitive sensors do not consume static power; thus, they are attractive from an energy efficiency perspective. In addition, they can be employed in a wide range of sensing applications, such as pressure, humidity, biological, and chemical sensing. We will provide a summary of various sensors developed under the KAUST sensors initiative a consortium of 9 universities (KAUST, MIT, UCLA, GATECH, MIT, UCLA, Brown University, Georgia Tech, TU Delft, Swansea University, the University of Regensburg and the Australian Institute of Marine Science (AIMS).

Biography: Khaled N. Salama received the B.S. degree from the Department Electronics and Communications, Cairo University, Cairo, Egypt, in 1997, and the M.S. and Ph.D. degrees from the Department of Electrical Engineering, Stanford University, Stanford, CA, USA, in 2000 and 2005, respectively. He was an Assistant Professor at Rensselaer Polytechnic Institute, NY, USA, between 2005 and 2009. He joined King Abdullah University of Science and Technology (KAUST) in January 2009, where he is now a professor, and was the founding Program Chair until August 2011. His work on CMOS sensors for molecular detection has been funded by the National Institutes of Health (NIH) and the Defense Advanced Research Projects Agency (DARPA), awarded the Stanford–Berkeley Innovators Challenge Award in biological sciences and was acquired by Lumina Inc. He is the author of 200 papers and 14 US patents on low-power mixed-signal circuits for intelligent fully integrated sensors and neuromorphic circuits using memristor devices.