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CECS Seminar



“Design Automation and Computing based on Additive Printed Electronics”

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Thursday, September 29th
11:00 a.m. - 12:00 p.m. PST
Location: EH 2430

Abstract: Printed electronics is an emerging and fast-growing field which can be used in many demanding and emerging application domains such as wearables, smart sensors, and Internet of Things (IoT). Unlike traditional computing and electronics domain which is mostly driven by performance characteristics, printed and flexible electronics based on additive manufacturing processes are mainly associated with low fabrication costs and low energy. Printed electronics offer certain technological advantages over their silicon-based counterparts, such as mechanical flexibility, low process temperatures, maskless and additive manufacturing possibilities. Electrolyte gated transistors (EGTs) using solution-processed inorganic materials which are fully printed using inkjet printers at low temperatures are very promising to provide such solutions. However, due to low device count, large device dimension and high variabilities, originated in low-cost additive manufacturing, existing design automation and computing paradigms of digital VLSI are not applicable to printed electronics. This talk covers the technology, process, modeling, fabrication, design automation, computing paradigms and security aspects of circuits and systems based on additive printed technologies.

Biography: Mehdi B. Tahoori is Professor and the Chair of Dependable Nano-Computing at Karlsruhe Institute of Technology (KIT), Germany. He received the B.S. degree in computer engineering from Sharif University of Technology, Tehran, Iran, in 2000, and the M.S. and Ph.D. degrees in electrical engineering from Stanford University, Stanford, CA, in 2002 and 2003, respectively. He is currently the deputy editor-in-chief of IEEE Design and Test Magazine. He was the editor-in-chief of Elsevier Microelectronic Reliability journal. He was the program chair of IEEE VLSI Test Symposium in (VTS) in 2021 and 2018, and General Chair of IEEE European Test Symposium (ETS) in 2019. Prof. Tahoori was a recipient of the US National Science Foundation Early Faculty Development (CAREER) Award in 2008 and European Research Council (ERC) Advanced Grant in 2022. He has received a number of best paper nominations and awards at various conferences and journals. He is currently the chair of IEEE European Test Technologies Technical Council (eTTTC). He is a fellow of the IEEE.

Host: Prof. Bozorgzadeh