

Title: Digital Infrastructure: Reducing Energy Cost and Environmental Impacts of Information Processing and Communications Systems

Abstract: Creating a Sustainable Information and Communication Infrastructure Modern society's dependence on information and communication infrastructure (ICI) is so deeply entrenched that it should be treated on par with other critical lifelines of our existence, such as water and electricity. As is the case with any true lifeline, ICI must be reliable, affordable, and sustainable. Meeting these requirements (especially sustainability) is a continued critical challenge, which will be the focus of my talk. More precisely, I will provide an overview of information and communication technology trends in light of various societal and environmental mandates followed by a review of technologies, systems, and hardware/software solutions required to create a sustainable ICI.

Bio: Massoud Pedram is the Stephen and Etta Varra Professor in the EE department at the University of Southern California. He received his B.S. degree in EE from Caltech in 1986 and PhD in EECS from UC-Berkeley in 1991. He is a recipient of the 1996 Presidential Faculty Fellows Award, a Fellow of the IEEE, an ACM Distinguished Scientist, and the Editor-in-Chief of the ACM Transactions on Design Automation of Electronic Systems and the IEEE Journal on Emerging and Selected Topics in Circuits and Systems. Dr. Pedram's research focuses on energy-efficient computing, energy storage systems, low power electronics and design, and computer aided design of VLSI circuits and systems. Dr. Pedram and his research group have published more than 450 papers, and received six Conference and two IEEE Transactions Best Paper awards for their work.