

SORS: Energy Efficient Computing Systems

Speaker: Juan Cebrián

Abstract: This talk will discuss how to design adaptive workload management and power modulation methods in servers and various types of data centers to help achieve a sustainable computing future.?

Energy efficiency is a central issue in all computing domains. Operational and cooling costs impose significant sustainability challenges; in tandem, computing systems run increasingly complex, highly performance demanding workloads, making the existing energy management policies inadequate. High power densities also increase the chip temperatures and thermal variations, which degrade system reliability, add to the system design complexity, and increase cost of cooling.

Achieving the target exascale computing performance, and also, designing a sustainable cloud computing infrastructure require the design of dynamic and intelligent techniques that recognize the hardware-software characteristics and optimize the interplay among performance, energy, and temperature in an application-aware manner.

Bio: Ayse K. Coskun is an associate professor in the Electrical and Computer Engineering Department at Boston University. She received her MSc and PhD degrees in Computer Science and Engineering from University of California, San Diego. Coskun's research interests are energy-efficient computing, 3D-stacked architectures, embedded systems, and intelligent management of data centers. Prof. Coskun worked at Sun Microsystems (now Oracle), San Diego prior to her current position at BU. Coskun is a recipient of the NSF CAREER award. She currently serves as an associate editor for IEEE Embedded Systems Letters and writes a bi-monthly column on green computing at the Circuit Cellar magazine. **Web:** <http://www.bu.edu/peaclab>

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