## From the EIC

## Cross-Layer Design of Cyber–Physical Systems

**CYBER-PHYSICAL SYSTEM** design has attracted research attention for more than a decade. Part of the problem is the complexity due to the heterogeneous nature of such systems. A promising approach to handle complexity as well as to come up with better design solutions is to optimize across the borders of design abstraction levels. This was one of the key motivations for this special issue. The guest editors have attracted a relatively large number of submissions from which eight have been selected for this special issue. Our thanks to the guest editors, Samarjit Chakraborty, Jian-Jia Chen, Anuradha Annaswamy, and Devendra Rai, for compiling this exciting special issue.

In addition, we have, in this issue, one General Interest article. In "Automated Probe-Mark Analysis for Advanced Probe Technology Characterization," Jian et al. present a tool for automated probe-mark analysis.

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Another highlight of this issue is the tutorial by Massimo Alioto titled "From Less Batteries to Battery-Less Alert Systems with Wide Power Adaptation down to nWs—Toward a Smarter, Greener World." The tutorial covers a comprehensive basis for the design of battery-less systems including power density characterization, battery characterization, energy harvesting options, supercapacitors, system operation modes and circuitry enabling them, and many more. Thanks to the author for this excellent tutorial.

Many thanks to Scott Davidson for The Last Byte titled "Bad Design Inside of You."

I hope you enjoy reading this issue of *IEEE Design* &*Test*.

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Jörg Henkel Editor-in-Chief IEEE Design&Test

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