# From the EIC

# Test for Automotive

**AUTOMOTIVE HAS BECOME** a field of high interest in the design and test communities. As a result of a very successful workshop held in conjunction with International Test Conference 2016 in Fort Worth, the idea of this special issue was born. Many thanks to the guest editors Hans-Joachim Wunderlich and Yervant Zorian for bringing this hot topic to *IEEE Design&Test* with six technical papers.

This issue also includes two general-interest papers. In "Composable Battery Model Templates Based on Manufacturers' Data" the authors, Alberto Bocca, Alberto Macii, Enrico Macii, and Massimo Poncino, present a new battery modeling technique. It addresses a shortcoming of limited information in data sheets by proposing a modular and composable circuit-equivalent model template. The second general interest paper, "Optimization of a Dual-Band Wireless Power and Data Telemetry System Using Genetic Algorithm," is concerned with the data and power transmission via inductively coupled coils. The focus is on the optimization of the coils which accomplished via genetic algorithm.

The highlight in our departments is a tutorial by Dimitrios Serpanos, Muhammad Taimoor Khan, and Howard Shrobe on "Designing Safe and Secure Industrial Control Systems: A Tutorial Review." It deals with the increasing number of cyber attacks in industrial control systems and how to design them in the future such that they are safe and secure. The reader will learn about the basics such as typical architectures and system layers, design aspects, intrusion detection and prevention, and the tutorial concludes with a survey of current research trends. Thanks to the guest editors for bringing this interesting topic to *IEEE Design&Test*.

Another department highlight is the Roundtable on "Autonomous Systems and the Challenges in Verification, Validation, and Test," which is brought to us by our Roundtable editor David Yeh. The roundtable complements this special issue well with top experts' opinions/predictions on future autonomous systems.

The IEEE/ACM 23rd Asia and South Pacific Design Automation Conference took place in South Korea, Jeju Island, on 22–25 January 2018. Thanks to Youngsoo Shin for the report on this event.

Thanks to Scott Davidson for two contributions in this issue, the LastByte on "Computers with Tailfins?" and a book review on "Electronic Design Automation for IC Implementation, Circuit Design, and Process Technology, and Electronic Design Automation for IC System Design, Verification, and Testing."

As always, I hope you find this issue of *IEEE Design&Test* interesting. For any question or inspirations, please contact me at henkel@kit.edu. ∎

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