

Editorial

While the focus of this journal has primarily been in the domain of design automation for traditional electronic systems (i.e., systems designed using silicon-based transistors), we are seeing rapid advances in devices fabricated using new and emerging technologies as well as materials. This has spawned a number of special technical tracks dedicated to new and emerging technologies at many recent design automation conferences. Indeed, the 2006 IEEE/ACM International Conference on Computer-Aided Design (ICCAD) devoted a special all-day track to papers focusing on new and emerging technologies. While a sister publication, the ACM Journal of Emerging Technologies in Computing Systems (JETC), covers “research and development in emerging technologies in computing systems”, a discussion during ICCAD 2006 initiated by Professor Mary Jane Irwin led to the idea of experimenting with a joint special issue on this topic. The goal of this effort was to facilitate cross-fertilization of ideas between the two communities by selecting articles from the ICCAD 2006 special track on emerging technologies that would be disseminated to both the TODAES as well as the JETC readership. Although articles cannot physically appear in two journals/transactions, Professor Vijay Narayanan (EiC of JETC) and I worked with the ACM Publications Board to create a virtual joint special issue/section on the topics of New, Emerging, and Specialized Technologies.

Therefore, this issue of ACM TODAES has a special format. The first part contains 12 regular articles. The second part contains a “virtual” joint special issue/section on the topics of New, Emerging, and Specialized Technologies, with Professors Iris Bahar and Krishnendu Chakrabarty serving as joint special issue/section guest editors. Although the TODAES version physically contains only the guest editorial introducing the joint special section, the actual articles are archived in the ACM Digital Library under Volume 4, Issue 2 of ACM JETC. Hard copies of the JETC/TODAES special issue will be sent to subscribers of both publications. I hope you find this novel format and the contents both interesting and thought-provoking.

Professor Vijay Narayanan and I would like to thank the ACM Publications Board for working with us to create this joint special issue/section, and the guest editors, authors, and reviewers for their work in making this a reality.

NIKIL DUTT
Editor-in-Chief