

Editorial on the Opening of the New Editorial Year—The State of the IEEE TRANSACTIONS ON VERY LARGE SCALE INTEGRATION (VLSI) SYSTEMS

IT IS a pleasure to write this editorial celebrating the start of the editorial year of 2020, which marks the beginning of my second year as the Editor-in-Chief of the IEEE TRANSACTIONS ON VERY LARGE SCALE INTEGRATION (VLSI) SYSTEMS (TVLSI). In the past year, our Editorial Board has enabled several new initiatives and has achieved several accomplishments, solidly supporting the trajectory that we had envisioned for our journal a year ago [item 1) of the Appendix].

Since the quality of service has been the main focus in the past year, the average turnaround time from submission to the first decision has been shortened to 9.2 weeks compared to 11.2 weeks a year before. At the same time, the impact factor has increased to 1.946, as compared to 1.744 in the previous year. Such achievements have been undoubtedly enabled by the invaluable contribution of our authors, as well as the relentless effort of our Editorial Board. I would like to express my appreciation and gratitude to all of them for their continuous commitment to excellence. We also commit to sustaining and further accelerating such improvements over the next years to continue to bring our TRANSACTIONS to new heights.

Among the several new initiatives, brief articles have been revamped as high-quality publications with short turnaround. Regular articles have been consistently aggregated by topic as middle ground between a regular issue and a special issue. To celebrate the excellence in our community, awards are attributed to the best reviewers and Associate Editors (please follow the upcoming assignment of the awards on our website). As another recent initiative to celebrate excellence, quarterly invited keynote articles are now being published thanks to the invaluable contribution of leaders in our community. Such keynote articles are purposely aligned to the grand challenges being addressed in our TRANSACTIONS and define new paths and visions to reinforce and renew the impact of our community.

It is with pleasure that I here introduce the keynote article opening the 2020 editorial year written by Prof. Jan Rabaey (University of California Berkeley). In this issue, he has contributed a keynote article on human-centric computing, sharing an exciting vision on how VLSI technologies will empower humans in the foreseeable future. In particular, a path is laid out toward the tight integration of unprecedented sensorial and cognitive capabilities, while allowing the individual to cope with the unrelenting increase in the information being

available or pushed onto us. A compelling perspective is depicted to highlight the challenges and the new requirements imposed by human-centric computing to ultimately enable a symbiotic convergence between biological and physical computing. From an evolutionary viewpoint, such convergence will simultaneously drive the evolution of VLSI systems and of ourselves as a species, both biologically and computationally.

I would like to thank Prof. Rabaey for this invited and thought-provoking contribution, which I trust will prompt a rich scientific and technical discourse to enable such new capabilities and yet fundamental reflections on the next level of human-computer interaction.

As a preview of the new initiatives in TVLSI coming this year, we will strongly push for the adoption of supplementary materials that extend the traditional article format beyond its solely textual and graphical forms. As a few examples, supplementary materials will be included in the form of graphical abstracts, software code (e.g., RTL and testbenches), benchmarks and data sets, and other multimedia files (e.g., video demonstrations and testing setup descriptions). The enrichment of articles with supplementary materials will help widen our audience, while making articles more enjoyable, verifiable, and replicable. As a community, we will also reach out to the broader audience through a steady presence in social media, fostering wider and deeper engagement.

None of this could happen without the passionate contribution of many dedicated colleagues in our community. Among them, I would like to take this opportunity to thank the members of the TVLSI Steering Committee for their continued support, all members of the Editorial Board for their commitment to the success of the TRANSACTIONS, Prof. Mircea Stan, Associate Editor-in-Chief, and Stacey Weber, an Editorial Assistant. They really make all the differences in our TRANSACTIONS.

Having here taken stock of the past year, I am very excited by the prospects of this new editorial year, and I really look forward to take our publications and our readership to the next level.

APPENDIX RELATED WORKS

- 1) M. Alioto, "Editorial TVLSI positioning—Continuing and accelerating an upward trajectory," *IEEE Trans. Very Large Scale Integr. (VLSI) Syst.*, vol. 27, no. 2, pp. 253–280, Feb. 2019.

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Massimo Alioto (M'01–SM'07–F'16) received the Laurea (M.Sc.) degree in electronics engineering and the Ph.D. degree in electrical engineering from the University of Catania, Catania, Italy, in 1997 and 2001, respectively.

He is with the Department of Electrical and Computer Engineering, National University of Singapore, Singapore, where he leads the Green IC Group and is the Director of the Integrated Circuits and Embedded Systems Area. Previously, he held positions at the University of Siena, Siena, Italy; Intel Labs – CRL, Hillsboro, OR, USA, in 2013; the University of Michigan Ann Arbor, Ann Arbor, MI, USA, from 2011 to 2012; the Berkeley Wireless Research Center, University of California at Berkeley, Berkeley, CA, USA, from 2009 to 2011; and EPFL, Lausanne, Switzerland, in 2007. He has authored or coauthored more than 280 publications in journals and conference proceedings. He has also coauthored four books printed by Springer, including *Enabling the Internet of Things—From Integrated Circuits to Integrated Systems* (Springer, 2017). His primary research interests include self-powered

wireless integrated systems, near-threshold circuits for green computing, widely energy-scalable integrated systems, data-driven integrated systems, hardware-level security, and emerging technologies.

Dr. Alioto is/was the Technical Program Chair of ISCAS 2023, SOCC, ICECS, NEWCAS, VARI, ICM, and PRIME and the Track Chair in numerous conferences. From 2009 to 2010, he was a Distinguished Lecturer of the IEEE Circuits and Systems Society, for which he is/was also a member of the Board of Governors from 2015 to 2020 and the Chair of the “VLSI Systems and Applications” Technical Committee from 2010 to 2012. He is the Editor-in-Chief of the IEEE TRANSACTIONS ON VERY LARGE SCALE INTEGRATION (VLSI) SYSTEMS from 2019 to 2020, and he was the Deputy Editor-in-Chief of the IEEE JOURNAL ON EMERGING AND SELECTED TOPICS IN CIRCUITS AND SYSTEMS in 2018. In the last five years, he has given over 50 invited talks in top conferences, universities, and leading semiconductor companies. He served as a Guest Editor for several IEEE journal special issues, e.g., the IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS—PART I: REGULAR PAPERS, the IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS—PART II: EXPRESS BRIEFS, and the IEEE JOURNAL ON EMERGING AND SELECTED TOPICS IN CIRCUITS AND SYSTEMS, and an associate editor for a number of IEEE and ACM journals. Currently, he is also in the IEEE “Digital Architectures and Systems” ISSCC Subcommittee and the IEEE ASSCC Technical Program Committee.