

RFIC 2020 Guest Editorial

THIS Mini-Special Issue of the IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES (TMTT) is comprised of expanded articles from the 2020 IEEE Radio Frequency Integrated Circuits Symposium (IEEE RFIC), held virtually on August 4–6, 2020, in response to the worldwide COVID-19 pandemic. First, we are grateful to the organizers of the symposium, including the steering and the technical committees, as well as the sponsors of the symposium—it is due to their tremendous work that we were able to switch from the planned 2020 symposium at Los Angeles to a rewarding and engaging virtual symposium instead. The virtual symposium, held as part of the IEEE Microwave Week, in combination with the IEEE International Microwave Symposium (IMS), the IEEE Automatic Radio Frequency Techniques Group (ARFTG), and the Industry Exhibition, had more than 5000 registered participants.

The IEEE RFIC Symposium remains the premier IC conference focused exclusively on the latest advances at RF, millimeter-wave, and high-frequency analog/mixed-signal IC designs, as well as systems and applications using such advanced ICs. The 2020 edition of RFIC featured 95 excellent papers within 21 technical sessions including two special 5G focus sessions, and two special systems and applications sessions. All the papers were selected based on a double-blind review process by the technical program committee. The 2020 symposium was chaired by Waleed Khalil, and the technical program committee was chaired by Brian Floyd and co-chaired by Osama Shana'a.

Expanded versions of all papers accepted to the IEEE RFIC Symposium were invited to the mini-special issue of the IEEE T-MTT. A few additional papers that would be suitable for expansion in the mini-special issue were specially solicited. Due to the delayed virtual conference in 2020 in August (compared to June in prior years), the first manuscript submission date was set at 2nd November, 2021.

Overall, a total of 17 papers were submitted to the mini-special issue, and these went through the same rigorous review process as regular T-MTT submissions. The editorial process was overseen and performed by the same Editor-in-Chief, Track Editors, and Associate Editors who are responsible for the regular issues of the IEEE T-MTT.

After a two- to three-round review process from November 2020 to April 2021, a total of 13 papers have been accepted and are featured in this mini-special issue. These papers represent almost the entire gamut of topics at the RFIC Symposium itself: circuits for 5G applications, including phased arrays, multi-user MIMO digital beamformers, front-end modules, and power amplifiers; low-power circuits for IoT applications, variable gain amplifiers, mm-wave switch designs, *D*-band circuits, and FMCW radar. In addition, a couple of systems and applications papers on an artificial mechanoreceptor system and a 3-D imaging system also feature in the special issue.

The success of the special-mini issue would not have been possible without the support of the Editor-in-Chief: Jianguo Ma; Track Editors: David Ricketts, James Hwang, and Natalia Nikolova; several Associate Editors; all the amazing peer-reviewers who provided their valuable time and expertise to provide insightful reviews; and most importantly, all the authors who submitted an excellent set of manuscripts to this issue. Thank you all.

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