

XXXV Conference on Design of Circuits and Integrated Systems (DCIS 2020)

MESSAGE FROM THE CHAIRS

On behalf of the organizing committee and the Universidad Politécnica de Madrid (UPM), we warmly welcome you to the 2020 Conference on Design of Circuits and Integrated Systems. It is our honor and pleasure to host the 35th edition of the DCIS conference, an annual event since 1981. Unfortunately, the continued uncertainty surrounding the Covid-19 outbreak made the DCIS Steering Committee decide to move to a fully online, virtual experience. Moving to an online-only event was not an easy decision to make; we will miss the opportunity to gather together in Segovia. But we are excited to go virtual and we are committing ourselves to providing a top-notch, interactive, and immersive online experience for our community, converting this necessity into an opportunity.

The aim of this conference is to offer the possibility to present and discuss new research results on the area of integrated circuits and systems and all its fields of application. A major emphasis has been given in the technical program to emerging topics such as electronic systems for artificial intelligence, reliability of circuits and devices, unconventional computing, smart sensors and other relevant topics.

We have retained most of the DCIS Conference features that have evolved in recent years, and added new features, some in response to feedback from participants, as well as a consequence of the virtual format, to continue to try improving attendees' experience of the event.

A first highlight in the conference is the plenary keynote on "Attack-Resistant Energy-Efficient SoC for Smart & Secure IoT" presented by Dr. Vivek De, Intel Fellow at Intel Corporation and IEEE Fellow. Dr. Vivek will discuss SoC design challenges and opportunities for smart and secure cyberphysical systems in the emerging world of IoT. The second day will close with a keynote speech entitled "From Deep Scaling To Deep Intelligence" delivered by Dr. Rajiv Joshi, Watson Research Center IBM, addressing the circuit techniques for lowering power, improving performance and functionality in nanoscale VLSI design in the midst of variability required to boost the advancement in Artificial Intelligence.

For the 35th edition, DCIS has prepared an exciting technical program, with the help of the members of the Technical Program Committee. The 58 papers of these proceedings have been selected from 95 submissions received from several countries. These submissions were reviewed by the TPC members with an average of over 3.1 blind reviews per paper. After the review process, 49 papers were selected for oral presentations plus nine for poster contributions organized in two parallel tracks. In addition, several Special Sessions have been invited on hot topics such as Quantum Computer, Hardware Security, Open Hardware and RISC-V as well as two sessions on Medical Hyperspectral Image Processing.

A central event will consist of a debate panel around the topic of "The Future of Electronics after the Pandemic: Real or Virtual" addressing the challenges of electronic circuits and

systems when facing the complicated situation after the COVID-19 outbreak, seen from Academia and Industry by different profiles and focusing on looking for the required emergent keys to address the required challenges.

Finally, the DCIS 2020 will host the second edition of the DCIS PhD competition, to improve the technical discussions between junior and senior researchers. PhD papers, as well as the posters mentioned above, will be adapted to the virtual format of the conference.

On behalf of the General Chairs and Program Chairs we thank our sponsors, our distinguished speakers, all members of the Steering Committee and reviewers for contributing their time, knowledge and support.

We do hope you will find the program of the conference valuable and of professional benefit, and it will contribute to the exchange of expertise and the development of links between the different communities around integrated electronics. We will do our best so that you can enjoy a fruitful conference and look forward to virtually meeting as many of you as we can.

Marisa Lopez-Vallejo (General Co-Chair)

Carlos López Barrio (General Co-Chair)

Pablo Ituero (Program Co-Chair)

Jaime Jiménez (Program Co-Chair)

Mario Garrido (Special Sessions Chair)