ETS 2022 Foreword

On behalf of the Program, Organizing, and Steering Committees, we are pleased to extend a warm welcome to all participants in the European Test Symposium 2022 (ETS'22). ETS has consolidated as one of the leading international forums that calls together the testing community to promote the exchange and discussion of scientific results, emerging ideas, applications, hot topics and new trends in the area of electronic-based circuits and systems reliability, safety, security and validation.

The 27th edition of ETS will take place from May 23th to 27th, 2022, in Barcelona. It is organized by the Universitat Politècnica de Catalunya and sponsored by the IEEE Council on Electronic Design Automation (CEDA) and IEEE Computer Society. It is the first face-to-face edition after the appearance of the COVID-19 pandemic that brought us not only negative issues but also the development of new strategies and means to make networking and online interaction easy and common between people located far away. This situation has led us to choose a hybrid format with the aim of facilitating attendance at the venue in Barcelona and remotely from any other place. Casa Convalescència has been chosen as the venue for the conference because it is a welcoming place that makes us taste the pioneering flavour of the Catalan modernism architectonic style mastered by Gaudí.

In this context, the organizing team has strongly focused on recovering the onsite interactive personality of ETS but with the additional option of online edition, providing opportunities for virtual attendance and presentation. This hybrid edition also provides the opportunity to attend each conference talk as video-on-demand for a full month after the end of the conference.

We are proud to have received an important number of scientific paper submissions from 26 countries around the world. In the review and selection process, each submitted paper received at least six written expert reviews, based on which the Technical Program Committee (TPC) at its online meeting recommended to accept 20 papers for full presentation and 18 papers for poster presentation at the ETS'22 event. After the event, the Award Committee will select the ETS'22 Best Paper based on the reviewers' comments, the quality of the presentation, the follow-up online discussions and the ratings provided by the attendees. The Best Paper award will be handed out during the opening ceremony of ETS'23.

In addition to the high-quality scientific paper presentations, the ETS'22 non regular program offers:

- 4 exciting keynote talks that will address the design and test complexity of today's chips, from high-performance computing to mmW/THz chips, covering aspects of reliability, safety, AI-assisted yield learning and the DfX-based exploration of the design space for quality;
- an Industry Track with case-study presentations from Industry engineers facing test problems and researching solutions in the real world;
- 4 special sessions covering RF 5G test, automobile SoC functional safety, radiation effects and machine-learning for dependability;
- 3 embedded tutorials on analog defect testing, power-aware test and post-silicon SoC validation;
- 2 panels related to IJTAG test standard and test metrics estimation from analog defect coverage;
- vendor sessions on cutting-edge technology and product developments, with an exposition area available to advertise their products and to have live interaction with potential customers from both Academia and Industry;

- a PhD Forum and the McCluskey Doctoral Thesis Contest providing, respectively, opportunities for young researchers at the beginning and at the end of their PhD studies to get in touch with professionals from Industry and Academia.

ETS is the cornerstone event of the European Test Week, which also includes the Test Spring School (TSS) and the Fringe Workshops. TSS precedes the symposium from May 20th to May 23th, 2022. The focus topic for this year's TSS edition is "AI for IC dependability and dependability of AI ICs". TSS tutorial lectures are given by world renowned experts in the field, therefore guaranteeing a challenging and exciting learning experience. As last part of the program offering, the Fringe Workshops will take place immediately after the ETS'22 symposium, starting on May 26th, 2022, afternoon. Three workshops will be organized in parallel: 1) the SURREALIST Workshop on SecURity, REliAbiLity, test, prIvacy, Safety and Trust of Future Devices; 2) the AI-TREATS Workshop on AI hardware: Test, REliAbility and Security; and 3) the IMTR Workshop on Intelligent Methods for Test and Reliability.

ETS'22 is enriched with an exciting social program providing unbeatable opportunities for informal discussions among participants in a relaxed environment. Social activities start with a welcome reception at the garden of the modernist venue, Casa Convalescència. They continue with the main social event which includes a visit at the modernist Hospital de la Santa Creu i Sant Pau complex followed by a Gala Dinner in the Olympic Harbor of Barcelona enjoying typical Mediterranean cuisine in a fresh maritime atmosphere.

At this point, we want to strongly thank everyone who enabled this symposium. ETS'22 is the result of the hard work of many dedicated volunteers involved in the many technical and organizational activities. We sincerely thank each and every one of them for their significant effort to put together this edition of ETS. The entire committee and the full final program can be found on the conference website: https://ets2022.upc.edu/. We also thank all authors who submitted their work to ETS'22, all presenters and all attendees for their participation. We thank the IEEE Council on Electronic Design Automation (CEDA) and the IEEE Computer Society for their financial sponsorship of the event. We are particularly grateful to the many ETS'22 corporate supporters for their financial contribution and for their trust and constant support to ETS, making the ETS'22 program possible at very affordable registration fees.

With no doubt, the real success of a symposium depends on the active participation of all attendees. We are confident that you will find it a beneficial and exciting experience with lots of networking opportunities for researchers, developers and vendors. We wish you all a pleasant and productive hybrid week in Barcelona!

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