

Guest Editors' Introduction

Special Issue on the 2023 International Symposium on Networks-on-Chip (NOCS 2023)

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■ **THE INTERNATIONAL SYMPOSIUM** on networks-on-chip (NOCS) serves as the premier interdisciplinary meeting for research on NoC architecture, implementation, analysis, optimization, and verification, encompassing various aspects of NoCs for embedded high-performance computing systems, un-core and system-level NoCs, inter/intrachip, and rack-scale networks. Similar to previous years, this event has been held in conjunction with the Embedded Systems Week (ESWEEK). This year, NOCS was held in Hamburg, Germany, on 21–22 September 2023, marking its return to a fully in-person conference after virtual and hybrid editions during the pandemic.

Building on the successful adoption of the journal model for accepted articles from NOCS 2022, the 17th edition of NOCS continues this trend, with accepted papers being published in an *IEEE Design&Test* special issue. The rigorous double-blind paper review process involved a technical program committee (TPC) of 42 experts while ensuring diversity in gender, origin, and academia–industry representation. Among 20 complete technical submissions, nine papers were accepted after a two-phase thorough review process. Additionally, the special session and

tutorial track featured six submissions, with three selected for the special session and one for a tutorial. Furthermore, the program is enriched with two invited papers.

NOCS 2023 features two keynote presentations by experts in interconnection networks. Axel Jantsch (TU Wien) presents “Connecting Artificial Neural Networks,” reviewing and analyzing the communication needs and proposed architectures for popular artificial neural networks, highlights recent trends, and discusses possible future developments. Diana Göhringer (TU Dresden) delivers a keynote on “Networks-on-Chip for Reconfigurable Computing Systems,” providing an overview of NoCs for field-programmable gate arrays (FPGAs) and coarse-grained reconfigurable arrays (CGRAs), the current challenges in this domain as well as an outlook on future research trends.

The success of NOCS 2023 owes much to the dedication and contributions of many individuals. The organizing committee, TPC members, web chair, special session chair, local logistics chair, and publicity chairs have all played vital roles. So, we would like to give our special thanks to our web chair, Salvatore Monteleone (Niccolò Cusano University), for maintaining the symposium website for several years; special session chair, Poona Bahrebar (Ghent University), for the careful reviewing process of special session and tutorial papers; local logistics chair, Alireza Monemi (Barcelona Supercomputing

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Center) for managing the conference logistics; and last but not least to the publicity chairs, Kun-Chih (Jimmy) Chen (National Yang Ming Chiao Tung University), José L. Abellán (University of Murcia), and Peipei Zhou (University of Pittsburgh), for maximizing publicity and promoting the conference. Gratitude is extended to the Steering Committee Chair, Radu Marculescu (University of Texas at Austin, USA), for the useful comments and feedback to the NOCS 2023 committee.

WE WOULD ALSO like to thank the ESWEEK organizers for coordinating our symposium, handling registrations, finances, and the overall logistics. Lastly, we

really appreciate all of the authors and participants of NOCS 2023 for their contributions and interest. We hope you all will enjoy the exciting NOCS program and look forward to your continued contributions in the future. ■

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