



IFIP Working Group 10.5 Minute Meeting

October 15, 2023 17pm-18pm

Sharjah (UAE)

Notes taken by Graziano Pravadelli

Attendees in presence: Abe Elfadel, Lutfi Albasha, Salvador Mir, Ian O'Connor, Luis Miguel Silveira.

Attendees in remote mode: Graziano Pravadelli, Ricardo Reis, Elena-Ioana Valajelu, Florenc Demrozi, Jurgen Becker, Katell Morin-Allory, Tiziana Margaria, Victor Grimblatt, Said Hamdiou.

Apologies: Carlos Silva Cardenas, Srinivas Katkoori, Fatigh Ugurdag, Donatella Sciuto, Matthew Guthaus, Luc Claesen, Maciej Ogorzalek, Manfred Glesner, Giovanni De Micheli, Eugenio Villar, Michael Hübner, Dimitrious Soudris, Nikil Dutt, Matteo Sonza Reorda

Agenda

1. Presentation of new members
2. Communications
3. Mapping of competences
4. Status of VLSI-SOC 2023
5. Status of VLSI-SOC 2024
6. Proposal for VLSI-SOC 2025 and 2026
7. Election of the WG 10.5 chair
8. Any other business

1. Presentation of new members

We have 1 new candidature by Prof. Lutfi Albasha from University of Sharjah, UAE.

The candidate presents his research activities which focus in particular on Analog IC design.

After the presentation, we unanimously approved the admission of the candidate to the working group.

2. Communication

- The chair remembers Prof. Klaus D. Müller-Glaser, Head of the Institute of Information Processing Technology and Director of the "Electronic Systems and Microsystems" area at Karlsruhe Institute of Technology, a prominent member of WG 10.5, with more

than 250+ papers on design, verification and test, has unfortunately passed away on Sept 22, 2023

- FDL 2023, co-sponsored by WG 10.5, was held in Turin (Italy) on September 13-15. It had 47 participants, 2 keynotes, 6 sessions, 2 tutorials, 1 panel, 1 PhD Forum, 1 project forum, and a co-located PhD School.
- The chair remembers we discussed about the possibility of organizing a PhD school on VLSI and SOC design at the Lipari Island on Summer 2024. After talking with the local organizing group, which is leading the Summer School format since a while, we discover the conditions for external organizers are not convenient. In particular, the total amount of surplus should be provided to the local organizers, but in case of loss, this would be covered by the WG. Different alternatives should be investigated. For example, organizing a winter school on the Alps.

3. Mapping of WG competences

A final set of 12 topics and 38 subtopics have been selected starting from a matrix composed of 46 topics and 40 application fields.

The selected topics are:

- AI architectures and applications
- Analog, digital and mixed-signal circuits design and synthesis
- Communication architectures and technologies
- Computing paradigms
- Embedded system design
- Emerging technologies and applications
- Smart systems, devices and applications
- Low-power, energy-efficient and thermal-aware design
- Security
- Sensors and signal processing
- System specification, simulation and verification
- Test and dependability

Per each topics, two topics leaders have been defined. They are in charge of:

- To describe the topic by including keywords (core technologies)
- To map members on the topics
- To create the core technology cloud

The distribution of the topics leaders is as follows:

Leaders	Topics	Subtopics					
Claesen, Silveira	AI architectures and applications	App. of AI and ML	Arch. for AI and ML				
Ugurdag, Reis	Analog, digital and mixed-signal circuits design and synthesis	Digital circuits	Analog devices	High-level and logic-level synthesis	Reconfigurable architectures and systems	Mixed signal	SoC
Becker, Soudris	Communication architectures and technologies	5G/6G technologies	RF	Network on Chip			
O'Connor, Vatajelu	Computing paradigms	Quantum computing	Approximate computing	Evolutionary computing	In-memory computing		
Bombieri, Villar	Embedded system design	Embedded software and toolchains	Edge computing	Cloud computing	Parallel computing and architectures		
Hamdioui, Guthaus	Emerging technologies and applications	Emerging technologies					
Mohanty, Grimblatt	Smart systems, devices and applications	IoT, industrial IoT, IoMT	Smart systems	Cyber-physical systems	Big data		
Calimera, Gaillardon	Low-power, energy-efficient and thermal-aware design	Cryogenic processors	Low-power design				
Katkoori, Elfadel	Security	Hardware security					
Tsui, Demrozi	Sensors and signal processing	Sensors and biosensors	Signal processing				
Morin-Allory, Margaria	System specification, simulation and verification	Simulation	Verification	System specification and modelling	Hardware description languages	Prototyping and virtual prototyping	
Sonza Reorda, Mir	Test and dependability	Design for testability	Fault tolerance	Fault modelling	Testing	Reliability	

4. Status of VLSI-SOC 2023

Ibrahim Elfadel (Program chair) presented the status of VLSI-SOC 23.

- Dates: October 16-18, 2023
- Location: American University of Sharjah, UAE
- Theme of the conference: VLSI SoC Innovations for Trustworthy AI

The conference program has 6 keynotes, 7 regular sessions, 1 poster session (8 posters), 4 special sessions, 1 PhD forum (8 posters), 1 Student forum (7 posters).

Attendees are about 80 + volunteers.

The Springer book will be published with a selected list of papers.

For the next year, the organizers suggest do not use Google for hosting the conference web site as it is not visible in China

Details and statistics are reported below.

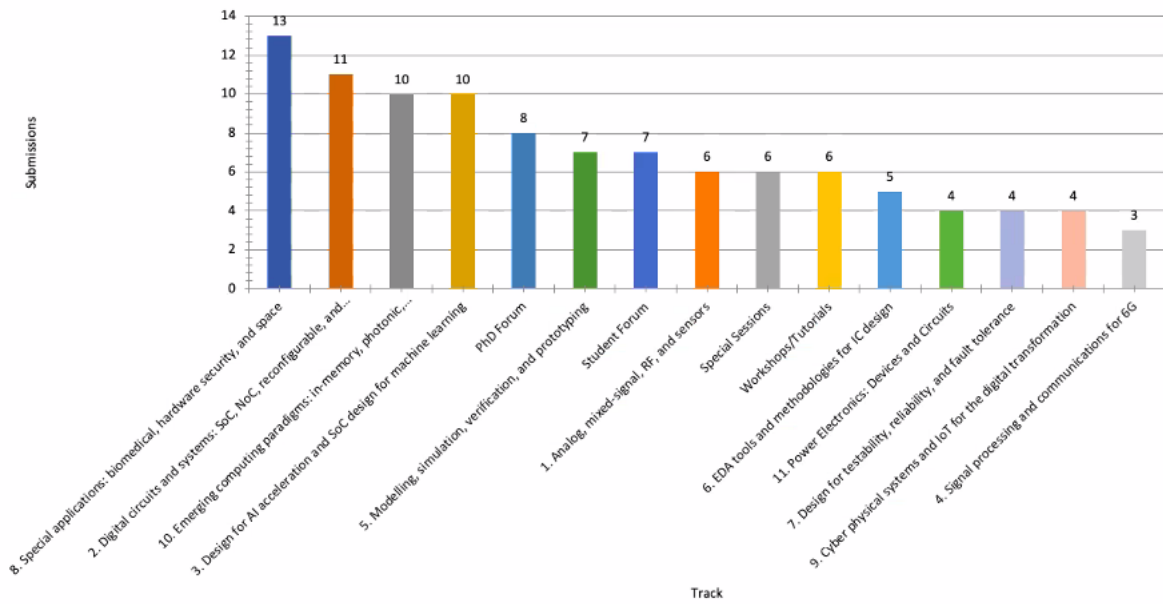
VLSI-SoC 2023 Submitted Contributions

- 1.Regular Papers: 77
- 2.Special Sessions: 6
- 3.PhD Forum: 8
- 4.Student Forum: 7
- 5.Workshop/Tutorials: 6.
- 6.Total: 104.

General Statistics

Submissions	104
Accepted	47
Acceptance rate	0.45
Reviews	334
External reviewers	59
External reviews	91

Number of Submissions by Track

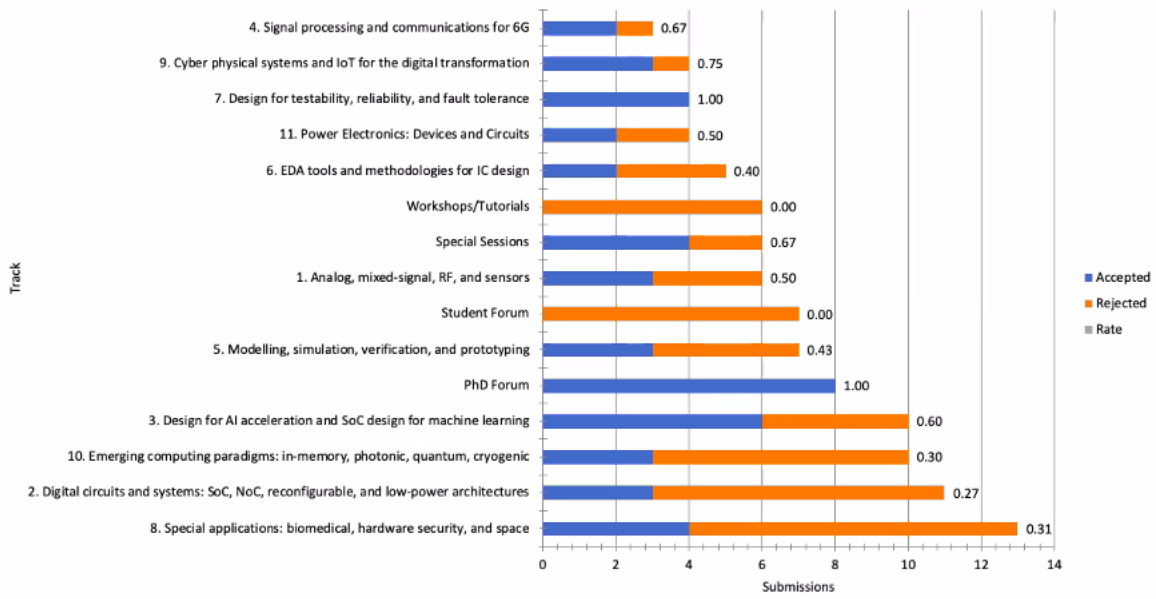


CONFERENCE (ONLY REGULAR PAPER SUBMISSIONS, EXCLUDING SPECIAL SESSIONS, EMBEDDED TUTORIALS, PHD FORUM)	Papers submitted	papers accepted	Posters accepted	Papers rejected	Regular acceptance rate
VLSI-SoC 2023, Sharjah, United Arab Emirates					
T1. Analog, mixed-signal, RF, and sensors	6	3	0	3	50
T2. Digital circuits and systems: SoC, NoC, reconfigurable, and low-power archit	11	3	2	6	55
T3. Design for AI acceleration and SoC design for machine learning	10	6	1	3	70
T4. Signal processing and communications for 6G	3	2	0	1	67
T5. Modelling, simulation, verification, and prototyping	7	3	0	4	57
T6. EDA tools and methodologies for IC design	5	2	0	2	40
T7. Design for testability, reliability, and fault tolerance	4	4	0	4	100
T8. Special applications: biomedical, hardware security, and space	13	4	4	5	62
T9. Cyber physical systems and IoT for the digital transformation	4	3	0	3	75
T10. Emerging computing paradigms: in-memory, photonic, quantum, cryogenic	10	3	1	6	40
T11. Power Electronics: Devices and Circuits	4	2	0	0	50
Total	77	35	8	37	56

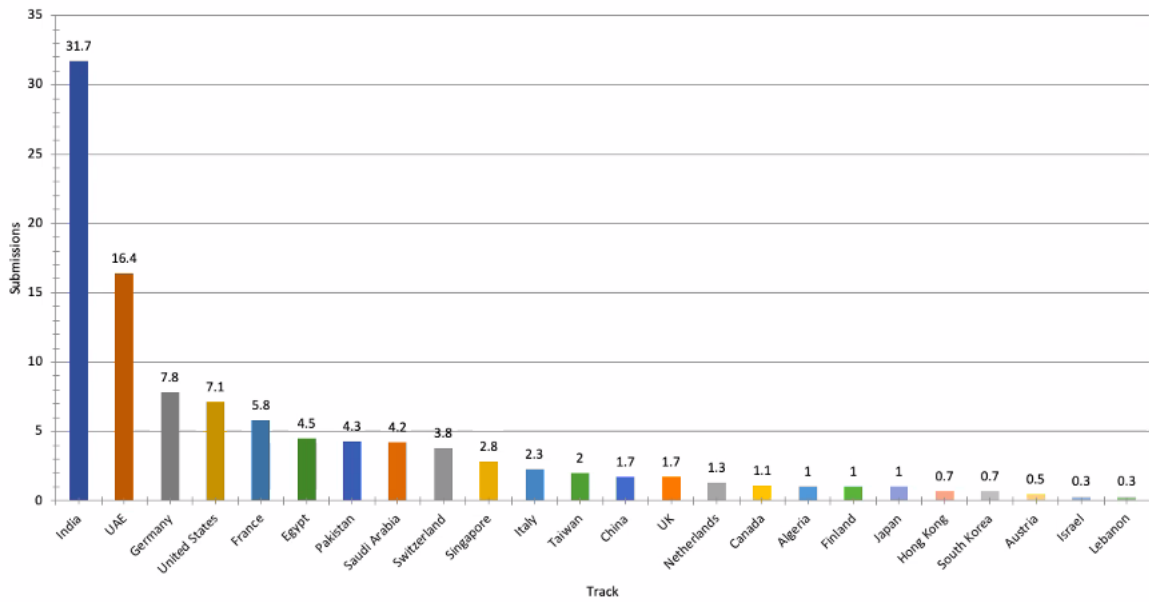
VLSI-SoC 2023 Technical Program Committee

1. TPC Members: 87
2. TPC Members who submitted reviews: 77
3. Truly international: from 28 countries
4. External Reviewers: 59
5. Total number of reviews for regular papers: 304.
6. Average: about 4 reviews per paper.

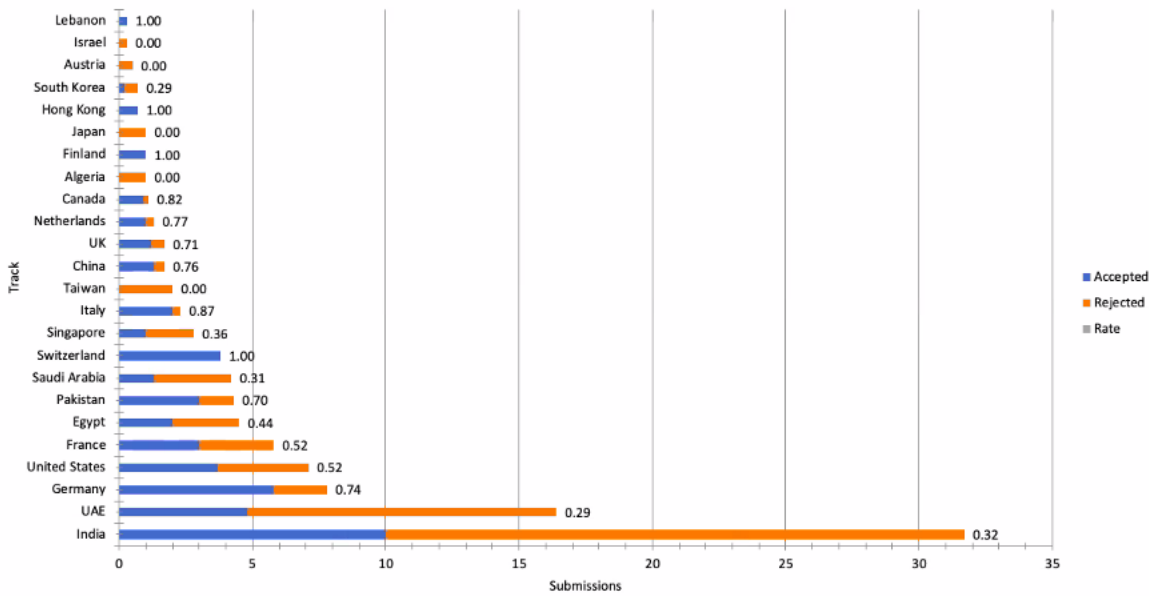
Number of Submissions and Acceptance Rate by Track



Number of Submissions by Country



Number of Submissions and Acceptance Rate by Country



5. Status of VLSI-SOC 2024

Said Hamdioui could not attend the meeting as he will arrive in Dubai later during the night. However, he will report on the status during the SC meeting on Oct 17.

6. Proposal for VLSI-SOC 2025 and 2026

Victor Grimblatt proposes to host VLSI-SOC 2025 in Puerto Varas (Chile). The organizing committee has been drafted as follow.

Organizing Committee

General Chair	Pierre Emmanuel Gaillardon Victor Grimblatt	Synopsys, Chile
Program Chair	Ricardo Reis Patrick Groeneveld	UFRGS Cerebras, Stanford University
Special Session Chair	Jorge Marin	AC3E
Local Organization Chair	Carlos Muñoz Local person	UFRO, Chile Universidad de los Lagos
Finance chair	Ioannis Vourkas? (TBC)	UTFSM
PhD and <<student Forum	TBD	
Publication chair	Carlos Silva (TBC)	PUCP

Tizian Margaria and Florenc Demrozi proposes to host VLSI-SOC 2026 in Limassol (Cyprus). Tiziana showed a well-established model for organizing conference in Cyprus where he already organized other conferences.

The Steering Committee will decide about the 2 proposals on Oct 17 during its meeting.

8. Any other business

None

Next meeting: at DATE 2024.