

TVPC 2020: The 2020 IEEE International Workshop on Testing and Verification of Programmable Chips

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In conjunction with the 20th IEEE international Conference on software Quality, Reliability and Security ([QRS 2020](#))

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1. Description

Programmable logic is an important achievement in the development of modern computer application technology. Compared with ASIC technology, programmable logic resources can be flexibly customized and reduced, with the advantages of high performance and low power consumption, and low cost and low risk. In the recent years, it has been widely used in high-reliability fields, consumer electronics, Internet of Things, and other intelligent field.

With the increasing complexity and large-scale increase of functions, the test sufficiency and test efficiency of programmable logic are very important, which will directly affect the safety and reliability of products. The International Workshop on Testing and Verification of Programmable Chips (TVPC) aims to provide a forum to bring together researchers, practitioners and experts to present and discuss their relevant results or experience in programmable logic chip verification, and the special emphasis will be put on the intersection of four fields.

2. Topics of interest

FPGA/SOPC Testing and Validation

- Accelerated verification and simulation
- Modeling and Model assessment
- IP verification
- Debugging and Verification Visualization
- Timing Analysis and Cross-Clock Domain Analysis
- SOPC Software and hardware co-verification, Coverage analysis, testing methods and test case generation
- FPGA/SOPC functional, physical, and comprehensive verification platform

FPGA/SOPC Formal Methods

- Formal modeling and Model assessment
- Formal coverage analysis
- Property sanity check
- SOPC/FPGA Formal verification
- Equivalence analysis

FPGA/SOPC Safety and Reliability

- Single particle effect and Total dose effect detection and prevention
- SRAM/FLASH/Anti-fuse FPGA safety design
- Safety fault injection and analysis
- FPGA/SOPC Information security, side channel attack prevention
- Safety and reliability testing methods

New Trend in Testing

- AI and intelligent IC verification
- AI toward autonomous testing
- Machine learning and its application in testing
- Testing in emerging fields, including internet of things and automotive electronics
- Functional safety in automotive electronics, ISO 26262

3. Submission

Authors are invited to submit original unpublished research papers as well as industrial practice papers. Detailed instructions for electronic paper submission, panel proposals, and review process can be found at <https://qrs20.techconf.org/submission>.

4. General inquiries

For more detailed and updated information, please contact Professor Jinbo Wang at wangjinbo@csu.ac.cn

5. Important Dates

- June 15, 2020 Submission deadline
- July 10, 2020 Author notification