

Advanced School on Fully Programmable Systems-on-Chip for Scientific Instrumentation



20 November – 01 December 2017
Trieste, Italy

Further information:

Activity URL: <http://indico.ictp.it/event/8003/>

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The school aims at providing key know-how of fully programmable Systems-on-Chip and their applications for scientific instrumentation and higher education. These novel devices combine general purpose processors with traditional FPGAs to achieve high performances with significant reduction in cost, power consumption and physical size.

Description:

Fully programmable Systems-on-Chip (SoC) rely on embedded processing based on FPGA fabrics tightly interconnected with multicore processors. This means that the processor and the FPGA can be used in a complementary way for what they do best.

These devices are characterized by their low cost along with a huge versatility to implement different concurrent tasks including critical activities such as hard real time hardware control, massive online digital signal processing, high performance data processing, and high speed data transmission.

Another important characteristic is their unlimited reconfigurability to produce each time a new system with the same hardware. The above remarkable features make SoC devices very attractive for frontier scientific applications.

The school will consist of about 65 hours of lectures, tutorials and assisted hands-on activities. The laboratory sessions will count on state-of-the-art software tools and hardware platforms based on modern SoC devices.

Topics:

- Modern Digital Design and Digital Arithmetic
- FPGA Technology
- VHDL for Modeling, Simulation and Logic Synthesis
- Multicore Processors for Embedded Systems
- Embedded C Language Programming
- SoC Design Methodology
- SoC Architectures, Functional Blocks and External Interfaces
- High Performance Data Acquisition and Processing
- High Speed Data Transmission
- SoC Trends and Advanced Scientific Applications
- Laboratory Sessions for Hands-On Training and Experimentation

How to apply:

Online application:
<http://indico.ictp.it/event/8003/>

Female scientists are encouraged to apply.

Grants:

A limited number of grants are available to support the attendance of selected participants, with priority given to participants from developing countries. There is no registration fee.

Directors:

A. CICUTTIN, ICTP, Italy

M.L. CRESPO, ICTP, Italy

Local Organizer:

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Deadline:

3 September 2017



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