Advanced Workshop on Modern FPGA-Based Technology for Scientific Computing

13 - 24 May 2019
Trieste, Italy

Further information:
http://indico.ictp.it/event/8680/
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The workshop will focus on the applicability of modern FPGA-based technology for scientific computing, including a review of present state of the art, technical challenges, and opportunities for supercomputing of scientific interest, with particular emphasis on non-von Neumann architectures.

Directors:

A. CICUTTIN, ICTP, Italy

M.L. CRESPO, ICTP, Italy

Description:

FPGA-based devices are characterized by their low-cost along with a huge versatility to implement different concurrent tasks and critical activities such as hard real-time data acquisition, processing and transmission. These features make these devices very attractive for frontier scientific applications. The workshop will provide a thorough review of present state of the art of FPGA-based architectures and design methodologies with emphasis on high performance computational applications.

The workshop will consist of about 65 hours of theoretical lectures and assisted hands-on activities. The selected faculty will be composed of lecturers from prestigious universities, hi-tech companies and research institutions.

The workshop will be primarily addressed to researchers, teachers and advanced students who need to master modern FPGA-based technologies for their scientific and academic activities.

Topics:

- Modern FPGA architectures and their hybrid versions with embedded RISC processors.
- Design methodologies, hardware description languages, and synthesis tools.
- High level languages and high level synthesis.
- Real Time operating systems.
- Fine-grained reconfigurable computing.
- FPGA-based Systems-on-Chip: design for scalability and portability
- Physical implementation, optimization, and FPGA debugging techniques
- The workshop will include experimental sessions with hardware development platforms and software design tools. It will also explore possible interdisciplinary collaborations.

Local Organizer:

M.L. CRESPO, ICTP, Italy

How to apply:

Online application:
http://indico.ictp.it/event/8680/

Female students and 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.

Deadline:

24 February 2019

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The Abdus Salam International Centre for Theoretical Physics
www.ictp.it
Trieste, Italy