

BSC Training Course: Advanced Heterogeneous Programming on FPGAs with OmpSs@FPGA

Objectives

This tutorial will introduce the audience to the BSC tools for heterogeneous programming on FPGA devices. It describes OmpSs@FPGA, as a productive programming environment for compute systems with FPGAs.

More specifically, the tutorial will:

- Introduce the OmpSs@FPGA programming model, how to write, compile and execute applications on FPGAs
- Show the "implements" feature to exploit parallelism across cores and IP cores
- Demonstrate how to analyze applications to determine which portions can be executed on FPGAs, and use OmpSs@FPGA to parallelize/optimize them.

Requirements

- Good knowledge of C/C++
- Basic knowledge of acceleration architectures and offloading models
- Basic knowledge of Paraver/Extrac

Learning Outcomes

The students who finish this course will be able to develop benchmarks and simple applications with the OmpSs@FPGA programming model to be executed in FPGA boards, like Zedboard or Xilinx ZCU102.

Academic Staff

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Convener: Xavier Martorell, CS/Programming Models

Lecturers:

BSC - Computer Sciences department

Daniel Jimenez-Gonzalez - Programming Models - Associate Researcher

Carlos Alvarez - Programming Models - Associate Researcher

Xavier Martorell - Programming Models - Parallel programming model - Group Manager

Materials

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Further information

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BSC Training Courses do not charge fees.

NOTE: PLEASE BRING YOUR OWN LAPTOP.

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For further details about Postgraduate Studies in UPC - Barcelona School of Informatics (FiB), visit the [website](#).

Sponsor: BSC

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