

## [HYBRID] Heterogeneous Programming on FPGAs with OmpSs@FPGA

### Objectives

This tutorial will introduce the audience to the BSC tools for heterogenous 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

Please download and carefully read the following [instructions](#) regarding the logistics participants enrolling PATC at BSC are expected to follow.

### 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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**All PATC Courses at BSC do not charge fees.**

**NOTE: PLEASE BRING YOUR OWN LAPTOP.**

[CONTACT US](#) for further details about MSc, PhD, Post Doc studies, exchanges and collaboration in education and training with BSC.

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

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- BSC

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