



Dear Educator,

Get hands-on with a non-obfuscated fully-verified MIPS core for teaching and projects in a one day workshop on the 9th March 2016 at Télécom Paris Tech.

CNFM and the Imagination University Programme are pleased to host a workshop specifically for teachers, based on the new “MIPSfpga” core. MIPSfpga is the RTL source code of the MIPS microAptiv for implementation on an FPGA. It is a member of the same family found in many embedded devices, including the popular PIC32MZ microcontroller from Microchip, Mediatek/SEEED Studio’s new LinkItSmart7688 and Samsung’s Artik1.

This workshop will show you how to use this core as part of a Computer Architecture course, which will pave the way for your students to use it in their projects, in effect creating their own SoC designs. In the past, teachers had to settle for creating partial “MIPS-like” cores or using unofficial copies of dubious heritage to demonstrate key concepts. Not now! MIPSfpga is not an “academic version”. It is the real “industrial” RTL, non-obfuscated, and available freely for academic use. The licence explicitly allows you to modify the core if you wish.

WORKSHOP: Teaching Computer Architecture using MIPSfpga and the Digilent Nexys 4 DDR platform with a Xilinx Artix 7 FPGA

Location & Date

Site Barrault, Télécom Paris Tech, France on the 9th March 2016

Agenda

- Welcome & Introduction to the Imagination University Programme (IUP)
- Introduction to MIPSfpga
- MIPSfpga and Vivado Demonstration:
 - Simulation: Increment LEDs program
 - Increment LEDs delay program on the Nexys 4 DDR
 - Synthesizing core on the Nexys4 DDR
 - Codescape MIPS SDK: using Codescape to develop & debug C and assembly code
 - Bus Blaster/OpenOCD: using the Bus Blaster JTAG probe and OpenOCD to debug a target system
- Lab 1: Writing C code
- Lab 2: Adding a 7-segment display I/O
- Integrating Xilinx IP blocks with MIPSfpga
- Porting to other boards – Example: Digilent’s Basys3
- Teaching Materials for MIPSfpga / Q&A

After your day of training you will be proficient in porting MIPSfpga to a suitable platform, and aware of its potential to revolutionise your teaching of Computer Architecture.

All delegates will be given access to the **MIPSfpga core, the full Getting Started Guide** (written by Prof. Sarah Harris, co-author of Digital Design & Computer Architecture by Harris & Harris, with contributions from Xilinx), detailed reference documentation about MIPS microAptiv, and other vital information/programs that enable the whole package to work effectively.

Trainers

- Munir Hasan, Solutions Engineer at [Imagination Technologies](#)
- Mircea Dabacan, Lead of Engineering Team Romania, [Digilent Inc.](#)
- Alex Wong, Technical Systems Analyst, [Digilent Inc](#)
- Robert Owen, Manager: Worldwide University Programme will give an overview of the University Programme

Eligibility

- Free of charge for members of academia.
- Open to academic faculty members, with a priority for those involved directly in teaching.
- If over-booked, we reserve the right to accept or refuse registrations based on our desire to enable the widest number of universities and colleges to participate.
- Prior experiences of Vivado or Codescape MIPS SDK are useful but not essential.

Registration

Please apply online at [here](#)

ADDITIONAL WORKSHOP: “Teaching Digital Design with Student-Owned FPGA Lab Platforms” Workshop on 10th March 2016 at Télécom Paris Tech.

Digilent and CNFM are holding a full day workshop titled at the same venue the following day (March 10). Attendees can learn how to teach digital circuits through hands-on, project-based, open-ended exercises. Attendees also have chance to create and debug digital circuit through Digilent Basys 3 FPGA development board powered by Xilinx Artix 7 and Analog Discovery 2, portable all-in-one instrument. Contact Chantal BLANC (fpga@cnfm.fr) or go to http://www.cnfm.fr/VersionUK/index_an.htm for details.

Find out about the Imagination University Programme

For more information or enquiries, please visit our [IUP page](#) or [the University Forum](#) . Robert Owen will be on-hand to discuss your interests. To stay in touch, please register for the Imagination University Programme [here](#)

You are invited to please *circulate* this e-mail to academic friends and colleagues...

Best Regards,



Manager: Worldwide University Programme

Imagination Technologies

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