

## ***Accelerate real-time high definition video processing designs with Digilent Zybo Z7, a Zynq-7000 AP SoC Platform and Xilinx Vivado HLS***

### **Goals:**

- Show how to use High Level Synthesis (HLS) to configure the field programmable gate array (FPGA)
- Explain how to build the real-time video processing pipelines and Intellectual Property (IP) in the Xilinx computer aided design (CAD) tool.
- Illustrate the viability of real-time video processing in reconfigurable logic instead of software running on a general-purpose microprocessor.

### **Description:**

The workshop aligns with Digilent's mission of providing a hands-on, project-based, open-ended approach to education. Attendees will use Digilent Zybo Z7 (a Xilinx Zynq SoC FPGA platform), PCAM (5MP camera sensor) and Xilinx Vivado HLx to implement a real-time high definition video processing application.

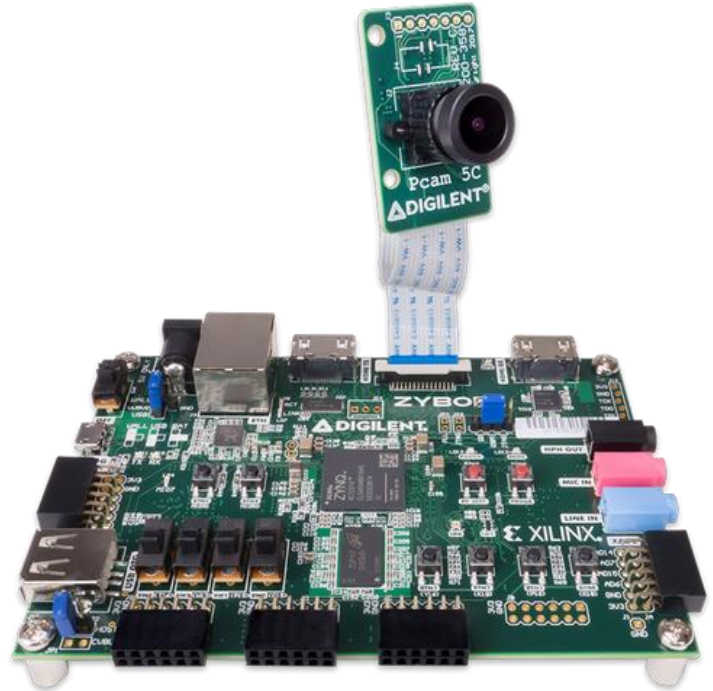
Examples in the workshop materials are based on both high-level programming language (C++) and hardware description language (VHDL). Trainers will demonstrate HLS design flow, IP core usage, simulation and hardware debugging. Participants will leave the workshop with instructional materials and PCAM, 5MP camera sensor so that they can easily adopt this innovative technique in their own courses and projects.

### **Format:**

**FREE Hands-on tutorial in English**

### **List of Topics covered:**

- Explain parallelism and program execution
- Introduce Xilinx FPGA Architecture and Vivado HLS
- Introduce Digilent Zybo Z7 and PCAM
- Accelerate video processing algorithm on Xilinx Vivado
- Implement video processing design on Digilent Zybo Z7 and PCAM



**At the event, Digilent will donate the Color Camera Pcam 5C to every attendant!**



**Target Audience:**

The anticipated audience includes faculty members, instructors, laboratory staff, graduate students and professionals in the Electrical and Computer Engineering field. Participants need to have basic knowledge about VHDL, C/C++ and digital design. (Maximum number of attendees: 24)

**Date & Time:**

Tuesday, November 6th, 2018. From 9.00 to 14.00

**Location:**

Escuela Politécnica Superior  
Universidad Autónoma de Madrid (UAM)  
Francisco Tomás y Valiente, 11  
28049 MADRID

**Speaker:**

Sergiu Arpadi is an enthusiastic Digital Design Engineer with experience in Xilinx FPGA technologies and embedded software development. Currently, he works at the Romanian branch of Digilent Inc., a leading electrical engineering products company serving students and universities with education design tools.

**Registration:**

At Electratraining web page: [www.electratraining.org](http://www.electratraining.org)

