

Seminar Announcement

Prof. Christian Pilato
Politecnico di Milano, Italy

High-level synthesis of HPC memory architectures

Wednesday, April 27, 2022, 3:00 pm

Sala riunioni Shannon (near “Aula 12”)
Dipartimento di Elettronica e Telecomunicazioni (DET)
Politecnico di Torino

Abstract

Many HPC applications are massively parallel and can benefit from the spatial parallelism offered by reconfigurable logic. While modern memory technologies can offer high bandwidth, designers must craft advanced communication and memory architectures for efficient data movement and on-chip storage. Addressing these challenges requires to combine compiler optimizations, high-level synthesis, and hardware design. In this talk, I will present challenges, solutions, and trends for generating massively parallel accelerators on FPGA for high-performance computing. These architectures can provide better performance and energy efficiency than software implementations thanks to logic customization.

Short Bio: Christian Pilato is a Tenure-Track Assistant Professor at Politecnico di Milano. He was a Post-doc Research Scientist at Columbia University (2013-2016) and at the ALaRI Institute of the Università della Svizzera italiana (2016-2018). He was also a Visiting Researcher at New York University, Delft University of Technology, and Chalmers University of Technology. He has a Ph.D. in Information Technology from Politecnico di Milano (2011). His research interests focus on the design, optimization, and prototyping of heterogeneous system-on-chip architectures and reconfigurable systems, with emphasis on memory and security aspects. Starting from October 2020, he is the Scientific Coordinator of the H2020 EVEREST project. He served as program chair of EUC 2014 and he will be program chair of ICCD 2022. He is currently serving in the program and organizing committees of many conferences on EDA, CAD, embedded systems, and reconfigurable architectures (DAC, ICCAD, DATE, CASES, FPL, ICCD, etc.) He is a Senior Member of IEEE and ACM, and a Member of HiPEAC.

More info: Mario Casu, 011 090-5129, mario.casu@polito.it