



University of Pavia
Ph.D. School of Electrical and Electronics Engineering and Computer Science

SEMINAR

The role of the run-time management in the computing continuum: from the embedded systems to the high performance computing

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Aula seminari ex Dipartimento di Elettronica, piano D

Abstract:

The rail of evolution of architectures and applications ends in the term “computer continuum” to testify how problems and solutions are no longer related to specific application areas and market segments. The use of multi-many cores and the heterogeneity provided by the accelerators, allows still catching the Moore’s law in terms of theoretical performance, despite the need to cope with showstoppers like power wall, process variability, ageing & reliability, design cost, dark silicon, data deluge, and so on. The goal of the talk is to share a view on the mid-term evolution of the architectures, and to discuss the role of the run-time resource management in such scenario, covering aspects like dynamic mapping of the applications down to the problem of thermal management in multi-core. Part of these results is foreground of recent EU-funded projects: FP7 HARPA, FP7 CONTREX, H2020 M2DC and H2020-MANGO

Bio: William Fornaciari Ph.D., is Associate Professor at POLIMI. He published six books and over 200 papers, collecting 5 best paper awards, one certification of appreciation from IEEE and holds 3 international patents on low power design. Since 1993 he is member of program committees and chair of international conferences in the field of computer architectures, EDA and system-level design. Since 1997 he has been involved in 18 EU- funded international projects and he has been part of the pool of experts of the Call For Tender No. 964-2005 - WING - Watching IST INnovation and knowledge, studying the impact of FP5 and FP6 expenditures to support the identification of FP7 and Horizon2020 research directions. During FP7 he won the 2016 HiPEAC Technology Transfer Award for the output of the CONTREX project, he served as Project Technical Manager of 2PARMA (ranked as success story by the EU) and he coordinated the HARPA project where he filed a PCT patent on thermal management. Other contributions still in FP7 were in the projects SMECY and MULTICUBE and CONTREX. In H2020 he is contributing to the following projects started in 2016: MANGO, SafeCop and M2DC. He cooperated for 20 years with the Technology Transfer Centre of POLIMI, actively cooperating with companies to the development of leading edge products: industrial exploitation of research ideas is one of his main attitudes and in 2013 he created a startup company (IBT Solutions srl) who was candidate to receive the EIT award in 2016. His main research interests cover multi/many core architectures, NoCs, low power design, software power estimation, run time resource management, wireless sensor networks, thermal management, and EDA-based design methodologies. He is co-author of the first Italian book on embedded systems and he acted as project reviewer for EC funded projects and invited speaker during EU consultation/information workshops. He is member of the HiPEAC NoE and IEEE senior member.

Organizer

Prof. Francesco Loporati

Ph.D. Coordinator

Prof. Paolo Di Barba

The speech will be held in English

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