

cfaed Seminar Series

DATE: 25 June 2015

TIME: 10:00 am

LOC: TU Dresden, Barkhausenbuilding, Georg-Schumann-Str. 11,
01187 Dresden, Room BAR I / 15

GUEST SPEAKER: Prof. **Andy Pimentel**, University of Amsterdam

TITLE: *"Perspectives on System-level MPSoC Design Space Exploration"*



Abstract:

The complexity of modern embedded systems, which are increasingly based on heterogeneous multiprocessor system-on-chip (MPSoC) architectures, has led to the emergence of the field of system-level design and synthesis. To cope with the design complexity, system-level design and synthesis methods aim at raising the abstraction level of the design process. Key enablers to this end are, for example, the use of architectural platforms to facilitate re-use of IP components and the notion of high-level system modelling and simulation. The latter allows for capturing the behavior of platform components and their interactions at a high level of abstraction. As such, these high-level models minimize the modeling effort and are optimized for execution speed, and can therefore be applied during the very early design stages to perform design space exploration. Such early design space exploration is of paramount importance as early design choices heavily influence the success or failure of the final product. In this talk, I will provide an overview of the recent advances in our research on system-level MPSoC design space exploration and will present some future challenges that need to be addressed in this domain.

Biography

Andy Pimentel is associate professor at the University of Amsterdam, where he leads the Computer Systems Architecture group. He holds the MSc and PhD degrees in computer science, both from the University of Amsterdam. His research focuses on system-level embedded systems design, and in particular on methods for system-level design space exploration. More specifically, his research interests include system-level modelling and simulation, design space pruning, performance and power analysis, workload modelling, MultiProcessor System-on-Chip (MPSoC) systems, computer architecture, and parallel and reconfigurable computing. Andy is co-founder of the International Conference on embedded computer Systems: Architectures, Modelling, and Simulation (SAMOS). He is associate editor of Elsevier's *Simulation Modelling Practice and Theory* and Springer's *Journal of Signal Processing Systems*. Andy Pimentel has published more than 100 scientific papers, book chapters and editorials in total. Moreover, he has served on the organizational committees for many leading (embedded) computer systems design conferences, such as DAC, DATE, CODES+ISSS, ICCAD, ICCD, FPL, SAMOS, and ESTIMedia.

In 2015, he was the General Co-chair of HiPEAC'15 and is the Local Organizing Co-chair of ESWeek'15. He is Senior member of the IEEE and select member of IFIP WG 10.3.