

Workshop on EU Funded Projects

This workshop is mainly organized around five EU funded projects, namely **2PARMA** (*PARallel PARadigms and Run-time Management techniques for Many-core Architectures*, <http://www.2parma.eu/>), **MADNESS** (*Methods for predictAble Design of heterogeneus Embedded System with adaptivity and reliability Support*, <http://www.madnessproject.org>), **REFLECT** (*Rendering FPGAs to Multi-Core Embedded Computing*, <http://www.reflect-project.eu/>), **SMART** (*Secure, Mobile visual sensor networks ARchiTecture*, <http://www.artemis-smart.eu/>), and **HEAP** (*A Highly Efficient Adaptive multi-Processor Framework*, <http://www.fp7-heap.eu/>). This workshop will present the approaches and research efforts being explored, the results achieved, and the proposed research avenues of these five projects. The workshop will include a panel discussion for exchange of ideas, information, and opinions regarding research opportunities in embedded and reconfigurable computing systems.

TOPIC AREAS

The workshop will cover three main research topics:

- **Heterogeneous Many-Core Architectures:** on the most relevant problems arising during the design exploration and optimization of heterogeneous many/multi core architectures.
- **Design Tools and Methodologies:** on the state-of-the-art of tool development and on fresh ideas to make design tools aware of non-functional requirements and different target architectures.
- **Run-time Adaptivity Techniques:** on the state-of-the-art techniques to dynamically manage and adapt the resources of the target architecture to runtime workloads and/or new applications.

WORKSHOP CHAIRS:

João M. P. Cardoso, Universidade do Porto, Portugal

Cristina Silvano, Politecnico di Milano, Milan, Italy

PROGRAM

| September 7th, 2011 | | |
|---|--|--|
| 2:30 PM - 2:40 PM Opening Session by Workshop Chairs | | |
| Session A | Project: MADNESS:Methods for predictAble Design of heterogeneus Embedded System with adaptivity and reliability Support | Session chair: Carlo Galuzzi, Delft University of Technology, The Netherlands |
| 2:40 PM - 3:05 PM | <i>FPGAs for fast DSE of heterogeneous NoC-based MPSoCs</i> | Speaker: Paolo Meloni, University of Cagliari, Italy |
| 3:05 PM - 3:30 PM | <i>Hardware-middleware support for adaptive and reliable MPSoCs</i> | Speaker: Leandro Fiorin, University of Lugano (Switzerland) |
| Session B | Project: 2PARMA: PARallel PARadigms and Run-time Management techniques for Many-core Architectures | Session chair: Diana Göhringer, Fraunhofer IOSB, Germany |
| 3:30 PM - 3:55 PM | <i>Parallel Programming and Run-time Resource Management Techniques for Many-core Architectures: The 2PARMA Approach</i> | Speaker: Cristina Silvano, Politecnico di Milano, Italy |
| 3:55 PM - 4:20 PM | <i>Memory Management Techniques for Many-Core Architectures</i> | Speaker: Dimitrios Soudris, ICCS - National Technical University of Athens (NTUA), Greece |
| 4:20 PM - 4:50 PM Coffee Break | | |
| Session C | Project: REFLECT: Rendering FPGAs to Multi-core Embedded Computing | Session chair: Markus Weinhardt, Hochschule Osnabrück, Fak. I&I, Germany |
| 4:50 PM - 5:15 PM | <i>Overview of REFLECT</i> | Speaker: Zlatko Petrov, Honeywell International s.r.o., Czech Republic |
| 5:15 PM - 5:40 PM | <i>REFLECT's Design Flow</i> | Speaker: João M. P. Cardoso, Universidade do Porto, Portugal |
| Session D | Projects: SMART + HEAP | Session chair: José Gabriel F. Coutinho, Imperial College London, UK |
| 5:40 PM - 6:05 PM | <i>SMART: Secure, Mobile visual sensor networks ARchiTecture</i> | Speaker: Matina Lakka, Technical University of Crete, Greece |
| 6:05 PM - 6:30 PM | <i>HEAP: A Highly Efficient Adaptive multi-Processor Framework</i> | Speaker: Andreas Brokalakis, Synelxis Solutions Ltd, Greece |
| Panel | Research Opportunities in Embedded and Reconfigurable Computing Systems | Moderator: Michael Hübner, KIT, Germany |
| 6:30 PM - 7:15 PM | <i>Panel Discussion</i> | Participants: TBD |
| 7:15 PM - 7:25 PM | Final Wrap up | |

