Call for Contributions

IMPORTANT DATES

Paper submission deadline (extended): 09 May 2011
Special session & embedded tutorial proposal deadline: 14 May 2011
Notification of acceptance: 30 June 2011
Final versions of accepted papers & presenters’ registration: 30 July 2011
Proposals for on-site meetings: 30 August 2011

CONFERENCE SCOPE

FDL is an international forum to exchange experiences and promote new trends in the application of languages, their associated design methods and tools for the design of electronic systems. The Forum is organized around four Thematic Areas (TA) described below and includes working sessions, poster sessions, embedded tutorials, panels and technical discussions. Industrial Workshops and Fringe Meetings such as user group or standardization meetings are also held in conjunction with the Forum.

1. ABD TA: Assertion Based Design, Verification & Debug

   TA Chair: Dominique Borrione (Dominique.Borrione@imag.fr)

   ABD TA Description: The ABD Thematic Area welcomes research contributions, tool demonstrations, reports on standardization activities and effective applications in all aspects of innovative property expression and processing, with an emphasis on frontier design levels, verification, automatic synthesis and mechanized debug aids. The assertion of formal properties provides a uniform expression of expected system behaviour, or constraints that are assumed on the environment, for a variety of design tasks: verification of functional correctness, generation of test stimuli, synthesis of observation monitors and on-line tests, model checking on the reachable state space, direct synthesis from assertions, etc. Standardized formalisms such as PSL and SystemVerilog assertions were initially intended for synthesizable RTL; their application is now considered at transaction levels and for mixed system designs.

2. LBSD TA: Language-Based System Design

   TA Chair: Martin Radetzki (Martin.Radetzki@informatik.uni-stuttgart.de)

   LBSD TA Description: The LBSD TA addresses language-based modelling and design techniques for simulation, debugging, transformation, and analysis of digital hardware/software embedded systems. Contributions are welcome on innovative applications, language or library design, and methodological aspects. SystemC will undergo restandardization to keep up to date with users' needs. Hence, contributions on new applications and evolution of SystemC are highly welcome. Equally welcome are papers dealing with SystemVerilog, functional languages, UML in conjunction with executable specification, and emerging languages. Aspects of methodology, interoperability, simulation semantics, and models of computations will find an audience just like embedded software modelling techniques and technology or domain specific approaches, e.g. for signal processing applications or reconfigurable computing platforms. Moreover, transaction level modelling (TLM) with any language, IP-based system design (e.g. IP-XACT), modelling aspects in system synthesis, innovative industrial case studies, and efficient parallel simulation of high-level models are in scope.

FDL is an Event by Ecsi
3. EAMS TA: Embedded Analog and Mixed-Signal System Design
TA Chair: Christoph Grimm (grimm@ict.tuwien.ac.at)
**EAMS TA Description:** The EAMS TA addresses design, modeling, and verification of heterogeneous systems that include significant part of "analog" or "continuous" behavior such as cyber physical systems, wireless sensor networks, and of course analog/mixed-signal circuits. A new challenge is the tight interaction of analog or physical components with - maybe distributed - digital hardware/software systems. Topics of interest include specification, modeling, simulation, (symbolic) analysis, verification, design, (virtual) prototyping, and synthesis of analogue, mixed-signal, and mixed-technology systems, wireless sensor nets, and cyber physical systems. Focus of contributions should be on languages, models, representations, and tools such as VHDL-AMS, SystemC-AMS, Modelica, Matlab/Simulink, etc. The EAMS TA aims at presenting research activities, design experiences, and standardization issues related to these topics.

4. UMES TA: UML and MDE for Embedded System Specification & Design
TA Chair: Julio Medina (julio.medina@unican.es)
**UMES TA Description:** Model driven methods, mostly based on the Unified Modelling Language, increasingly support semi-formal methods for system level design of complex embedded systems including multi-core, highly programmable platforms and heterogeneous Systems-on-Chip. UMES related research topics in this field are Executable UML, model driven development, model transformations, UML semantics, meta-modelling, e.g., for SystemC and other System Description Languages or HDLs, UML profiles, e.g. SysML, MARTE, UML for SoC, and formalization of UML towards domain specific languages for simulation and synthesis. Other welcomed topics are standardization work, modelling languages for real-time and embedded systems, model driven techniques for performance analysis, validation and verification, SDL, AADL, OCL, XMI, and practical design experiences with UML or in general model driven engineering (MDE) approaches.

**REQUIREMENTS FOR SUBMISSIONS**

**REGULAR AND SHORT PAPERS:**
Regular papers provide comprehensive details on innovative and complete research or applicative work with evidence of experimental results. Regular papers may also include proposals for standardization. Authors are encouraged to outline work in progress, industrial case studies, or user experiences as short papers. Accepted short papers will be presented as posters in dedicated sessions, allowing to present advances achieved since submission. Submitted papers should be anonymous, are required to describe original unpublished work and must not be under consideration for publication elsewhere. After the conference papers and presentations will be published at the ECSI web page together with the keynote presentations (subject to confidentiality issues) and tutorial documents. In addition, the authors of the best regular papers will be invited to prepare an extended manuscript for publication in an edited book from Springer Science + Business Media publisher after the event.

**EMBEDDED TUTORIALS:**
Proposals for half-day (4 hours) embedded tutorials on specific topics around any of the four workshops will be accepted depending on topic relevance and evidence of a comprehensive agenda. A one page description of the tutorial including title, presenters, contents, and the relevant track(s) should be sent to fdl2011@ecsi.org. A maximum of three tutorial authors is recommended. Accepted tutorials will get one free registration to the Forum per tutorial.

**PANELS, SPECIAL SESSIONS, WORKING GROUPS, PROJECT MEETINGS, DEMONSTRATIONS:**
Proposal for special sessions (panels, working sessions, standardization or user group meetings, etc.) around any of the four TA tracks are invited and will be accepted depending on their relevance and interest to the audience. They will be embedded in regular workshops. A one page description including title, participants, contents, and the relevant track(s) should be sent to fdl2011@ecsi.org. Companies, universities or other organizations wishing to demonstrate innovative tools and environments for the topics described above should send proposals to fdl2011@ecsi.org.

**STEERING COMMITTEE**
Frank Oppenheimer (FDL2011 General Chair)  
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