



8th International Workshop on Multi-Paradigm Modeling – MPM'14

September 30, 2014 – Satellite event @ MODELS 2014 – Valencia, Spain

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Scope of the Workshop

Computational modeling has become the industry norm to remain competitive and be successful. As such, Model-Based Design of complex, software-intensive systems has enterprise-wide implications and modeling is not limited to isolated uses by a single engineer or team. Instead, it has reached a proliferation much akin to large software design, with requirements for infrastructure support such as version control, configuration management, and automated processing.

The comprehensive use of models in design has created a set of challenges beyond that of supporting one isolated design task. In particular, the need to combine, couple, and integrate models at different levels of abstraction and in different formalisms is posing a set of specific problems that Multi-Paradigm Modeling (MPM) aims to address.

The essential element of multi-paradigm modeling is the use of explicit and heterogeneous models throughout. This leads to a framework with omnipresent models. Some represent the syntax of formalisms used for modeling, others are used to model the transformations that represent the operational semantics, as well as model-to-model transformations for inter-formalism transformation. Moreover, others are used to model the composition of models or even to model the composition of modeling formalisms. These models are then used to facilitate generative tasks in a language engineering space, such as evolving a domain specific modeling formalism as its requirements change, but also in a tool engineering space, such as automatic generation of integrated development environments. The use of ubiquitous explicit models during the whole system design process, from modeling formalism definition to system implementation, allows multiple types of analyses at various levels with great benefits in terms of performance, cost-effectiveness, safety, etc.

The purpose of this workshop is to bring together researchers and practitioners in the area of Multi-Paradigm Modeling in order to identify possible points of synergy, common problems and solutions, tool building aspects and visions for the future of the area.

Topics of interest (including, but not limited to)

- **Heterogeneous models:** multi-domain and multi-physics modeling, multi-view modeling, multi-abstraction modeling;
- **Heterogeneity in modeling languages:** engineering of the modeling language, modeling Models of Computation (MoCs), quality evaluation and usability of modeling languages;
- **Multi-Paradigm Modeling techniques:** model transformation, model composition and integration, modeling cross-domain interactions, model-based detection of unanticipated interactions in heterogeneous systems, visualization of multi-paradigm models;
- **Applications of and experience with current MPM techniques.** Non-exhaustive list of domains: healthcare, smart cities, smart homes, automotive, future energy systems, human-computer interaction, etc.

Contributions should clearly address the foundations of multi-paradigm modeling by demonstrating the use of models to achieve the stated objectives and discuss the benefits of explicit modeling.

Important dates

Paper submission deadline: **July 11, 2014**
Notification of acceptance: **August 22, 2014**
Camera-ready papers due: **September 7, 2014**

Submission procedure

Papers must be submitted electronically as PDF via EasyChair from the workshop web site:

<http://msdl.cs.mcgill.ca/conferences/MPM/>

Conceptual papers, as well as application and tool papers, are all welcome.

Papers may be short (max. 6 pages) or full (max. 10 pages) and must follow the LNCS style available at the workshop web site.

Papers will be peer reviewed by at least three members of the program committee.

All accepted workshop papers will be published by CEUR, and will be indexed by DBLP.