



ACM/IEEE 12th International Conference  
on Model Driven Engineering  
Languages and Systems

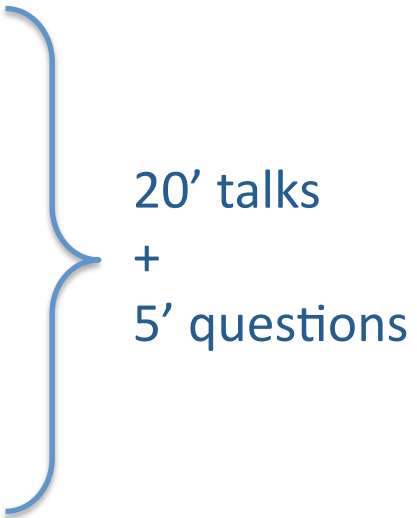
Denver, Colorado, USA October 4-9, 2009



# Multi-Paradigm Modeling Workshop

6 October 2009

# MPM Workshop Program

- Three presentation sessions:
    - MPM Applications
    - MPM Concepts
      - Concepts for composition and integration
      - Concepts for model transformation
    - MPM Methodologies
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- 20' talks  
+  
5' questions
- A discussion session on hot topics in MPM

# Session 1 : MPM Applications

- Session chair : Tihamér Levendovszky

- Program:

**9:10-9:35** Modeling and Formal Verification of a Passive Optical Network on Chip Behavior

*Luiza Gheorghe, Gabriela Nicolescu, Ian O'Connor*

**9:35-10:00** An Architectural Approach to the Design and Analysis of Cyber-Physical Systems

*Akshay Rajhans, Shang-wen Cheng, Bradley Schmerl, David Garlan, Bruce H. Krogh, Clarence Agbi, Ajinkya Bhave*

**10:00-10:30 COFFEE BREAK**

**10:30-10:55** Synthesizing Executable Simulations from Structural Models of Component-Based Systems

*Andreas Schuster, Jonathan Sprinkle*

# Session 2a : MPM Concepts for composition and integration

- Session chair: Cécile Hardebolle
- Program:

**10:55-11:20** A Pattern-Based Approach to Manage Model References

*Juanjuan Jiang, Tarja Systa*

**11:20-11:45** A practical approach to multi-modeling views composition

*Andrés Yie, Rubby Casallas, Dirk Deridder, Dennis Wagelaar, Andrés*

**11:45-12:30** Organization of working groups

**12:30-14:00** LUNCH

# Group discussion session

- Goal:

Exchange on **directions and open problems** regarding **3 different hot topics** of the MPM domain

- Keywords for topics:

model transformation, multi-abstraction models, multi-formalism modeling, syntax and semantics modeling, models of computation,

...

# Topic proposals

- (meta)-Model composition
  - Composition of heterogeneous semantics
  - What languages can be used to add semantics to DSMLs ? (target languages for semantic anchoring)
- Traceability
  - Horizontal/vertical
  - Certification
- (meta)-Model Evolution

# Session 2b : MPM Concepts for model transformation

- Session chair: Vasco Amaral

- Program:

**14:00-14:25** Explicit Transformation Modeling

*Thomas Kühne, Gergely Mezei, Eugene Syriani, Hans Vangheluwe, Manuel Wimmer*

**14:25-14:50** Code Generation with the Model Transformation of Visual Behavior Models

*Tamas Meszaros, Tihamer Levendovszky, Gergely Mezei*

**14:50-15:05** Toward Automated Verification of Model Transformations: A Case Study of Analysis of Refactoring Business Process Models

*Mark Asztalos, Laszlo Lengyel, Tihamer Levendovszky*

**15:05-15:30** Discussion by working groups

**15:30-16:00** COFFEE BREAK

Short  
talk

# Discussion topics

- (meta)-Model composition
  - Composition of heterogeneous semantics
  - What languages can be used to add semantics to DSMLs ? (target languages for semantic anchoring)
- Traceability
  - Horizontal/vertical
  - Certification
- (meta)-Model Evolution



# Session 3 : MPM Methodologies

- Session chair: Cécile Hardebolle

- Program:

**16:00-16:25** Model-Based Engineering of Supervisory Controllers using CIF

*R.R.H. Schiffelers, R.J.M. Theunissen, D.A. van Beek, J.E. Rooda*

**16:25-16:50** DSL Composition for model-based test generation

*Bruno Barroca, Levi Lúcio, Didier Buchs, Vasco Amaral, Luís Pedro*

**16:50-17:15** Concurrent Design of Embedded Control Software

*Marcel Groothuis, Raymond Frijns, Jeroen Voeten, Jan Broenink*

**17:15-18:00** Summary of discussions and conclusion of the workshop

# Results of the discussion

- Open questions
  - How to add semantics to a DSML?
  - How to compose DSMLs at the semantic level?
  - What happens with the conformance  $M \leftrightarrow MM$  after the composition ?
    - What happens if it is not a simple merge ?
- Directions
  - Higher order transformations (used to transform transformations after composition of MM)

# Information

- Post-proceedings soon published with free online access
  - Process for authors:
    - You will receive instructions by email
    - Please prepare the final version of the paper in the indicated format
    - Then upload it to the EASST website
- Presentations & photos of the workshop soon online on the website

# Announcements

- Call for Authors:

CRC Press Series on  
Computation analysis, synthesis and design  
of dynamic systems

- Published soon:

SIMULATION Special Issue on  
Multi-Paradigm Modeling

**Thank you  
for your participation  
in MPM'09 !**