

# Table of Contents

## Keynote Address I

Model Driven Development for Distributed Real-Time and Embedded Systems . . . . .	1
<i>Douglas C. Schmidt</i>	

## Process

Activity Diagram Patterns for Modeling Quality Constraints in Business Processes . . . . .	2
<i>Alexander Foerster, Gregor Engels, Tim Schattkowsky</i>	
UML4SPM: A UML2.0-Based Metamodel for Software Process Modelling . . . . .	17
<i>Reda Bendraou, Marie-Pierre Gervais, Xavier Blanc</i>	
Realizing Model Driven Security for Inter-organizational Workflows with WS-CDL and UML 2.0 . . . . .	39
<i>Michael Hafner, Ruth Breu</i>	

## Product Families, Reuse

Code Generation from UML Models with Semantic Variation Points . . . . .	54
<i>Franck Chauvel, Jean-Marc Jézéquel</i>	
Composing Domain-Specific Languages for Wide-Scope Software Engineering Applications . . . . .	69
<i>Jacky Estublier, German Vega, Anca Daniela Ionita</i>	
Model Typing for Improving Reuse in Model-Driven Engineering . . . . .	84
<i>Jim Steel, Jean-Marc Jézéquel</i>	

## State/Behavioral Modeling

UML Vs. Classical Vs. Rhapsody Statecharts: Not All Models Are Created Equal . . . . .	97
<i>Michelle L. Crane, Juergen Dingel</i>	
Evaluating the Effect of Composite States on the Understandability of UML Statechart Diagrams . . . . .	113
<i>José A. Cruz-Lemus, Marcela Genero, M. Esperanza Manso, Mario Piattini</i>	

Computing Refactorings of Behavior Models . . . . . 126  
*Alexander Pretschner, Wolfgang Prenninger*

**Aspects**

Dynamic Secure Aspect Modeling with UML: From Models to Code . . . . . 142  
*Jan Jürjens, Siv Hilde Houmb*

Performance Analysis of UML Models Using Aspect Oriented Modeling  
 Techniques . . . . . 156  
*Hui Shen, Dorina C. Petriu*

Domain Models Are Aspect Free . . . . . 171  
*Friedrich Steimann*

**Design Strategies**

Representing and Applying Design Patterns: What Is the Problem? . . . . . 186  
*Hafedh Mili, Ghizlaine El-Boussaidi*

Properties of Stereotypes from the Perspective of Their Role in Designs . . . 201  
*Miroslaw Staron, Ludwik Kuzniarz*

A Modeling and Simulation Based Approach to Dependable System  
 Design . . . . . 217  
*Miriam Zia, Sadaf Mustafiz, Hans Vangheluwe, Jörg Kienzle*

**Model Transformations**

Extending Profiles with Stereotypes for Composite Concepts . . . . . 232  
*Dick Quartel, Remco Dijkman, Marten van Sinderen*

Transformation from CIM to PIM: A Feature-Oriented  
 Component-Based Approach . . . . . 248  
*Wei Zhang, Hong Mei, Haiyan Zhao, Jie Yang*

Weaving Executability into Object-Oriented Meta-languages . . . . . 264  
*Pierre-Alain Muller, Franck Fleurey, Jean-Marc Jézéquel*

**Keynote Address II**

Domain-Specific Modeling: No One Size Fits All . . . . . 279  
*Juha-Pekka Tolvanen*

**Model Refactoring**

Refactoring OCL Annotated Class Diagrams . . . . . 280  
*Slaviša Marković, Thomas Baar*

Replicators: Transformations to Address Model Scalability .....	295
<i>Jeff Gray, Yuehua Lin, Jing Zhang, Steve Nordstrom, Aniruddha Gokhale, Sandeep Neema, Swapna Gokhale</i>	

Simplifying Transformations of OCL Constraints .....	309
<i>Martin Giese, Daniel Larsson</i>	

## Quality Control

Lessons Learned from Automated Analysis of Industrial UML Class Models (An Experience Report) .....	324
<i>Betty H.C. Cheng, Ryan Stephenson, Brian Berenbach</i>	

Reliability Prediction in Model Driven Development .....	339
<i>Genáína N. Rodrigues, David S. Rosenblum, Sebastian Uchitel</i>	

Model-Based Scalability Estimation in Inception-Phase Software Architecture .....	355
<i>Steve Masticola, Andre Bondi, Mark Hettish</i>	

## MDA I

Explicit Platform Models for MDA .....	367
<i>Dennis Wagelaar, Viviane Jonckers</i>	

Integrated Model-Based Software Development, Data Access, and Data Migration .....	382
<i>Behzad Bordbar, Dirk Draheim, Matthias Horn, Ina Schulz, Gerald Weber</i>	

Invited Presentation I: Lessons Learned, New Directions, and Migration Plans for Model-Driven Development of Large Scale Software Based Systems .....	397
<i>Michael J. Marich, Haig F. Krikorian</i>	

## Automation I

Concepts for Comparing Modeling Tool Architectures .....	398
<i>Colin Atkinson, Thomas Kühne</i>	

Scenario Construction Tool Based on Extended UML Metamodel .....	414
<i>Michał Śmiałek, Jacek Bojarski, Wiktor Nowakowski, Tomasz Straszak</i>	

Invited Presentation II: Experiences in Applying Model Based System Testing Generation .....	430
<i>Marlon Vieira</i>	

**UML 2.0**

The Impact of UML 2.0 on Existing UML 1.4 Models ..... 431  
*Julie A. Street, Robert G. Pettit IV*

Towards UML2 Extensions for Compact Modeling of Regular Complex  
 Topologies ..... 445  
*Arnaud Cuccuru, Jean-Luc Dekeyser, Philippe Marquet, Pierre Boulet*

Using UML 2.0 Collaborations for Compositional Service Specification ... 460  
*Richard Torbjørn Sanders, Humberto Nicolás Castejón,  
 Frank Alexander Kraemer, Rolv Bræk*

**Industrial Experience**

Model-Driven Engineering in a Large Industrial Context — Motorola  
 Case Study ..... 476  
*Paul Baker, Shiou Loh, Frank Weil*

Using a Domain-Specific Language and Custom Tools to Model a  
 Multi-tier Service-Oriented Application — Experiences and Challenges .. 492  
*Marek Vokáč, Jens M. Glattetre*

Invited Presentation III: The Architects’ Workbench — Research in  
 the Trenches ..... 507  
*Doug Kimelman*

**Crosscutting Concerns**

Uniform Support for Modeling Crosscutting Structure ..... 508  
*Maria Tkatchenko, Gregor Kiczales*

Modeling Crosscutting Services with UML Sequence Diagrams ..... 522  
*Martin Deubler, Michael Meisinger, Sabine Rittmann, Ingolf Krüger*

A Formal Enforcement Framework for Role-Based Access Control  
 Using Aspect-Oriented Programming ..... 537  
*Jaime Pavlich-Mariscal, Laurent Michel, Steven Demurjian*

**Modeling Strategies I**

A Domain Model for System Dynamic Reconfiguration ..... 553  
*D’Arcy Walsh, Francis Bordeleau, Bran Selic*

Exceptional Use Cases ..... 568  
*Aaron Shui, Sadaf Mustafiz, Jörg Kienzle, Christophe Dony*

**MDA II**

Modeling Turnpike Frontend System: A Model-Driven Development Framework Leveraging UML Metamodeling and Attribute-Oriented Programming .....	584
<i>Hiroshi Wada, Junichi Suzuki</i>	

Simplifying Autonomic Enterprise Java Bean Applications Via Model-Driven Development: A Case Study .....	601
<i>Jules White, Douglas C. Schmidt, Aniruddha Gokhale</i>	

**Automation II**

Automated Invariant Maintenance Via OCL Compilation .....	616
<i>Kurt Stirewalt, Spencer Rugaber</i>	

SelfSync: A Dynamic Round-Trip Engineering Environment .....	633
<i>Ellen Van Paesschen, Wolfgang De Meuter, Maja D'Hondt</i>	

UML for Document Modeling: Designing Document Structures for Massive and Systematic Production of XML-based Web Contents .....	648
<i>Alejandro Bia, Jaime Gómez</i>	

**Modeling Strategies II**

Metamodel Reuse with MOF .....	661
<i>Xavier Blanc, Franklin Ramalho, Jacques Robin</i>	

Modeling the User Interface of Multimedia Applications .....	676
<i>Andreas Pleuß</i>	

An Ontology-Based Approach for Evaluating the <i>Domain Appropriateness</i> and <i>Comprehensibility Appropriateness</i> of Modeling Languages.....	691
<i>Giancarlo Guizzardi, Luís Ferreira Pires, Marten van Sinderen</i>	

**Workshops, Tutorials and Panels**

Workshops at the MODELS 2005 Conference .....	706
<i>Jean-Michel Bruel</i>	

Tutorials at the MODELS 2005 Conference.....	715
<i>Gianna Reggio</i>	

Panels at the MODELS 2005 Conference .....	719
<i>Siobhán Clarke</i>	

<b>Author Index</b> .....	721
---------------------------	-----



<http://www.springer.com/978-3-540-29010-0>

Model Driven Engineering Languages and Systems  
8th International Conference, MoDELS 2005, Montego  
Bay, Jamaica, October 2-7, 2005, Proceedings  
Briand, L.; Williams, C. (Eds.)  
2005, XVI, 724 p., Softcover  
ISBN: 978-3-540-29010-0