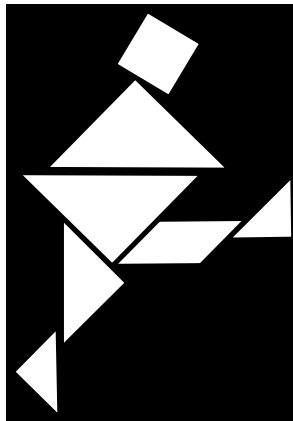


Fifth International Conference On
Generative Programming
and
Component Engineering
(GPCE 2006)



October 22-26, 2006
Portland, Oregon

(co-located with OOPSLA 2006)



Sponsored by ACM SIGPLAN,
in cooperation with ACM SIGSOFT





Workshops

Sunday, October 22

Aspect-Oriented Product Line Engineering (AOPLE)

8:30am - 5pm, Room C121

Organizers:

Neil Loughran (Lancaster University)

Iris Groher, Siemens AG (Munich, Germany & Linz University, Austria)

Roberto Lopez-Herrejon (University of Oxford)

Software Transformation Systems

8:30 am - 5pm, Room E145

Organizers:

Magne Haveraaen (University of Bergen, Norway)

Jim Cordy (Queen's University, Canada)

Jan Heering (CWI, Amsterdam, Netherlands)

Eelco Visser (Utrecht University, Netherlands)

Monday, October 23

Domain-Specific Aspect Languages (DSAL'06)

8:30am - 5pm, Room C121

Organizers:

Thomas Cleenewerck (Vrije Universiteit Brussel, Belgium)

Johan Fabry (Vrije Universiteit Brussel, Belgium)

Anne-Françoise Le Meur (University of Lille, France)

Jacques Noyé (École des Mines de Nantes, France)

Éric Tanter (University of Chile, Chile)

Generative Programming and Component Engineering for QoS Provisioning in Distributed Systems (GPCE4QoS)

8:30am - 5pm, Room C128

Organizers:

Aniruddha S. Gokhale (Vanderbilt University)

Jeff Gray (University of Alabama at Birmingham)

Tutorials



Sunday, October 22

GPCE1. Model-driven development basics using Eclipse

Bruce Trask, Angel Roman

8:30am - noon, Room C120

**GPCE2. Building domain specific languages with Eclipse
and open ArchitectureWare**

Markus Völter, Arno Haase

1:30pm - 5pm, Room C120

Monday, October 23

GPCE3. Using Feature Models for Product Derivation

Danilo Beuche, Olaf Spinczyk

8:30am - noon, Room C120

GPCE4. Building Java Transformations with Stratego/XT

Martin Bravenboer, Karl Trygve Kalleberg, Eelco Visser

1:30pm - 5pm, Room C120

Tuesday, October 24

**GPCE5. Engineering Software Factories for Developing
Enterprise Applications Using Model-Driven Techniques**

Vinay Kulkarni, Sreedhar Reddy

1:30pm - 5pm, Room E141

GPCE6. Feature Modularity in Software Product Lines

Don Batory

1:30pm - 5pm, Room E142

Wednesday, October 25

GPCE7. Generative Software Development

Krzysztof Czarnecki

1:30pm - 5pm, Room D137



Schedule at a glance

Sunday, October 22

Monday

	8:30am Room C121	8:30am Room E145	8:30am Room C120	8:30am Room C121	8:30am Room C128	8:30am Room C120
9 AM	WS1	WS2	Tutorial GPCE1	WS3	WS4	Tutorial GPCE3
10 AM	Aspect- Oriented Product Line Engi- neering (AOPLE)	Software Transforma- tion Systems (STS)	Model- driven develop- ment ba- sics using Eclipse	Domain Specific Aspect Languag- es (DSAL)	Gen- erative Program- ming and Compo- nent En- gineering for QoS Provision- ing in Dis- tributed Systems (GPCE- 4QoS)	Using Fea- ture Mod- els for Product Deriva- tion
11 AM						
Noon						
1 PM						
2 PM			1:30pm Room C120 Tutorial GPCE2			1:30pm Room C120 Tutorial GPCE4
3 PM			Building domain specific languages with Eclipse and open Architec- tureWare			Build- ing Java Transforma- tions with Strat- ego/XT
4 PM						
5 PM						

Welcome reception: Monday 5pm-7:30pm, Portland Foyer



Schedule at a glance

	Tuesday			Wednesday	Thursday	
9 AM			8:30am D135/6 Opening & Technical papers 1	8:30 am Krzysztof Czarnecki Keynote	8:30am Ballroom Phil Wadler OOPSLA Keynote	
10 AM				9:30am Technical papers 4		
11 AM			10:30am D135/6 Technical papers 2	10:30 am D135/6 Technical papers 5	10:30am D135/6 Technical papers 8	
Noon						
1 PM						
2 PM	1:30pm Room E141 Tutorial GPCE5	1:30pm Room E142 Tutorial GPCE6	1:30pm Ballroom Linda Northrup OOPSLA Keynote	1:30pm Room D137 Tutorial GPCE7	1:00pm D135/6 Technical papers 6	1:00pm D135/6 Panel 2:00pm D135/6 Technical papers 9
3 PM	Engi- neering Software Factories ... Model- Driven Tech- niques	Feature Modu- larity in Software Product Lines		Gen- erative Software Develop- ment		
4 PM			3:30pm D135/6 Technical papers 3		3:30pm D135/6 Technical papers 7	3:30pm D135/6 Technical papers 10 & Closing
5 PM						

Big Event: Museum of Science&Industry, Wednesday 7-11pm.



Technical Papers

Tuesday, October 24 Room D135/D136

8:30-8:40 Opening Session

8:40-10:10 Technical papers 1: Staging

Session chair: Eelco Visser

- Samuel Kamin, Baris Aktemur and Michael Katelman. Staging static analyses for program generation.
- Marcos Viera and Alberto Pardo. A Multi-Stage Language with Intensional Analysis.
- Jonathan Riehl. Assimilating MetaBorg: Embedding language tools in languages.

10:30-12:00 Technical papers 2: Components

Session chair: Don Batory

- Gabriel Moreno. Creating Custom Containers with Generative Techniques.
- Alexander Stuckenholz and Andre Osterloh. Safe Component Updates.
- John Reppy and Chunyan Song. Application-specific foreign-interface generation.

1:30pm Linda Northrup OOPSLA keynote Portland Ballroom 252–254

15:30-17:00 Technical papers 3: Advanced Aspects

Session chair: Shigeru Chiba

- Sven Apel and Don Batory. When to Use Features and Aspects -- A Case Study.
- Yoshisato Yanagisawa, Kenichi Kourai, Shigeru Chiba and Rei Ishikawa. A Dynamic Aspect-oriented System for OS Kernels.
- Rémi Douence, Didier Le Botlan, Jacques Noyé and Mario Sudholt. Concurrent Aspects.

Special Events

Welcome Reception. Monday, 17:00-19:30, OOPSLA Courtyard, Portland Ballroom Foyer.

Big Event. Oregon Museum of Science and Industry. Wednesday 19:00-23:00. Shuttles begin at 18:30 in front of the Convention Center.

Technical Papers



Wednesday, October 25 Room D135/D136

08:30-09:30 Keynote speaker: Krzysztof Czarnecki

09:30-10:10 Short papers

Session Chair: Ira Baxter

- Eli Tilevich and Yannis Smaragdakis. Transparent Program Transformations in the Presence of Opaque Code.
- Jorge Mascena, Silvio Meira, Eduardo Almeida and Vinicius Cardoso Garcia. Towards an Effective Integrated Reuse Environment.

10:30-12:00 Technical papers: Safety and Verification

Session Chair: Yannis Smaragdakis

- Frances Perry, Limin Jia and David Walker. Expressing Heap-shape Contracts in Linear Logic.
- Edwin Brady and Kevin Hammond. A Verified Staged Interpreter is a Verified Compiler.
- Ewen Denney and Bernd Fischer. A Generic Annotation Inference Algorithm for the Safety Certification of Automatically Generated Code.

13:00-15:00 Technical papers: Applications

Session Chair: Bernd Fischer

- Janina Reeder and Robert Giegerich. A graphical programming system for molecular motif search.
- Daniel Fontijne. Gaigen 2: Geometric Algebra Implementation Generator.
- David Broman, Peter Fritzson and Kaj Nyström. Determining Over- and Under-Constrained Systems of Equations using Structural Constraint Delta.
- Peter Barron and Vinny Cahill. YABS: A Domain-Specific Language for Pervasive Computing based on Stigmergy.

15:30-17:00 Technical papers: Measurement and Evaluation

Session Chair: Jeff Gray

- Ralf Laemmel and Klaus Ostermann. Software Extension and Integration with Type Classes - A tutorial for functional and OO programmers.
- Walter Binder and Jarle Hulaas. Flexible and Efficient Measurement of Dynamic Bytecode Metrics.
- Westley Weimer. Patches as Better Bug Reports.



Technical Papers

Thursday, October 26 Room D135/D136

8:30-10:00 Phil Wadler OOPSLA Keynote

Portland Ballroom 252-254

10:30-12:00 Technical papers: Program Families

Session Chair: Kevin Hammond

- Salvador Trujillo, Don Batory and Oscar Diaz. Feature Refactoring a Multi-Representation Program into a Product Line.
- Vander Alves, Rohit Gheyi, Tiago Massoni, Uirá Kulesza, Paulo Borba and Carlos Lucena. Refactoring Product Lines.
- Krzysztof Czarnecki and Krzysztof Pietroszek. Verifying Feature-Based Model Templates Against Well-Formedness OCL Constraints.

13:00-14:00 Panel session: Enhanced Languages to Aid Verification

Gary T. Leavens (Iowa State)

Don Batory (U. of Texas, Austin)

Gilad Bracha (Sun Microsystems)

Walid Taha (Rice University)

14:00-15:00 Short papers Session

Chair: Douglas Schmidt

- Christian Prehofer. Semantic Reasoning about Feature Composition via multiple Aspect-weavings.
- Rui Shi, Chiyen Chen and Hongwei Xi. Distributed Meta-Programming.
- Frédéric Jouault, Jean Bézivin and Ivan Kurtev. TCS: a DSL for the Specification of Textual Concrete Syntaxes in Model Engineering.

15:30-17:00 Technical papers: Compilation

Session Chair: Samuel Kamin

- Zoltan Porkolab, Jozsef Mihalicza and Adam Sipos. Debugging C++ Template Metaprograms.
- Anya Helene Bagge, Valentin David, Karl Trygve Kalleberg and Magne Haveraaen. Flexible Exception Handling.
- Manuel Fahndrich, Michael Carbin and James Larus. Reflective Program Generation with Patterns.

17:00-17:10 Closing Session