

Contents

Invited Talk 1

<i>GOODS to Appear on the Stage</i>	1
<i>Kristen Nygaard (University of Oslo)</i>	

Programming Languages

<i>Balloon Types: Controlling Sharing of State in Data Types</i>	32
<i>Paulo Sérgio Almeida (Imperial College)</i>	
<i>Static Integrity Constraint Management in Object-Oriented Database Programming Languages via Predicate Transformers</i>	60
<i>Véronique Benzaken and Xavier Schaefer (Université de Paris I/IXI)</i>	
<i>Issues with Exception Handling in Object-Oriented Systems</i>	85
<i>Robert Miller and Anand Tripathi (University of Minnesota)</i>	

Types

<i>Subtyping is not a Good "Match" for Object-Oriented Languages</i>	104
<i>Kim B. Bruce and Leaf Petersen (Williams College)</i>	
<i>Adrian Fiech (Memorial University of Newfoundland)</i>	
<i>Near Optimal Hierarchical Encoding of Types</i>	128
<i>Andreas Krall (Technische Universität Wien)</i>	
<i>Jan Vitek (Université de Genève)</i>	
<i>R. Nigel Horspool (University of Victoria)</i>	
<i>An Extended Theory of Primitive Objects: First Order System</i>	146
<i>Luigi Liquori (Università di Torino)</i>	

Metaprogramming

<i>A Reflective Architecture for Process Control Applications</i>	170
<i>Charlotte Pii Lunau (Aalborg University)</i>	
<i>Dynamic Object Evolution without Name Collisions</i>	190
<i>Mira Mezini (University of Siegen)</i>	

Invited Talk 2

<i>Aspect-Oriented Programming</i>	220
<i>Gregor Kiczales, John Lamping, Anurag Mendhekar, Chris Maeda, Cristina Lopes, Jean-Marc Loingtier and John Irwin (Xerox PARC)</i>	

Implementation and Systems

<i>DRASTIC: A Run-Time Architecture for Evolving, Distributed, Persistent Systems</i>	243
<i>Huw Evans and Peter Dickman (Glasgow University)</i>	
<i>A General Framework for Inheritance Management and Method Dispatch in Object-Oriented Languages</i>	276
<i>Wade Holst and Duane Szafron (University of Alberta)</i>	
<i>Optimizing Smalltalk by Selector Code Indexing can be Practical</i>	302
<i>Tamiya Onodera and Hiroaki Nakamura (IBM Tokyo Research Laboratory)</i>	

Formal Methods and Specifications

<i>Objects, Associations and Subsystems: A Hierarchical Approach to Encapsulation</i>	324
<i>J.C. Bicarregui, K.C. Lano, and T.S.E. Maibaum (Imperial College)</i>	
<i>Towards a Formalization of the Unified Modeling Language</i>	344
<i>Ruth Breu, Ursula Hinkel, Christoph Hofmann, Cornel Klein, Barbara Paech, Bernhard Rumpe and Veronika Thurner (Technische Universität München)</i>	
<i>Coordination Requirements Expressed in Types for Active Objects</i>	367
<i>Franz Puntigam (Technische Universität Wien)</i>	

Java

<i>Java is Type Safe - Probably</i>	389
<i>Sophia Drossopoulou and Susan Eisenbach (Imperial College)</i>	
<i>Feature-Oriented Programming: A Fresh Look at Objects</i>	419
<i>Christian Prehofer (Technische Universität München)</i>	
<i>Genericity in Java with Virtual Types</i>	444
<i>Kresten Krab Thorup (Aarhus University)</i>	

Patterns

<i>Tool Support for Object-Oriented Patterns</i>	472
<i>Gert Florijn, Marco Meijers and Pieter van Winsen</i> <i>(Utrecht University)</i>	
<i>A Model for Structuring User Documentation of Object-Oriented Frameworks Using Patterns and Hypertext</i>	496
<i>Matthias Meusel, Krzysztof Czarnecki and Wolfgang Köpf</i> <i>(Daimler-Benz AG, Research and Technology)</i>	
<i>Using Patterns for Design and Documentation</i>	511
<i>Georg Odenthal and Klaus Quibeldey-Cirkel (University of Siegen)</i>	

Invited Talk 3 (Abstract)

<i>Going Beyond Objects with Design Patterns</i>	530
<i>Erich Gamma (Object Technology International, Zurich)</i>	
Author Index.....	531