

# Table of Contents

## Foundations and Methodology Comparisons

Fundamentals of Generic Programming .....	1
<i>James C. Dehnert, Alexander Stepanov (Silicon Graphics, Inc.)</i>	
Requirement Oriented Programming .....	12
<i>David Musser, Sibylle Schupp (Rensselaer Polytechnic Institute), Rüdiger Loos (University of Tübingen)</i>	
Generative Programming and Active Libraries .....	25
<i>Krzysztof Czarnecki (DaimlerChrysler), Ulrich Eisenecker (Fachhochschule Heidelberg), Robert Glück (University of Copenhagen), David Vandevoorde (Edison Design Group), Todd Veldhuizen (University of Indiana)</i>	
The Refinement Relation of Graph-Based Generic Programs .....	40
<i>Karl Lieberherr (Northeastern University), Boaz Patt-Shamir (Northeastern University and Tel Aviv University)</i>	
The Construction Principles of the Class Library KARLA .....	53
<i>Wolf Zimmermann (University of Karlsruhe), Arne Frick (Tom Sawyer Software), Rainer Neumann (University of Karlsruhe)</i>	

## Programming Methodology

Exception-Safety in Generic Components .....	69
<i>David Abrahams (Dragon Systems)</i>	
Segmented Iterators and Hierarchical Algorithms .....	80
<i>Matthew H. Austern (Silicon Graphics, Inc.)</i>	
Theory and Generality of Complete Traversals .....	91
<i>David R. Musser (Rensselaer Polytechnic Institute), Arturo J. Sánchez-Ruiz (Central University of Venezuela)</i>	
A Data Abstraction Alternative to Data Structure/Algorithm Modularization .....	102
<i>Murali Sitaraman (West Virginia University), Bruce W. Weide, Timothy J. Long, William F. Ogden (Ohio State University)</i>	

## Language Design

Two Ways to Bake Your Pizza—Translating Parameterised Types into Java	114
<i>Martin Odersky (Ecole Polytechnique Fédéral de Lausanne), Enno Runne (University of Karlsruhe), Philip Wadler (Lucent Technologies)</i>	
SUCHTHAT—Generic Programming Works	133
<i>Sibylle Schupp (Rensselaer Polytechnic Institute), Rüdiger Loos (University of Tübingen)</i>	

## Specification and Verification

Software Development in PVS Using Generic Development Steps	146
<i>Axel Dold (Universität Ulm)</i>	
Model Checking Generic Container Implementations	162
<i>Matthew B. Dwyer, Corina S. Păsăreanu (Kansas State University)</i>	
Mizar Correctness Proofs of Generic Fraction Field Arithmetic	178
<i>Christoph Schwarzweller (University of Tübingen)</i>	
Language Independent Container Specification	192
<i>Alexandre V. Zamulin (Russian Academy of Sciences, Novosibirsk)</i>	

## Applications

Applications of the Generic Programming Paradigm in the Design of CGAL	206
<i>Hervé Brönnimann (INRIA Sophia-Antipolis), Lutz Kettner (ETH Zürich), Stefan Schirra (MPI Saarbrücken), Remco Veltkamp (Utrecht University)</i>	
Generic Programming in POOMA and PETE	218
<i>James A. Crotinger, Julian Cummings, Scott Haney, William Humphrey, Steve Karmesin, John Reynders, Stephen Smith, Timothy J. Williams (Los Alamos National Laboratory)</i>	
The STL Model in the Geometric Domain	232
<i>Ullrich Köthe (Fraunhofer Institute for Computer Graphics, Rostock), Karsten Weihe (University of Konstanz)</i>	
Generic Graph Algorithms	249
<i>Dietmar Kühl (Claas Solutions)</i>	
A Generic Programming Environment for High-Performance Mathematical Libraries	256
<i>Wolfgang Schreiner, Werner Danielczyk-Landerl, Mircea Marin, Wolfgang Stöcher (RISC-Linz)</i>	
Author Index	269

Generic Programming

International Seminar on Generic Programming

Dagstuhl Castle, Germany, April 27 - May 1, 1998,

Selected Papers

Jazayeri, M.; Loos, R.G.K.; Musser, D.R. (Eds.)

2000, X, 272 p., Softcover

ISBN: 978-3-540-41090-4