# Table of Contents

**Functional Programming**

First Class Patterns ......................................................... 1  
*M. Tullsen*

Parallel Functional Reactive Programming ....................... 16  
*J. Peterson, V. Trifonov, and A. Serjantov*

Out-of-Core Functional Programming with Type-Based Primitives 32  
*T.-R. Chuang and S.-C. Mu*

**Functional-Logic Programming**

A Functional Logic Programming Approach to Graphical User Interfaces 47  
*M. Hanus*

Using Static Analysis to Compile Non-sequential Functional Logic Programs 63  
*J. Mariño and J.J. Moreno-Navarro*

**Logic Programming**

GNU Prolog: Beyond Compiling Prolog to C 81  
*D. Diaz and P. Codognet*

Heap Garbage Collection in XSB: Practice and Experience 93  
*B. Demoen and K. Sagonas*

Implementation of a Linear Tabling Mechanism .................. 109  
*N.-F. Zhou, Y.-D. Shen, L.-Y. Yuan, and J.-H. You*

How to Incorporate Negation in a Prolog Compiler ............ 124  
*J.J. Moreno-Navarro and S. Muñoz-Hernández*

**Innovative Applications I**

A Logic-Based Information System 141  
*S.P. Abreu*

HIPPO: A Declarative Graphical Modeling System ................ 154  
*C.J. Hinde, R.J. Reader, and K. Phelps*

Calculating a New Data Mining Algorithm for Market Basket Analysis 169  
*Z. Hu, W.-N. Chin, and M. Takeichi*
Table of Contents

Constraint Programming and Constraint Solving

A Toolkit for Constraint-Based Inference Engines ......................... 185
T.Y. Chew, M. Henz, and K.B. Ng

CLIP: A CLP(Intervals) Dialect for Metalevel Constraint Solving .......... 200
T.J. Hickey

Programming Deep Concurrent Constraint Combinators ..................... 215
C. Schulte

Labeling and Partial Local Consistency for Soft Constraint Programming ........ 230
S. Bistarelli, P. Codognet, Y. Georget, and F. Rossi

Systems Applications

Transformation-by-Example for XML ........................................ 249
S. Krishnamurthi, K.E. Gray, and P.T. Graunke

Modeling HTML in Haskell .................................................... 263
P. Thiemann

A Logic Programming Approach to Supporting the Entries of XML Documents in an Object Database ............ 278
C.-L. Yeh

Innovative Applications II

A Hybrid Approach for Solving Large Scale Crew Scheduling Problems .......... 293
T.H. Yunes, A.V. Moura, and C.C. de Souza

Knowledgesheet: A Graphical Spreadsheet Interface for Interactively Developing a Class of Constraint Programs .......... 308
G. Gupta and S.F. Akhter

Invited Talks

Current Trends in Logic Programming: Prospects and Promises .......... 324
I.V. Ramakrishnan

Production-Quality Proof-Carrying Code .................................... 325
P. Lee

Author Index .............................................................. 327