Table of Contents

Invited Talks

Termination by Abstraction ........................................ 1
   Nachum Dershowitz

Answer Set Programming and the Design of Deliberative Agents .... 19
   Michael Gelfond

Regular Talks

Analysis

Abstract Domains Based on Regular Types ....................... 27
   John P. Gallagher and Kim S. Henriksen

Termination of Logic Programs Using Various Dynamic Selection Rules . . 43
   Jan-Georg Smaus

Improving Prolog Programs: Refactoring for Prolog .................. 58
   Tom Schrijvers and Alexander Serebrenik

Constraints I

Smmodels with CLP and Its Applications:
A Simple and Effective Approach to Aggregates in ASP .......... 73
   Islam Elkabani, Enrico Pontelli, and Tran Cao Son

The Refined Operational Semantics of Constraint Handling Rules .... 90
   Gregory J. Duck, Peter J. Stuckey, María García de la Banda, and Christian Holzbaur

Compiling Ask Constraints ........................................... 105
   Gregory J. Duck, María García de la Banda, and Peter J. Stuckey

Constraint Handling Rules and Tabled Execution ..................... 120
   Tom Schrijvers and David S. Warren

Alternative Paradigms I

Possible Worlds Semantics for Probabilistic Logic Programs .......... 137
   Alex Dekhtyar and Michael I. Dekhtyar

Limiting Resolution: From Foundations to Implementation .......... 149
   Patrick Caldon and Eric Martin
Generalised Kernel Sets for Inverse Entailment ........................................... 165
    Oliver Ray, Krysia Broda, and Alessandra Russo

Answer Set Programming I

On Programs with Linearly Ordered Multiple Preferences ....................... 180
    Davy Van Nieuwenborgh, Stijn Heymans, and Dirk Vermeir
Splitting an Operator ................................................................................. 195
    Joost Vennekens, David Gilis, and Marc Denecker
Simplifying Logic Programs Under Answer Set Semantics .......................... 210
    David Pearce
On Acyclic and Head-Cycle Free Nested Logic Programs ......................... 225
    Thomas Linke, Hans Tompits, and Stefan Woltran

Implementation

Fast Query Evaluation with (Lazy) Control Flow Compilation .................. 240
    Remko Tronçon, Gerda Janssens, and Henk Vandecasteele
Speculative Computations in Or-Parallel Tabled Logic Programs .............. 254
    Ricardo Rocha, Fernando Silva, and Vítor Santos Costa
αProlog: A Logic Programming Language
with Names, Binding and α-Equivalence ................................................... 269
    James Cheney and Christian Urban
Implementation Results in Classical Constructive Negation ..................... 284
    Susana Muñoz-Hernández and Juan José Moreno-Navarro

Constraints II

On Hybridization of Local Search and Constraint Propagation ................. 299
    Eric Monfroy, Frédéric Saubion, and Tony Lambert
Arc-Consistency + Unit Propagation = Lookahead .................................... 314
    Jia-Huai You and Guiwen Hou
The period Constraint ............................................................................... 329
    Nicolas Beldiceanu and Emmanuel Poder
Non-viability Deductions in Arc-Consistency Computation ...................... 343
    Camilo Rueda and Frank D. Valencia

Answer Set Programming II

Compiling Prioritized Circumscription into Answer Set Programming ....... 356
    Toshiko Wakaki and Katsumi Inoue
Table of Contents

Enhancing the Magic-Set Method for Disjunctive Datalog Programs .... 371  
*Chiara Cumbo, Wolfgang Faber, Gianluigi Greco, and Nicola Leone*

Rectilinear Steiner Tree Construction Using Answer Set Programming ... 386  
*Esra Erdem and Martin D.F. Wong*

Adding Domain Dependent Knowledge into Answer Set Programs for Planning ................................................. 400  
*Xiumei Jia, Jia-Huai You, and Li Yan Yuan*

**Alternative Paradigms II**

Multi-agent Coordination as Distributed Logic Programming .......... 416  
*David Robertson*

Logic Programs with Annotated Disjunctions .......................... 431  
*Joost Vennekens, Sofie Verbaeten, and Maurice Bruynooghe*

**Poster Presentations**

Abstract Interpretation-Based Mobile Code Certification .............. 446  
*Elvira Albert, Germán Puebla, and Manuel Hermenegildo*

Labeled Logic Programs ............................................. 448  
*Steve Barker*

Xcerpt and XChange – Logic Programming Languages for Querying and Evolution on the Web ..................... 450  
*François Bry, Paula-Lavinia Patrănciuc, and Sebastian Schaffert*

Protein Folding Simulation in CCP ................................... 452  
*Alessandro Dal Palù, Agostino Dovier, and Federico Fogolari*

Applying CLP to Predict Extra-Functional Properties of Component-Based Models .................................... 454  
*Olivier Defour, Jean-Marc Jézéquel, and Noël Plouzeau*

Main Results of the OADymPPaC Project ........................... 456  
*Pierre Deransart*

FDBG, the CLPFD Debugger Library of SICStus Prolog ............... 458  
*Dávid Hanák, Tamás Szeredi, and Péter Szeredi*

Development of Semantic Debuggers Based on Refinement Calculus ... 460  
*Rohit N. Kundaji and R.K. Shyamasundar*

A Tracer Driver to Enable Debugging, Monitoring and Visualization of CLP Executions from a Single Tracer ............ 462  
*Ludovic Langevine and Mireille Ducassé*
Grid Service Selection with PPDL .................................. 464
  Massimo Marchi, Alessandra Mileo, and Alessandro Provetti

Concurrent Constraint Programming and Tree–Based Acoustic Modelling . 467
  Moritz Neugebauer

MProlog: An Extension of Prolog for Modal Logic Programming .......... 469
  Linh Anh Nguyen

Probabilistic Choice Operators as Global Constraints:
Application to Statistical Software Testing .................................. 471
  Matthieu Petit and Arnaud Gotlieb

Constraint-Based Synchronization and Verification
of Distributed Java Programs .............................................. 473
  Rafael Ramirez and Juanjo Martinez

JmmSOLVE: A Generative Java Memory Model Implemented
in Prolog and CHR ...................................................... 475
  Tom Schrijvers

Agent Oriented Logic Programming Constructs in Jinni 2004 ............ 477
  Paul Tarau

Author Index ............................................................... 479