Introduction to the 27th International Conference on Logic Programming Special Issue

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There were four broad categories for submissions: (1) technical papers for describing technically sound, innovative ideas that can advance the state of the art of logic programming; (2) application papers, where the emphasis is on their impact on the application domain; (3) system and tool papers, where the emphasis is on the novelty, practicality, usability and general availability of the systems and tools described; and (4) technical communications, aimed at describing recent developments, new projects, and other materials that are not ready for main publication as standard papers. The length limit for full papers was set at 15 pages plus bibliography for full papers (approximately in line with the length of TPLP technical notes) and for technical communications at 10 pages total. The papers appearing in this issue are classified as “TPLP rapid publications”.
In response to the call for papers we received 67 submissions. Of those, 64 were full papers submitted to the TPLP special issue track (21 of them applications or systems papers). The program chairs acting as guest editors organized the refereeing process with the help of the program committee and numerous external reviewers. Each paper was reviewed by at least three anonymous referees who provided full written evaluations. After the first round of refereeing 43 full papers remained. Of these, 23 went through a second round of refereeing with written referee reports. Finally, all 43 papers went through a final, copy-editing round. In the end the special issue contains 19 technical papers, 3 application papers, and 1 systems and tools paper. During the first phase of reviewing the papers submitted to the technical communications track were also reviewed by at least three anonymous referees providing full written evaluations. Also, a number of full paper submissions were moved during the reviewing process to the technical communications track. Finally, 23 papers were accepted as technical communications. They appear as Volume 10(?) of the Leibniz International Proceedings in Informatics (LIPIcs) series, published online through the Dagstuhl Research Online Publication Server (DROPS).

A listing of papers published in LIPIcs appears at the end of the special issue. Together, the journal special issue and the LIPIcs volume of short technical communications constitute the proceedings of ICLP11.

The list of the 23 accepted full papers appearing in this special issue follows:

**Regular Papers**

Complex Optimization in Answer Set Programming  
*Martin Gebser, Roland Kaminski and Torsten Schaub*

On the Correctness of Pull-Tabbing  
*Sergio Antoy*

(Co-)Inductive Semantics for Constraint Handling Rules  
*Rémy Haemmerlé*

The Magic of Logical Inference in Probabilistic Programming  
*Bernd Gutmann, Ingo Thon, Angelika Kimmig, Maurice Bruynooghe and Luc De Raedt*

RedAlert: Determinacy Inference for Prolog  
*Jael Kriener and Andy King*

On Combining Linear-Based Strategies for Tabled Evaluation of Logic Programs  
*Ricardo Rocha and Miguel Areias*

1 The LIPIcs volume contains a complete list of referees.
Estimating the overlap between dependent computations for automatic parallelization
  
  *Paul Bone, Zoltan Somogyi and Peter Schachte*

Transition Systems for Model Generators—A Unifying Approach
  
  *Yuliya Lierler and Miroslaw Truszczynski*

Efficient Instance Retrieval of Subgoals for Subsumptive Tabled Evaluation of Logic Programs
  
  *Flavio Cruz and Ricardo Rocha*

Non-termination Analysis of Logic Programs with integer arithmetics
  
  *Dean Voets and Daniel De Schreye*

A Structured Alternative to Prolog with Simple Compositional Semantics
  
  *António Porto*

The PITA System: Tabling and Answer Subsumption for Reasoning under Uncertainty
  
  *Fabrizio Riguzzi and Terrance Swift*

Normative Design using Inductive Learning
  
  *Domenico Corapi, Alessandra Russo, Marina De Vos, Julian Padget and Ken Satoh*

Abstract Diagnosis of Timed Concurrent Constraint programs
  
  *Marco Comini, Laura Titolo and Alicia Villanueva*

Parallel Backtracking with Answer Memoing for Independent And-Parallelism
  
  *Pablo Chico De Guzmán, Amadeo Casas, Manuel Carro and Manuel Hermenegildo*

SAT-Based Termination Analysis Using Monotonicity Constraints over the Integers
  
  *Amir M. Ben-Amram, Michael Codish, Carsten Fuhs, Jürgen Giesl and Igor Gonopolskiy*

Observational equivalences for Linear Logic CC languages
  
  *Rémy Haemmerlé*

Splitting and Updating Hybrid Knowledge Bases
  
  *Martin Slota, João Leite and Terrance Swift*

Actual causation in CP-logic
  
  *Joost Vennekens*
Application Papers and Systems and Tools Papers

Automatic Network Reconstruction using ASP

Max Ostrowski, Torsten Schaub, Markus Durzinsky, Wolfgang Marwan and Annegret Wagler

Optimal Placement of Valves in a Water Distribution Network with CLP(FD)

Massimiliano Cattafi, Marco Gavanelli, Maddalena Nonato, Stefano Alvisi and Marco Franchini

Constraint-Based Deadlock Checking of High-Level Specifications

Michael Leuschel and Stefan Hallerstedt

ALPprolog—A New Logic Programming Method for Dynamic Domains

Conrad Drescher and Michael Thielscher

In conclusion, we would like to thank the members of the Program Committee and the external referees for their enthusiasm, hard work, and promptness, despite the higher load of the two rounds of refereeing plus the copy editing phase. The PC members were:


We would also like to thank Georg Gottlob, Adam Lally, and Gúnter Kniesel for their invited talks, Michael A. Covington and Francesca Toni for their tutorials, the ICLP organizers Mirek Truszczynski and Victor Marek (General Chairs), Joohyung Lee (Workshops), Yuliya Lierler (Publicity), Alessandro Dal Palù and Stefan Woltran (Doctoral Consortium) and Tom Schrijvers (Prolog Programming Contest), and Lexmark, University of Kentucky, and Association for Logic Programming for supporting the conference.

Finally, we would like to express our thanks and great appreciation to Ilkka Niemelä, editor in chief of Theory and Practice of Logic Programming, David Tranah from Cambridge University Press, Marc Herbstritt from LIPIcs, Leibniz Center for Informatics, and all the members of the ALP Executive Committee for their continued support for this initiative, which provides a new model of computer science publishing that is already being adopted by other computing research communities.

John Gallagher and Michael Gelfond
Program Committee Chairs and Guest Editors