

Table of Contents

Invited Talks

Orchestrating Satisfiability Engines	1
<i>Leonardo de Moura</i>	
Operations Research and Constraint Programming at Google	2
<i>Laurent Perron</i>	
Solving Problems with CP: Four Common Pitfalls to Avoid	3
<i>Jean-Charles Régin</i>	

Application Track Papers

A Constraint Seeker: Finding and Ranking Global Constraints from Examples	12
<i>Nicolas Beldiceanu and Helmut Simonis</i>	
Bin Repacking Scheduling in Virtualized Datacenters	27
<i>Fabien Hermenier, Sophie Demasse, and Xavier Lorca</i>	
Route Finder: Efficiently Finding k Shortest Paths Using Constraint Programming	42
<i>Michel P. Lefebvre, Jean-François Puget, and Petr Vilić</i>	
The Design of Cryptographic S-Boxes Using CSPs	54
<i>Venkatesh Ramamoorthy, Marius C. Silaghi, Toshihiro Matsui, Katsutoshi Hirayama, and Makoto Yokoo</i>	
Optimal Carpet Cutting	69
<i>Andreas Schutt, Peter J. Stuckey, and Andrew R. Verden</i>	
A Hybrid Approach for Solving Real-World Nurse Rostering Problems	85
<i>Martin Stølevik, Tomas Eric Nordlander, Atle Riise, and Helle Frøyseth</i>	
Constraint Programming for Controller Synthesis	100
<i>Gérard Verfaillie and Cédric Pralet</i>	

Research Track Papers

Neuron Constraints to Model Complex Real-World Problems	115
<i>Andrea Bartolini, Michele Lombardi, Michela Milano, and Luca Benini</i>	

A Constraint Based Approach to Cyclic RCPSP	130
<i>Alessio Bonfietti, Michele Lombardi, Luca Benini, and Michela Milano</i>	
An Efficient Light Solver for Querying the Semantic Web	145
<i>Vianney le Clément de Saint-Marcq, Yves Deville, and Christine Solnon</i>	
On Guaranteeing Polynomially Bounded Search Tree Size	160
<i>David A. Cohen, Martin C. Cooper, Martin J. Green, and Dániel Marx</i>	
A Framework for Decision-Based Consistencies	172
<i>Jean-François Condotta and Christophe Lecoutre</i>	
Hierarchically Nested Convex VCSP	187
<i>Martin C. Cooper and Stanislav Živný</i>	
Tractable Triangles	195
<i>Martin C. Cooper and Stanislav Živný</i>	
On Minimal Weighted Clones	210
<i>Páidí Creed and Stanislav Živný</i>	
Solving MAXSAT by Solving a Sequence of Simpler SAT Instances	225
<i>Jessica Davies and Fahiem Bacchus</i>	
Filtering Algorithms for Discrete Cumulative Problems with Overloads of Resource	240
<i>Alexis De Clercq, Thierry Petit, Nicolas Beldiceanu, and Narendra Jussien</i>	
Synthesis of Search Algorithms from High-Level CP Models	256
<i>Samir A. Mohamed Elsayed and Laurent Michel</i>	
Revisiting the tree Constraint	271
<i>Jean-Guillaume Fages and Xavier Lorca</i>	
Half Reification and Flattening	286
<i>Thibaut Feydy, Zoltan Somogyi, and Peter J. Stuckey</i>	
The Parameterized Complexity of Local Consistency	302
<i>Serge Gaspers and Stefan Szeider</i>	
Symmetry Breaking in Numeric Constraint Problems	317
<i>Alexandre Goldsztejn, Christophe Jermann, Vicente Ruiz de Angulo, and Carme Torras</i>	
On Minimal Constraint Networks	325
<i>Georg Gottlob</i>	

Structural Tractability of Constraint Optimization	340
<i>Gianluigi Greco and Francesco Scarcello</i>	
Models and Strategies for Variants of the Job Shop Scheduling Problem	356
<i>Diarmuid Grimes and Emmanuel Hebrard</i>	
MaxRPC Algorithms Based on Bitwise Operations	373
<i>Jinsong Guo, Zhanshan Li, Liang Zhang, and Xuena Geng</i>	
Grid-Based SAT Solving with Iterative Partitioning and Clause Learning	385
<i>Antti E.J. Hyvärinen, Tommi Junttila, and Ilkka Niemelä</i>	
Large Neighborhood Search for Dial-a-Ride Problems	400
<i>Siddhartha Jain and Pascal Van Hentenryck</i>	
On Deciding MUS Membership with QBF	414
<i>Mikoláš Janota and Joao Marques-Silva</i>	
On the Relative Efficiency of DPLL and OBDDs with Axiom and Join	429
<i>Matti Järvisalo</i>	
Min CSP on Four Elements: Moving beyond Submodularity	438
<i>Peter Jonsson, Fredrik Kuivinen, and Johan Thapper</i>	
Algorithm Selection and Scheduling	454
<i>Serdar Kadioglu, Yuri Malitsky, Ashish Sabharwal, Horst Samulowitz, and Meinolf Sellmann</i>	
Incorporating Variance in Impact-Based Search	470
<i>Serdar Kadioglu, Eoin O'Mahony, Philippe Refalo, and Meinolf Sellmann</i>	
A Quadratic Edge-Finding Filtering Algorithm for Cumulative Resource Constraints	478
<i>Roger Kameugne, Laure Pauline Fotso, Joseph Scott, and Youcheu Ngo-Kateu</i>	
A CSP Solver Focusing on FAC Variables	493
<i>Éric Grégoire, Jean-Marie Lagniez, and Bertrand Mazeur</i>	
Constraint Reasoning and Kernel Clustering for Pattern Decomposition with Scaling	508
<i>Ronan LeBras, Theodoros Damoulas, John M. Gregoire, Ashish Sabharwal, Carla P. Gomes, and R. Bruce van Dover</i>	

Solving Qualitative Constraints Involving Landmarks	523
<i>Weiming Liu, Shengsheng Wang, Sanjiang Li, and Dayou Liu</i>	
Searching for Doubly Self-orthogonal Latin Squares	538
<i>Runming Lu, Sheng Liu, and Jian Zhang</i>	
QCSP on Partially Reflexive Forests	546
<i>Barnaby Martin</i>	
The Computational Complexity of Disconnected Cut and 2K ₂ -Partition	561
<i>Barnaby Martin and Daniël Paulusma</i>	
Reducing the Search Space of Resource Constrained DCOPs	576
<i>Toshihiro Matsui, Marius Silaghi, Katsutoshi Hirayama, Makoto Yokoo, Boi Faltings, and Hiroshi Matsuo</i>	
Proving Symmetries by Model Transformation	591
<i>Christopher Mears, Todd Niven, Marcel Jackson, and Mark Wallace</i>	
Value Ordering for Finding All Solutions: Interactions with Adaptive Variable Ordering	606
<i>Deepak Mehta, Barry O'Sullivan, and Luis Quesada</i>	
Boolean Equi-propagation for Optimized SAT Encoding	621
<i>Amit Metodi, Michael Codish, Vitaly Lagoon, and Peter J. Stuckey</i>	
CP Models for Maximum Common Subgraph Problems	637
<i>Samba Ndojh Ndiaye and Christine Solnon</i>	
Kangaroo: An Efficient Constraint-Based Local Search System Using Lazy Propagation	645
<i>M.A. Hakim Newton, Duc Nghia Pham, Abdul Sattar, and Michael Maher</i>	
Pseudo-Tree-Based Incomplete Algorithm for Distributed Constraint Optimization with Quality Bounds	660
<i>Tenda Okimoto, Yongjoon Joe, Atsushi Iwasaki, Makoto Yokoo, and Boi Faltings</i>	
A More Efficient BDD-Based QBF Solver	675
<i>Oswaldo Olivo and E. Allen Emerson</i>	
Constraint Propagation for Efficient Inference in Markov Logic	691
<i>Tivadar Papai, Parag Singla, and Henry Kautz</i>	
Octagonal Domains for Continuous Constraints	706
<i>Marie Pelleau, Charlotte Truchet, and Frédéric Benhamou</i>	

A $\Theta(n)$ Bound-Consistency Algorithm for the Increasing Sum Constraint	721
<i>Thierry Petit, Jean-Charles Régin, and Nicolas Beldiceanu</i>	
Automatic Generation of Constraints for Partial Symmetry Breaking ...	729
<i>Christopher Jefferson and Karen E. Petrie</i>	
Beyond QCSP for Solving Control Problems.....	744
<i>Cédric Pralet and Gérard Verfaillie</i>	
On Mini-Buckets and the Min-fill Elimination Ordering	759
<i>Emma Rollon and Javier Larrosa</i>	
Search Combinators	774
<i>Tom Schrijvers, Guido Tack, Pieter Wuille, Horst Samulowitz, and Peter J. Stuckey</i>	
Variable Independence and Resolution Paths for Quantified Boolean Formulas.....	789
<i>Allen Van Gelder</i>	
Pruning Rules for Constrained Optimisation for Conditional Preferences	804
<i>Nic Wilson and Walid Trabelsi</i>	
Checking and Filtering Global Set Constraints	819
<i>Justin Yip and Pascal Van Hentenryck</i>	
Author Index	835