

Table of Contents

Invited Talks

The Proof-Search Problem between Bounded-Width Resolution and Bounded-Degree Semi-algebraic Proofs	1
<i>Albert Atserias</i>	
Turing's Computable Real Numbers and Why They Are Still Important Today	18
<i>Edmund M. Clarke</i>	
There Are No CNF Problems	19
<i>Peter J. Stuckey</i>	

Best Paper

Soundness of Inprocessing in Clause Sharing SAT Solvers	22
<i>Norbert Manthey, Tobias Philipp, and Christoph Wernhard</i>	

Technical Papers

Propositional Proof Complexity I

Exponential Separations in a Hierarchy of Clause Learning Proof Systems	40
<i>Jan Johannsen</i>	
On the Resolution Complexity of Graph Non-isomorphism	52
<i>Jacobo Torán</i>	

Quantified Boolean Formulas

On Propositional QBF Expansions and Q-Resolution	67
<i>Mikoláš Janota and Joao Marques-Silva</i>	
Recovering and Utilizing Partial Duality in QBF	83
<i>Alexandra Goultiaeva and Fahiem Bacchus</i>	
Efficient Clause Learning for Quantified Boolean Formulas via QBF Pseudo Unit Propagation	100
<i>Florian Lonsing, Uwe Egly, and Allen Van Gelder</i>	

Parallel Solving

Concurrent Clause Strengthening	116
<i>Siert Wieringa and Keijo Heljanko</i>	
Parallel MUS Extraction	133
<i>Anton Belov, Norbert Manthey, and Joao Marques-Silva</i>	

Maximum Satisfiability

A Modular Approach to MaxSAT Modulo Theories	150
<i>Alessandro Cimatti, Alberto Griggio, Bastiaan Joost Schaafsma, and Roberto Sebastiani</i>	
Exploiting the Power of MIP Solvers in MAXSAT	166
<i>Jessica Davies and Fahiem Bacchus</i>	
Community-Based Partitioning for MaxSAT Solving	182
<i>Ruben Martins, Vasco Manquinho, and Inês Lynce</i>	

Encodings and Applications

Experiments with Reduction Finding	192
<i>Charles Jordan and Lukasz Kaiser</i>	
A Constraint Satisfaction Approach for Programmable Logic Detailed Placement	208
<i>Andrew Mihal and Steve Teig</i>	
Minimizing Models for Tseitin-Encoded SAT Instances	224
<i>Markus Iser, Carsten Sinz, and Mana Taghdiri</i>	

Beyond SAT

Solutions for Hard and Soft Constraints Using Optimized Probabilistic Satisfiability	233
<i>Marcelo Finger, Ronan Le Bras, Carla P. Gomes, and Bart Selman</i>	
Quantified Maximum Satisfiability: A Core-Guided Approach	250
<i>Alexey Ignatiev, Mikoláš Janota, and Joao Marques-Silva</i>	
Nested Boolean Functions as Models for Quantified Boolean Formulas	267
<i>Uwe Bubeck and Hans Kleine Büning</i>	

Solver Techniques and Algorithms

Factoring Out Assumptions to Speed Up MUS Extraction	276
<i>Jean-Marie Lagniez and Armin Biere</i>	
On the Interpolation between Product-Based Message Passing Heuristics for SAT	293
<i>Oliver Gableske</i>	
Improving Glucose for Incremental SAT Solving with Assumptions: Application to MUS Extraction	309
<i>Gilles Audemard, Jean-Marie Lagniez, and Laurent Simon</i>	

Clique-Width and SAT

A SAT Approach to Clique-Width	318
<i>Marijn J.H. Heule and Stefan Szeider</i>	
Cliqewidth and Knowledge Compilation	335
<i>Igor Razgon and Justyna Petke</i>	

Propositional Proof Complexity II

A Rank Lower Bound for Cutting Planes Proofs of Ramsey's Theorem	351
<i>Massimo Lauria</i>	
The Complexity of Theorem Proving in Autoepistemic Logic	365
<i>Olaf Beyersdorff</i>	

Parameterized Complexity

Local Backbones	377
<i>Ronald de Haan, Iyad Kanj, and Stefan Szeider</i>	
Upper and Lower Bounds for Weak Backdoor Set Detection	394
<i>Neeldhara Misra, Sebastian Ordyniak, Venkatesh Raman, and Stefan Szeider</i>	

Tool Papers

LearnSAT: A SAT Solver for Education	403
<i>Mordechai (Moti) Ben-Ari</i>	
MUSTICCa: MUS Extraction with Interactive Choice of Candidates	408
<i>Johannes Dellert, Christian Zielke, and Michael Kaufmann</i>	

SCSat: A Soft Constraint Guided SAT Solver 415
Hiroshi Fujita, Miyuki Koshimura, and Ryuzo Hasegawa

Snappy: A Simple Algorithm Portfolio 422
*Horst Samulowitz, Chandra Reddy, Ashish Sabharwal, and
Meinolf Sellmann*

Scarab: A Rapid Prototyping Tool for SAT-Based Constraint
Programming Systems 429
Takehide Soh, Naoyuki Tamura, and Mutsunori Banbara

Author Index 437