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■ Contents

Preface	
<i>Roland H.C. Yap</i>	0:ix–0:x
Senior Program Committee	
.....	0:xi
Program Committee	
.....	0:xii
Additional Reviewers	
.....	0:xiii
Authors	
.....	0:xv–0:xx

Invited Talks

Beyond Optimal Solutions for Real-World Problems	
<i>Maria García de la Banda</i>	1:1–1:4
A Tale of Two Cities: Teaching CP with Story-Telling	
<i>Jimmy H.M. Lee</i>	2:1–2:1
The CP-SAT-LP Solver	
<i>Laurent Perron, Frédéric Didier, and Steven Gay</i>	3:1–3:2
Coupling CP with Deep Learning for Molecular Design and SARS-CoV2 Variants Exploration	
<i>Thomas Schiex</i>	4:1–4:3
CP Solver Design for Maximum CPU Utilization	
<i>Petr Vilím</i>	5:1–5:1

Regular Papers

Optimization of Short-Term Underground Mine Planning Using Constraint Programming	
<i>Younes Aalian, Gilles Pesant, and Michel Gamache</i>	6:1–6:16
Exploiting Configurations of MaxSAT Solvers	
<i>Josep Alòs, Carlos Ansótegui, Josep M. Salvía, and Eduard Torres</i>	7:1–7:16
Symmetries for Cube-And-Conquer in Finite Model Finding	
<i>João Araújo, Chaiwah Chow, and Mikoláš Janota</i>	8:1–8:19
Guiding Backtrack Search by Tracking Variables During Constraint Propagation	
<i>Gilles Audemard, Christophe Lecoutre, and Charles Prud'homme</i>	9:1–9:17
Incremental Constrained Clustering by Minimal Weighted Modification	
<i>Aymeric Beauchamp, Thi-Bich-Hanh Dao, Samir Loudni, and Christel Vrain</i>	10:1–10:22



Simplifying Step-Wise Explanation Sequences <i>Ignace Bleukx, Jo Devriendt, Emilio Gamba, Bart Bogaerts, and Tias Guns</i>	11:1–11:20
Towards More Efficient Local Search for Pseudo-Boolean Optimization <i>Yi Chu, Shaowei Cai, Chuan Luo, Zhendong Lei, and Cong Peng</i>	12:1–12:18
Boosting Decision Diagram-Based Branch-And-Bound by Pre-Solving with Aggregate Dynamic Programming <i>Vianney Coppé, Xavier Gillard, and Pierre Schaus</i>	13:1–13:17
Fast Matrix Multiplication Without Tears: A Constraint Programming Approach <i>Arnaud Deza, Chang Liu, Pashootan Vaezipoor, and Elias B. Khalil</i>	14:1–14:15
Probabilistic Inference by Projected Weighted Model Counting on Horn Clauses <i>Alexandre Dubray, Pierre Schaus, and Siegfried Nijssen</i>	15:1–15:17
A CP Approach for the Liner Shipping Network Design Problem <i>Yousra El Ghazi, Djamel Habet, and Cyril Terrioux</i>	16:1–16:21
Optimization Models for Pickup-And-Delivery Problems with Reconfigurable Capacities <i>Arnoosh Golestanian, Giovanni Lo Bianco, Chengyu Tao, and J. Christopher Beck</i>	17:1–17:17
Preprocessing in SAT-Based Multi-Objective Combinatorial Optimization <i>Christoph Jabs, Jeremias Berg, Hannes Ihalainen, and Matti Järvisalo</i>	18:1–18:20
An Efficient Constraint Programming Approach to Preemptive Job Shop Scheduling <i>Carla Juvin, Emmanuel Hebrard, Laurent Houssin, and Pierre Lopez</i>	19:1–19:16
Horizontally Elastic Edge Finder Rule for Cumulative Constraint Based on Slack and Density <i>Roger Kameugne, Séverine Fetgo Betmbe, Thierry Noulamo, and Clémentin Tayou Djamegni</i>	20:1–20:17
Exploring Hydrogen Supply/Demand Networks: Modeller and Domain Expert Views <i>Matthias Klapperstueck, Frits de Nijs, Ilankaikone Senthoooran, Jack Lee-Kopij, Maria Garcia de la Banda, and Michael Wybrow</i>	21:1–21:18
Binary Constraint Trees and Structured Decomposability <i>Petr Kučera</i>	22:1–22:19
Large Neighborhood Beam Search for Domain-Independent Dynamic Programming <i>Ryo Kuroiwa and J. Christopher Beck</i>	23:1–23:22
MDD Archive for Boosting the Pareto Constraint <i>Steve Malalel, Arnaud Malapert, Marie Pelleau, and Jean-Charles Régim</i>	24:1–24:15
Learning a Generic Value-Selection Heuristic Inside a Constraint Programming Solver <i>Tom Marty, Tristan François, Pierre Tessier, Louis Gautier, Louis-Martin Rousseau, and Quentin Cappart</i>	25:1–25:19

Proof Logging for Smart Extensional Constraints <i>Matthew J. McIlree and Ciaran McCreesh</i>	26:1–26:17
Improving Conflict Analysis in MIP Solvers by Pseudo-Boolean Reasoning <i>Gioni Mezi, Timo Berthold, Ambros Gleixner, and Jakob Nordström</i>	27:1–27:19
Using Canonical Codes to Efficiently Solve the Benzenoid Generation Problem with Constraint Programming <i>Xiao Peng and Christine Solnon</i>	28:1–28:17
Distribution Optimization in Constraint Programming <i>Guillaume Perez, Gaël Glorian, Wijnand Suijlen, and Arnaud Lallouet</i>	29:1–29:19
The p-Dispersion Problem with Distance Constraints <i>Nikolaos Ploskas, Kostas Stergiou, and Dimosthenis C. Tsouros</i>	30:1–30:18
Partially Preemptive Multi Skill/Mode Resource-Constrained Project Scheduling with Generalized Precedence Relations and Calendars <i>Guillaume Pováda, Nahum Alvarez, and Christian Artigues</i>	31:1–31:21
Assembly Line Preliminary Design Optimization for an Aircraft <i>Stéphanie Roussel, Thomas Polacsek, and Anouck Chan</i>	32:1–32:19
SAT-Based Learning of Compact Binary Decision Diagrams for Classification <i>Pouya Shati, Eldan Cohen, and Sheila McIlraith</i>	33:1–33:19
Constraint Programming with External Worst-Case Traversal Time Analysis <i>Pierre Talbot, Tingting Hu, and Nicolas Navet</i>	34:1–34:20
Efficient Enumeration of Fixed Points in Complex Boolean Networks Using Answer Set Programming <i>Van-Giang Trinh, Belaid Benhamou, and Sylvain Soliman</i>	35:1–35:19
Guided Bottom-Up Interactive Constraint Acquisition <i>Dimosthenis C. Tsouros, Senne Berden, and Tias Guns</i>	36:1–36:20
Addressing Problem Drift in UNHCR Fund Allocation <i>Sameela Suharshani Wijesundara, Maria Garcia de la Banda, and Guido Tack</i> ...	37:1–37:18
From Formal Boosted Tree Explanations to Interpretable Rule Sets <i>Jinqiang Yu, Alexey Ignatiev, and Peter J. Stuckey</i>	38:1–38:21
Searching for Smallest Universal Graphs and Tournaments with SAT <i>Tianwei Zhang and Stefan Szeider</i>	39:1–39:20
FastMapSVM for Predicting CSP Satisfiability <i>Kezin Zheng, Ang Li, Han Zhang, and T. K. Satish Kumar</i>	40:1–40:17
Improving Local Search for Pseudo Boolean Optimization by Fragile Scoring Function and Deep Optimization <i>Wenbo Zhou, Yujiao Zhao, Yiyuan Wang, Shaowei Cai, Shimao Wang, Xinyu Wang, and Minghao Yin</i>	41:1–41:18

Short Papers

Predict-Then-Optimise Strategies for Water Flow Control <i>Vincent Barbosa Vaz, James Bailey, Christopher Leckie, and Peter J. Stuckey</i>	42:1–42:10
Constraint Programming Models for Depth-Optimal Qubit Assignment and SWAP-Based Routing <i>Kyle E. C. Booth</i>	43:1–43:10
Constraint Model for the Satellite Image Mosaic Selection Problem <i>Manuel Combarro Simón, Pierre Talbot, Grégoire Danoy, Jędrzej Musiał, Mohammed Alswaitti, and Pascal Bouvry</i>	44:1–44:15
Partitioning a Map into Homogeneous Contiguous Regions: A Branch-And-Bound Approach Using Decision Diagrams <i>Nicolas Golenvoux, Xavier Gillard, Siegfried Nijssen, and Pierre Schaus</i>	45:1–45:10
Constraint Programming to Improve Hub Utilization in Autonomous Transfer Hub Networks <i>Chungjae Lee, Wirattawut Boonbandansook, Vahid Eghbal Akhlaghi, Kevin Dalmeijer, and Pascal Van Hentenryck</i>	46:1–46:11
A New Approach to Finding $2 \times n$ Partially Spatially Balanced Latin Rectangles <i>Renee Mirka, Laura Greenstreet, Marc Grimson, and Carla P. Gomes</i>	47:1–47:11
Proven Optimally-Balanced Latin Rectangles with SAT <i>Vaidyanathan Peruvemba Ramaswamy and Stefan Szeider</i>	48:1–48:10
Enumerative Level-2 Solution Counting for Quantified Boolean Formulas <i>Andreas Plank, Sibylle Möhle, and Martina Seidl</i>	49:1–49:10

■ Preface

This volume contains the proceedings of the *29th International Conference on Principles and Practice of Constraint Programming (CP 2023)*, which was held in Toronto, Canada, August 27–31, 2023. More details of the conference can be found at <https://cp2023.a4cp.org/index.html>.

Held annually, CP is the premier international conference on constraint programming. CP is concerned with all aspects of computing with constraints, including, but not restricted to: theory, algorithms, environments, languages, models, systems, and applications.

As is customary for CP, papers could be submitted to multiple tracks. CP 2023 had the following tracks:

- | | |
|-------------------------------|-----------------------|
| ■ Technical Track | Chair: Roland Yap |
| ■ Applications Track | Chair: Helmut Simonis |
| ■ Machine Learning Track | Chair: Tias Guns |
| ■ Operations Research Track | Chair: Gilles Pesant |
| ■ Trustworthy Decision Making | Chair: Peter Stuckey |

In addition, there was a SAT Fast Track to synchronize with the SAT 2023 conference.

A total of 109 papers (excluding abstracts) were submitted to these tracks. Authors could submit either a full paper with a maximum length of 15 pages (references excluded) or a short paper with a maximum length of 8 pages (references excluded). Each paper was reviewed with a senior Program Committee together with Program Committees and additional reviewers recruited by the Program Committee. The track chairs managed the review process for their respective tracks. All papers had at least three reviews. Authors had the opportunity to answer questions from reviewers in an author response phase. Based on extensive discussion on the papers from reviewers, program and senior program committee, and track chairs taking into account reviews and author responses, a total of 44 papers were accepted. A meta-review was prepared for each paper by a senior program committee member summarizing the decision with suggestions to authors. The Senior Program Committee and Chairs nominated papers for the best paper prizes. A select committee from the Senior Program Committee together with the Program Chair awarded the Best Paper Prize to Mathew J. McIlree and Ciaran McCreesh for “Proof Logging for Smart Extensional Constraints” and the best application paper prize to Matthias Klapperstueck, Frits De Nijs, Ilankaikone Senthooran, Jack Lee-Kopij, Maria Garcia De La Banda and Michael Wybrow for “Exploring Hydrogen Supply/Demand Networks: Modeller and Domain Expert views”.

In addition to the paper tracks, the conference had a number of satellite events. Lars Kotthoff (University of Wyoming) organized the workshops on the first day of the conference with five workshops. The doctoral program, also on the first day, was organized by Xavier Gillard (Université catholique de Louvain) and forms an important part of the conference to give students an environment to present their research with discussions with senior researchers, and networking activities combined with a poster presentation during the conference reception. CP features two tutorials organized by Emir Demirović (TU Delft) on the timely topics of explainable constraint solving and machine learning for solvers. The conference program featured four invited talks given by Maria Garcia de la Banda, Jimmy Lee, Laurent Perron, Thomas Schiex and Petr Vilím. The talks were selected to showcase a range of research in CP and include constraint solver design, designing proteins with applications to the SARS-Cov2 virus, teaching of CP, and making optimisation technology more usable.



Many people have contributed to make the conference a success. The conference would not be possible for the hard work of the authors in submitting high-quality scientific work which forms the basis of the conference proceedings. The program and senior committee together with track chairs had the challenging tasks of selecting papers as well as providing authors with suggestions on paper improvements. A special thanks goes to Andre Cire and Eldan Cohen, the conference and local chairs respectively, both at the University of Toronto, who made CP possible in Toronto. In addition to the above mentioned conference organizers, I would like to thank the following co-organizers. The diversity, equity, and inclusion (DEI) chairs, Maria Andreina Francisco Rodriguez (Uppsala University) and Andrea Rendl (Satalia). Arvind Raghunathan (Mitsubishi Electric Research Laboratories), the sponsorship chair. Anna Latour (National University of Singapore) was instrumental in managing the website and also handled the publicity and social media.

I would also like to thank the Association for Constraint Programming (ACP) which makes the CP conference series possible. The conference is grateful to the ACP president, David Bergman (University of Connecticut) and the ACP conference coordinator, H el ene Verhaeghe (KU Leuven) for their support and feedback.

The conference acknowledges the generous support of all our sponsors:

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July 2023, Singapore

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