29th International Conference on Principles and Practice of Constraint Programming

CP 2023, August 27–31, 2023, Toronto, Canada

Edited by
Roland H. C. Yap
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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 Klapplerstueck, 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 García 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.
Preface

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, Hélène 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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