

# Preface

The International Workshop on Description Logics is the main annual event of the Description Logic research community. It is the forum at which those interested in description logics, from both academia and industry, meet to discuss ideas, share information, and compare experiences. The workshop explicitly welcomes submissions from researchers that are new to the area and provides quality feedback via peer-reviewing, while at the same time being of an inclusive nature with a very high acceptance rate. There are only informal (electronic) proceedings and inclusion of a paper in these proceedings should not preclude its publication in other venues. Further information can be found on the DL web pages at <http://dl.kr.org/>.


This volume contains the papers presented at the 35th International Workshop on Description Logics (DL 2022) held in Haifa, Israel, August 7–10, 2022. It was part of the Federated Logic Conference (FLoC 2022), together with a number of other relevant events including the 19th International Conference on Principles of Knowledge Representation and Reasoning (KR 2022) and the 20th International Workshop on Non-Monotonic Reasoning (NMR 2022). For the first time after three years, the waning COVID-19 pandemic allowed us to hold DL 2022 as a purely in-person event, after one purely virtual and one hybrid edition.

We received 38 submissions, of which 4 were later withdrawn for varying reasons. Out of the remaining 34 submissions, 18 were accepted as regular papers, 15 were accepted as extended abstracts, and one submission was rejected. In one case acceptance was conditional, the conditions of which were later met by the authors. Every submission received at least three reviews provided by 71 Program Committee members and 1 external reviewer.

In conjunction with FLoC, DL 2022 offered exciting and diverse program, which in addition to the technical papers, included six keynotes by leading experts:

- *Hybrid Answer Set Programming: Opportunities and Challenges*, Thomas Eiter, TU Wien, Austria (Joint DL+NMR invited talk)
- *SMT-based Verification of Distributed Network Control Planes*, Aarti Gupta, Princeton University, NJ, US (FLoC plenary talk)
- *Harnessing the Power of Formal Verification for the \$Trillion Chip Design Industry*, Ziyad Hanna, Cadence Design Systems, CA, US & University of Oxford, UK (FLoC Keynote)
- *Rectifying Classifiers*, Pierre Marquis, CRIL-CNRS/Université d'Artois, Lens, France (Joint DL+NMR invited talk)
- *Charting the Borderland – Decidability in Description Logics and Beyond*, Sebastian Rudolph, TU Dresden, Germany (DL invited talk)
- *Knowledge Extraction Based on Forgetting and Subontology Generation*, Renate A. Schmidt, University of Manchester, UK (DL invited talk)

---

 DL 2022: 35th International Workshop on Description Logics, August 7–10, 2022, Haifa, Israel



© 2022 Copyright for this preface by the editors. Use permitted under Creative Commons License Attribution 4.0 International (CC BY 4.0).

 CEUR Workshop Proceedings (CEUR-WS.org)

The audiences of DL and NMR 2022 were able to enjoy an exceptional cross-pollination opportunity in form of four joint DL+NMR program sessions which together with the two joint invited talks included presentations of 3 NMR papers and 6 DL papers. We would like to express special thanks to the co-chairs Giovanni Casini and Laura Giordano of NMR 2022 for their interest in such an extended program collaboration with this year's DL.

It is a tradition of DL workshops to award a prize for the best contribution that was primarily produced by a student or by students. This year's Best Student Contribution Award was presented to Fajar Haifani for the paper "*Connection-Minimal Abduction in EL via Translation to FOL*" co-authored by Patrick Koopmann, Sophie Tourret, and Christoph Weidenbach. This year the winner was chosen from 22 student papers. The choice was made at the discretion of the co-chairs carefully taking into account the nominations received from the reviewers of each paper and their actual reviews.

We are indebted to the Program Committee and the additional reviewers for their invaluable efforts in providing helpful and informative reviews for all submissions in a timely fashion. For advice and support we thank the members of the DL Steering Committee. We are thankful to our publicity co-chairs and to the local organization of FLoC 2022. The organization and reviewing process was simplified a lot by the EasyChair conference management system and we thank CEUR for publishing these proceedings. The workshop would not be possible without the submissions and participation of all the people that make DL such a great community.

We are grateful to the Artificial Intelligence Journal and the European Association for Artificial Intelligence for committing generous funds for students and invited speakers, and to the Foundation for Principles of Knowledge Representation and Reasoning (KR Inc.) for their continuous and long-term support of DL Workshops.

August 2022

Ofer Arieli (Local Chair)

Martin Homola (Program Committee Co-Chair)

Jean Christoph Jung (General Chair)

Marie-Laure Mugnier (Program Committee Co-Chair)

# Organization

## General Chair

Jean Christoph Jung                      University of Hildesheim, Germany

## Program Committee Chairs

Martin Homola                              Comenius University in Bratislava, Slovakia  
Marie-Laure Mugnier                      University of Montpellier & Inria, France

## Local Chair

Ofer Arieli                                      Academic College of Tel-Aviv, Israel

## Publicity Chairs

Ján Klůka                                        Comenius University in Bratislava, Slovakia  
Júlia Pukancová                              Comenius University in Bratislava, Slovakia

## Program Committee

Alessandro Artale                              Free University of Bolzano-Bozen, Italy  
Franz Baader                                    TU Dresden, Germany  
Bartosz Bednarczyk                            TU Dresden, Germany & University of Wrocław, Poland  
Meghyn Bienvenu                                CNRS & University of Bordeaux, France  
Alex Borgida                                      Rutgers University, NJ, US  
Stefan Borgwardt                                TU Dresden, Germany  
Elena Botoeva                                    University of Kent, UK  
Camille Bourgaux                                CNRS & École normale supérieure - PSL, Paris, France  
Diego Calvanese                                 Free University of Bozen-Bolzano, Italy  
David Carral                                        Inria & University of Montpellier, France  
Giovanni Casini                                  ISTI-CNR, Pisa, Italy  
Jieying Chen                                        University of Oslo, Norway  
Gianluca Cima                                    CNRS & University of Bordeaux, France  
Roberto Confalonieri                            Free University of Bozen-Bolzano, Italy  
Bernardo Cuenca Grau                            University of Oxford, UK  
Warren Del-Pinto                                 University of Manchester, UK  
Oliver Fernandez Gil                            TU Dresden, Germany  
Laura Giordano                                    DISIT, Università del Piemonte Orientale, Italy  
Birte Glimm                                        Ulm University, Germany  
Ricardo Guimarães                                University of Bergen, Norway  
Victor Gutierrez-Basulto                        Cardiff University, UK  
Yazmin A. Ibanez-Garcia                        Cardiff University, UK  
Yevgeny Kazakov                                Ulm University, Germany  
C. Maria Keet                                        University of Cape Town, South Africa  
Stanislav Kikot                                    Birkbeck College, University of London, UK

Boris Konev	University of Liverpool, UK
Roman Kontchakov	Birkbeck College, University of London, UK
Patrick Koopmann	TU Dresden, Germany
Egor V. Kostylev	University of Oslo, Norway
Alisa Kovtunova	TU Dresden, Germany
Francesco Kriegel	TU Dresden, Germany
Markus Krötzsch	TU Dresden, Germany
Oliver Kutz	Free University of Bozen-Bolzano, Italy
Ján Kluka	Comenius University in Bratislava, Slovakia
Chan Le Duc	University Sorbonne Paris Nord, France
Domenico Lembo	Sapienza University of Rome, Italy
Carsten Lutz	University of Bremen, Germany
Thomas Meyer	University of Cape Town & CAIR, South Africa
Barbara Morawska	Ahmedabad University, India
Filip Murlak	University of Warsaw, Poland
Ralf Möller	University of Lübeck, Germany
Linh Anh Nguyen	University of Warsaw, Poland
Magdalena Ortiz	TU Wien, Austria
Ana Ozaki	University of Bergen, Norway
Jeff Pan	University of Edinburgh, UK
Fabio Papacchini	Lancaster University Leipzig, Germany
Peter Patel-Schneider	Xerox PARC, Palo Alto, CA, US
Rafael Peñaloza	University of Milano-Bicocca, Italy
Andreas Pieris	University of Edinburgh, UK
Antonella Poggi	Sapienza University of Rome, Italy
Denis Ponomaryov	Ershov Institute of Informatics Systems & Novosibirsk State University, Russia
Júlia Pukancová	Comenius University in Bratislava, Slovakia
Guilin Qi	Southeast University, Nanjing, China
Riccardo Rosati	Sapienza University of Rome, Italy
Sebastian Rudolph	TU Dresden, Germany
Vladislav Ryzhikov	Free University of Bozen-Bolzano, Italy
Uli Sattler	University of Manchester, UK
Stefan Schlobach	Vrije Universiteit Amsterdam, Netherlands
Bariş Sertkaya	Frankfurt University of Applied Sciences
Mantas Simkus	TU Wien, Austria
Viorica Sofronie-Stokkermans	University Koblenz and Landau, Germany
Umberto Straccia	ISTI-CNR, Italy
David Toman	University of Waterloo, UK
Nicolas Troquard	Free University of Bozen-Bolzano, Italy
Anni-Yasmin Turhan	TU Dresden, Germany
Ivan Varzinczak	CNRS & Université d'Artois, Lens, France
Przemysław Andrzej Wałęga	University of Oxford, UK
Grant Weddell	University of Waterloo, UK

Frank Wolter  
Guohui Xiao  
Michael Zakharyashev

University of Liverpool, UK  
KRDB Research Centre, Free University of Bozen-Bolzano, Italy  
Birkbeck College, University of London, UK

### **Additional Reviewers**

Fred Freitas

Universidade Federal de Pernambuco, Brazil

### **Steering Committee**

Ofer Arieli  
Alessandro Artale  
Stefan Borgwardt  
Victor Gutierrez Basulto  
Martin Homola  
Jean Christoph Jung  
Marie-Laure Mugnier  
Ana Ozaki  
Renate Schmidt  
Mantas Simkus

Academic College of Tel-Aviv, Israel  
University of Bozen-Bolzano, Italy  
TU Dresden, Germany  
Cardiff University, UK  
University of Bratislava, Slovakia  
University of Hildesheim, Germany  
University of Montpellier & Inria, France  
University of Bergen, Norway  
University of Manchester, UK  
TU Wien, Austria