Preface of the Joint Proceedings of the Workshops and Doctoral Consortium of the 41th International Conference on Logic Programming

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Abstract

This volume collects the papers accepted for publication at six workshops and the Doctoral Consortium associated with the 41th International Conference on Logic Programming (ICLP 2025). The events took place in Rende, Italy, on September 9-13, 2025. This volume contains a total of 40 papers, 19 of which were presented at the workshops and 21 at the Doctoral Consortium. Of the 19 workshop papers, 8 were long papers, another 8 were short papers, and 3 were abstracts corresponding to invited talks. The Doctoral Consortium papers were all short papers.

1. Experimental Evaluation of Algorithms for Solving Problems with Combinatorial Explosion

32nd Workshop on Experimental Evaluation of Algorithms for Solving Problems with Combinatorial Explosion (RCRA 2025)

Many problems in Artificial Intelligence show an exponential explosion of the search space, and are addressed with algorithms that aim at an effective exploration. Research in Artificial Intelligence has focused on experimental evaluation of algorithms, and the implementation of systems for solving such problems.

The scope of the 32nd RCRA workshop on *Experimental Evaluation of Algorithms for Solving Problems with Combinatorial Explosion* (RCRA 2025) is fostering the cross-fertilisation of ideas from different areas, analyzing and comparing models and algorithms from an experimental viewpoint.

Out of 7 papers presented at RCRA 2025, this volume contains 1 regular paper and 5 short papers.

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2. Answer Set Programming and Other Computing Paradigms

18th Workshop on Answer Set Programming and Other Computing Paradigms (ASPOCP 2025)

The *Workshop on Answer Set Programming and Other Computing Paradigms* (ASPOCP) has been running for almost twenty years, providing a well-established forum with a strong program committee and active community. ASPOCP covers ASP and its connections to other paradigms such as SAT, SMT, QBF, FO(ID), and constraint programming, as well as applications and extensions.

The eighteenth edition of ASPOCP comprises a total of six works, consisting of four long papers, one extended abstract from an already published paper and an extended abstract corresponding to the invited talk.

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3. Probabilistic Logic Programming

12th Workshop on Probabilistic Logic Programming (PLP 2025)

The PLP workshop encompasses all aspects of combining logic, algorithms, programming, and probability. The 2025 edition consisted of three papers, two already published and one full paper, plus an invited talk.

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- Joost Vennekens, *KU Leuven*, Belgium
- Felix Weitkämper, *University of München*, Germany
- Riccardo Zese, *University of Ferrara*, Italy

4. Prolog Education

3rd Prolog Education Workshop (PEG 2025)

This part of the volume contains the papers presented at the Third Prolog Education Workshop, PEG 2025, one of the initiatives of the Prolog Education Group 2.0 (PEG 2.0). We received 9 submissions out of which 6 papers were accepted as regular papers, and 2 as short papers. In addition to the technical papers, the workshop included two invited talks: Verónica Dahl (Simon Fraser University, Canada) delivered "PEG 2.0: Future-gazing through a socio-linguistic and historical lens" and Theresa Swift (Universidade Nova de Lisboa, Portugal) presented "LLM-Assisted Education for a Low-Resource Logic Programming Language".

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- Jan Wielemaker, *Vrije Universiteit Amsterdam*
- Adam Wyner, *Swansea University*

5. Logic Programming and Legal Reasoning

1st Workshop on Logic Programming and Legal Reasoning (LPLR 2025)

This workshop explores the representation of legal rules and the automation of reasoning over them through logic programming. Laws and regulations are complex, large-scale, and central to most human activities, making computational support essential for tasks such as compliance checking, decision support, and normative reasoning. By combining perspectives from law and computer science, the event provides a forum to discuss advances in theory and applications. The program featured two long papers and one short paper, highlighting recent research results and fostering dialogue on innovative approaches in this interdisciplinary and rapidly evolving area.

Chairs

- Ilias Tachmazidis, *University of Huddersfield*, UK
- Sotiris Batsakis, *University of Huddersfield*, UK
- Livio Robaldo, *University of Swansea*, UK
- Emmanuel Papadakis, *University of Huddersfield*, UK
- Adam Wyner, *University of Swansea*, UK

6. Cognitive Architectures for Robotics: LLMs and Logic in Action

1st Workshop on Cognitive Architectures for Robotics: LLMs and Logic in Action (CARLA 2025)

The *1st Workshop on Cognitive Architectures for Robotics: LLMs and Logic in Action* (CARLA) explored the integration of large language models, symbolic reasoning, and logic-based systems to advance intelligent robotics. Emphasizing hybrid approaches that combine the adaptability of data-driven models with the precision of symbolic solvers, CARLA featured three short papers, including a pre-published. These contributions addressed iterative ASP pipelines for robotic game playing, Prolog-based knowledge and planning frameworks informed by LLMs, and applications of ASP and PDDL+ in urban traffic control. Together, they demonstrated the potential of cognitive architectures for enabling robust, explainable, and adaptable robotic behavior in complex domains.

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7. Doctoral Consortium

21st Doctoral Consortium on Logic Programming

The Doctoral Consortium (DC) on Logic Programming provides students and early-career researchers with the opportunity to present and discuss their research directions and obtain feedback from both peers and experts in the field. The DC is designed for students at any stage of their doctoral studies, or who are about to start it. Applicants conduct research in areas related to logic and constraint programming, where the topics of interest include (but are not limited to): Foundations, Languages, Declarative Programming, Implementation, Applications, Related Paradigms and Synergies. The 21st edition of the DC comprises a total of 21 short papers.

Chairs

- Alice Tarzariol, *University of Klagenfurt*, Austria
- Markus Hecher, *University of Artois, CNRS, Computer Science Research Center of Lens (CRIL)*, France

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