

Proceedings of the 41th Italian Conference on Computational Logic (CILC 2026)

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Proceedings of the 41th Italian Conference on Computational Logic (CILC 2026)

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Preface

The Italian Conference on Computational Logic (CILC) is the annual meeting of the Italian Association for Logic Programming (GULP – Gruppo Ricercatori e Utenti Logic Programming). Since its first edition, held in Genoa in 1986, the conference has served as a key forum for researchers, developers, and users to meet and exchange ideas and experiences in the field of computational logic. Over the years, the conference has broadened its scope from logic programming to the wider area of computational logic, including declarative programming, constraint programming, knowledge representation and reasoning, and applications in neighbouring fields such as artificial intelligence.

The 41st Italian Conference on Computational Logic (CILC 2026) was held at the University of Ferrara from 23 to 25 June 2026. The conference venue was Palazzo Bevilacqua Costabili, located in the historic city centre of Ferrara and hosting the Department of Economics and Management of the University of Ferrara.

The conference featured presentations by invited speakers and contributed papers concerning all aspects of computational logic. As stated in the Call for Papers, the topics of interest included:

- Abductive Logic Programming
- Analysis, transformation, validation and verification of programs
- Answer Set Programming
- Applications of Computational Logic and systems
- Approximate Reasoning
- Automated Theorem Proving
- Computational Argumentation
- Computational Logic and formal methods in Artificial Intelligence
- Computational Logic for concurrency, coordination, mobility, agents and objects
- Data mining and Data integration
- Deductive databases
- Extensions and integrations of declarative programming paradigms
- Implementations and benchmarking of Computational Logic systems
- Inductive Logic Programming
- Knowledge representation and extraction
- Logic programming, constraint programming and other declarative programming paradigms

CILC 2026: The 41st Italian Conference on Computational Logic, June 23-25, 2026, Ferrara, Italy

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- Model-based Reasoning
- Model Checking
- Multi-agent systems
- Natural language processing
- Non-Monotonic Reasoning
- Planning and scheduling
- Probabilistic Logic Programming
- Semantic web
- Temporal logics
- Tools and environments for program development
- Treatment of uncertain or incomplete knowledge

The Call for Papers solicited two types of submissions: full papers and short papers, the latter ones suitable for presenting work in progress and general overviews of research projects. Papers already published in journals or in proceedings of other conferences could be submitted for presentation at the venue, but they are not included in this volume.

The important dates for paper submissions were:

- Paper submission: April 26, 2026, extended to May 6, 2026
- Acceptance notification: May 23, 2026, extended to May 25, 2026
- Final version: June 13, 2026
- Conference: June 23–25, 2026

All accepted submissions underwent peer-review. Each original contribution was evaluated by at least two anonymous reviewers from the Program Committee to verify its scientific quality and relevance to the aims and scope of the conference. Non-original contributions, consisting of papers already published elsewhere, were reviewed only to verify their relevance.

All 35 submissions were selected by the Program Committee. Of these, 23 are included in this volume – 16 as regular papers and 7 as short papers – while 12 were already published papers and this volume includes only references to the original publications at the end of the table of contents.

From all the original submitted papers, the program chairs selected the top 5 in terms of average reviewer votes. Afterwards, the program committee members that were not authors of these 5 papers, and did not declare a conflict of interest, were asked to vote for the best paper overall. The Best Paper Award went to Enrico Santi, Agostino Dovier, and Andrea Formisano for their work titled “*CUD@ILP: a GPU based, massively scalable Inductive Learning Algorithm*” [1].

This year marked the introduction of the 10-Year Test of Time Award, similar in spirit to the analogous award of ICLP: we awarded the paper submitted to CILC 2016, and published in the conference journal special issue that has collected the highest number of citations. The award was given to the paper by Laura Giordano and Daniele Theseider Dupré, “*Defeasible Reasoning in $\mathcal{SROEL}$: from Rational Entailment to Rational Closure*” [2].

The conference also hosted the ceremony of the GULP Ph.D. Thesis Award, honoring the best doctoral dissertation in logic programming defended in Italy between the 1st of June 2022 and the 31st of May 2025. The winning thesis was by Antonio Ielo [3] on Applications of Answer Set Programming to Linear Temporal Logic over Finite Traces. Special mentions were awarded to the theses by Alice Bizzarri [4] and Giuseppe Mazzotta [5].

The conference featured two invited talks by distinguished researchers:

- *From Whispers to Structures: Computational Argumentation in Politics*, by Serena Villata (CNRS, Sophia Antipolis, France)
- *Can Requirements Make Machine Learning Safer? From constrained prediction to structured generation*, by Eleonora Giunchiglia (Imperial College London, UK)

In addition, the program included a tutorial:

- *Efficient Evaluation of Logic Programs*, by Giuseppe Mazzotta and Francesco Ricca (University of Calabria)

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- Fabrizio Riguzzi, University of Ferrara
- Marco Gavanelli, University of Ferrara
- Michela Vespa, University of Ferrara

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We are grateful to the Department of Economics and Management for welcoming the conference at Palazzo Bevilacqua Costabili.

Our sincere thanks go to all the authors of the submitted papers, the invited speakers, the tutorial speakers and the members of the Program Committee for their invaluable contributions. We also wish to express our gratitude to GULP – Gruppo Ricercatori e Utenti Logic Programming – and to all members of the GULP Board for their ongoing support and fruitful suggestions.

Finally, a special thanks goes to all the attendees who made CILC 2026 a lively forum for discussions on current research topics and challenges in computational logic.

Damiano Azzolini
Alessandro Bertagnon
Marco Gavanelli
Fabrizio Riguzzi
Michela Vespa

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