

## RuleML+RR (Rules and Reasoning Symposium) 2018 Report

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- This article reports on the 2nd International Joint Conference on Rules and Reasoning, which was held at the University of Luxembourg from September 18-21, 2018.

The 2nd International Joint Conference on Rules and Reasoning (RuleML+RR 2018<sup>1</sup>) was held on 18-21 September, 2018, at the Belval campus of the University of Luxembourg. The conference was organised as one of several collocated events of the Luxembourg Logic for AI Summit 2018 (LuxLogAI 2018<sup>2</sup>) held from September 17-26, 2018. LuxLogAI was substantially supported by the Luxembourg National Research Fund (FNR)<sup>3</sup>.

As a novelty this year, there was a highly successful collocation between RuleML+RR 2018 and GCAI 2018 (4th Global Conference on Artificial Intelligence). A total number of 224 participants attended LuxLogAI. The Summit was thus a great success.

RuleML+RR 2018 itself provided a rich programme, with five keynote talks, two tutorials, a regular program together with several sub-events: an industry track, the 12th International Rule Challenge 2018, a doctoral consortium and a poster session. A total number of thirty-three papers were submitted from which ten full papers and twelve technical communications were selected. The regular papers were grouped in seven sessions: description logic; KR systems and applications; ontological reasoning; benchmarking; reasoning with modalities; complex event processing; rule system and applications. Presentation abstracts and a selection of slides are available on-line.<sup>4</sup> Information on the various LuxLogAI conference proceedings, including the Springer LNCS proceedings of RuleML+RR 2018, are available on the conference website.<sup>5</sup>

The five keynote presenters at RuleML+RR 2018 were: Hannah Bast (University of Freiburg) presenting “Efficient and Convenient Search on Very Large Knowledge Bases”; Georg Gottlob (University of Oxford) presenting “Vadalog: A Language and System for Knowledge Graphs”; Guido Governatori (Data61/CSIRO) presenting “Modal Rules: Extending Defeasible Logic with Modal Operators”; Valeria de Paiva (Nuance Communications) presenting “Bridging Trouble”; Philipp Slusallek (Saarland University/DFKI) presenting “Understanding the World with AI: Training and Validating Autonomous Systems Using Synthetic Data”. The two tutorials were: “LegalRuleML”, by Guido Governatori (Data61/CSIRO) and Monica Palmirani (Bologna University), and “Logic and Smart Contracts”, by Bob Kowalski (Imperial College London), Miguel Calejo (logicalcontracts.com) and Fariba Sadri (Imperial College London)

The RuleML+RR best paper award went to Stathis Delivorias, Michel Leclere, Marie-Laure Mugnier and Federico Ulliana, for their paper entitled “On the k-Boundedness for Existential Rules”. The RuleML+RR Best rule challenge demo went to Theodoros Mitsikas, Sofia Almpani, Petros Stefaneas, Panayiotis Frangos and Iakovos Ouranos for their presentation entitled “Formalizing Air Traffic Control Regulations in PSOA RuleML”. The RuleML+RR best poster

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<sup>1</sup> <http://2018.ruleml-rr.org/>

<sup>2</sup> <https://luxlogai.uni.lu/>

<sup>3</sup> RESCOM/18/12426287

<sup>4</sup> <https://easychair.org/smart-program/LuxLogAI2018/>

<sup>5</sup> <https://luxlogai.uni.lu/proceedings/>

award went to Lukas Grätz, for his contribution entitled “Concepts as Modalities in Description Logics”. A selection of the papers with the highest reviewing scores were invited to submit an extended version of their papers to the Special issue on “Logic Rules and Reasoning” of the Journal of Theory and Practice of Logic Programming (TLP).

Like in previous years, the event was followed by the 14th Reasoning Web Summer School (RW 2018<sup>6</sup>), held on 22-26 September 2018. This year a special emphasis was put on applications of machine learning to the Web semantics.

We would like to thank our sponsors, in particular FNR, whose contributions allowed us to cover the costs of student participants and invited/keynote speakers. We would also like to thank all the people who have contributed to the success of this year’s special RuleML+RR 2018 and colocated events, including the organization chairs, PC members, authors, speakers, and participants.

The RuleML+RR community will again join forces with the GCAI community for a joint conference, the Bolzano Rules and Artificial Intelligence Summit (BRAIn 2019)<sup>7</sup>, to be held on 16-24 September 2019 in Bozen-Bolzano, Italy.

**Christoph Benz Müller** was a program co-chair of RuleML+RR. He is a professor at Freie Universität Berlin, Germany.

**Xavier Parent** was general chair of RuleML+RR. He is a researcher at the University of Luxembourg.

**Francesco Ricca** was a program co-chair of RuleML+RR. He is a professor at the University of Calabria, Italy.

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<sup>6</sup> <http://2018.ruleml-rr.org/rw.html>

<sup>7</sup> <https://brain2019.inf.unibz.it/>