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Annie Foret · Reinhard Muskens
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Formal Grammar

22nd International Conference, FG 2017
Toulouse, France, July 22–23, 2017
Revised Selected Papers

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Preface

The Formal Grammar conference series (FG) provides a forum for the presentation of new and original research on formal grammar, mathematical linguistics, and the application of formal and mathematical methods to the study of natural language. Themes of interest include, but are not limited to:

- Formal and computational phonology, morphology, syntax, semantics, and pragmatics
- Model-theoretic and proof-theoretic methods in linguistics
- Logical aspects of linguistic structure
- Constraint-based and resource-sensitive approaches to grammar
- Learnability of formal grammar
- Integration of stochastic and symbolic models of grammar
- Foundational, methodological, and architectural issues in grammar and linguistics
- Mathematical foundations of statistical approaches to linguistic analysis

Previous FG meetings were held in Barcelona (1995), Prague (1996), Aix-en-Provence (1997), Saarbrücken (1998), Utrecht (1999), Helsinki (2001), Trento (2002), Vienna (2003), Nancy (2004), Edinburgh (2005), Malaga (2006), Dublin (2007), Hamburg (2008), Bordeaux (2009), Copenhagen (2010), Ljubljana (2011), Opole (2012), Düsseldorf (2013), Tübingen (2014), Barcelona (2015), and Bolzano-Bozen (2016).

FG 2017, the 22nd conference on Formal Grammar, was held in Toulouse during July 22–23, 2017. The conference consisted in two invited talks, by Jakub Szymanik and Michael Benedikt, and nine contributed papers selected from 14 submissions. The present volume includes the contributed papers.

We would like to thank the people who made the 22nd FG conference possible: the invited speakers, the members of the Program Committee, and the organizers of ESLLI 2017, with which the conference was colocated.

July 2017

Annie Foret
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Abstracts of Invited Talks

Comparing Relational Vocabularies

Michael Benedikt

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A relational schema is a set of metadata describing relational instances, corresponding to tabular data. Schema information includes the names of relations, their arities, and optionally integrity constraints that capture some of the semantics of the data. In this talk I will outline research concerning the “expressiveness” of relational schemas. What does it mean to say that one schema subsumes the “information content” of another? How can one verify a schema-level relationship algorithmically? I will give a quick look at approaches to the problem proposed in database theory, including some work dating to the late 1970’s and my own recent work in the area.

Hopefully the ideas proposed for comparing schemas for structured data can be of interest in comparing the expressiveness of vocabularies in other contexts.

From Grammar to Meaning

Jakub Szymanik

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I will discuss how different grammatical formalisms can be combined with logic and cognitive modeling techniques to account for the meaning of natural language. In a slogan, if you take care of the syntax of representational system, its semantics will take care of itself. I will survey some recent work on the meaning of quantifiers, reasoning, learnability, and evolution of language. The common thread of all the models will be taking the idea of logico-syntactic properties of thought (Language of Thought, LoT) seriously to account for linguistic and cognitive phenomena, showing how grammar can be driving the semantic engine.

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