

DMR 2023

**The 4th International Workshop
on Designing Meaning Representations**

Proceedings of the Workshop

June 20 - 23, 2023 Nancy, France

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ISBN: 978-1-959429-65-4

Preface

While deep learning methods have led to many breakthroughs in practical natural language applications, most notably in Machine Translation, Machine Reading, Question Answering, Recognizing Textual Entailment, and so on, there is still a sense among many NLP researchers that we have a long way to go before we can develop systems that can actually "understand" human language and explain the decisions they make. Indeed, "understanding" natural language entails many different human-like capabilities, and they include but are not limited to the ability to track entities in a text, understand the relations between these entities, track events and their participants, understand how events unfold in time, and distinguish events that have actually happened from events that are planned or intended, are uncertain, or did not happen at all. "Understanding" also entails human-like ability to perform qualitative and quantitative reasoning, possibly with knowledge acquired about the real world. We believe a critical step in achieving natural language understanding is to design meaning representations for text that have the necessary meaning "ingredients" that help us achieve these capabilities.

This workshop intends to bring together researchers who are producers and consumers of meaning representations and through their interaction gain a deeper understanding of the key elements of meaning representations that are the most valuable to the NLP community. The workshop will also provide an opportunity for meaning representation researchers to critically examine existing frameworks with the goal of using their findings to inform the design of next-generation meaning representations. A third goal of the workshop is to explore opportunities and identify challenges in the design and use of meaning representations in multilingual settings. A final goal of the workshop is to understand the relationship between distributed meaning representations trained on large data sets using network models and the symbolic meaning representations that are carefully designed and annotated by CL researchers and gain a deeper understanding of areas where each type of meaning representation is the most effective, and how they can be linked.

These proceedings include papers presented at the 4th Designing Meaning Representation workshop on June 20, 2023, held in conjunction with the 15th International Conference on Computational Semantics (IWCS 2023) in Nancy, France. DMR4 received 20 submissions, out of which 13 papers have been accepted to be presented at the workshop as talks. The papers address topics ranging from meaning representation methodologies to issues in meaning representation parsing, to the adaptation of meaning representations to specific applications and domains, to cross-linguistic issues in meaning representation. In addition to oral paper presentations, DMR4 also featured invited talks by Alain Polguère (Université de Lorraine) and Juri Opitz (Heidelberg University), entitled "A graph approach to representing lexical semantics" and "Metrics of Graph-Based Meaning Representations with Applications from Parsing Evaluation to Explainable NLG Evaluation and Semantic Search", respectively.

We thank our organizing committee for its continuing organization of the DMR workshops, and the IWCS 2023 workshop chairs for their support. We are grateful to all of the authors for submitting their papers to the workshop and our program committee members for their dedication and their thoughtful reviews. Finally, we thank our invited speakers for making the workshop a uniquely valuable discussion of linguistic annotation research.

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Nianwen Xue, Brandeis University

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Invited Speakers

Alain Polguère, University of Lorraine
Juri Opitz, Heidelberg University

Publicity Chairs

Kristine Stenzel, University of Colorado Boulder
Haibo Sun, Brandeis University

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Workshop Program

- 9:00–9:50** *Invited Talk by Alain Polguère: A graph approach to representing lexical semantics*
- 9:50–10:10 *Structural and Global Features for Comparing Semantic Representation Formalisms*
Siyana Pavlova, Maxime Amblard and Bruno Guillaume
- 10:10–10:30 *Evaluation of Universal Semantic Representation (USR)*
Kirti Garg, Soma Paul, Sukhada Sukhada, Fatema Bawahir and Riya Kumari
- 10:30–11:00** **break**
- 11:00–11:20 *Comparing UMR and Cross-lingual Adaptations of AMR*
Shira Wein and Julia Bonn
- 11:20–11:40 *Abstract Meaning Representation for Grounded Human-Robot Communication*
Claire Bonial, Julie Foresta, Nicholas C. Fung, Cory J. Hayes, Philip Osteen, Jacob Arkin, Benned Hedegaard and Thomas Howard
- 11:40–11:55 *Annotating Situated Actions in Dialogue*
Christopher Tam, Richard Brutti, Kenneth Lai and James Pustejovsky
- 11:55–12:15 *From Sentence to Action: Splitting AMR Graphs for Recipe Instructions*
Katharina Stein, Lucia Donatelli and Alexander Koller
- 12:15–12:30 *Meaning Representation of English Prepositional Phrase Roles: SNACS Super-senses vs. Tectogrammatical Functors*
Wesley Scivetti and Nathan Schneider

No Day Set (continued)

12:30–14:00 lunch

14:00–14:50 **Invited Talk by Juri Optiz: Metrics of Graph-Based Meaning Representations with Applications from Parsing Evaluation to Explainable NLG Evaluation and Semantic Search**

14:50–15:10 *QA-Adj: Adding Adjectives to QA-based Semantics*
Leon Pesahov, Ayal Klein and Ido Dagan

15:10–15:30 *The long and the short of it: DRASTIC, a semantically annotated dataset containing sentences of more natural length*
Dag Haug, Jamie Yates Findlay and Ahmet Yildirim

15:30–16:00 break

16:00–16:20 *UMR Annotation of Multiword Expressions*
Julia Bonn, Andrew Cowell, Jan Hajič, Alexis Palmer, Martha Palmer, James Pustejovsky, Haibo Sun, Zdenka Uresova, Shira Wein, Nianwen Xue and Jin Zhao

16:20–16:40 *MR4AP: Meaning Representation for Application Purposes*
Bastien Giordano and Cédric Lopez

16:40–17:00 *Claim Extraction via Subgraph Matching over Modal and Syntactic Dependencies*
Benjamin Rozonoyer, David Zajic, Ilana Heintz and Michael Selvaggio

17:00–17:20 *Which Argumentative Aspects of Hate Speech in Social Media can be reliably identified?*
Damián Ariel Furman, Pablo Torres, José A. Rodríguez, Laura Alonso Alemany, Diego Letzen and Vanina Martínez