

SemBEaR 2017

**Computational Semantics
Beyond Events and Roles**

Proceedings of the Workshop

April 4, 2017
Valencia, Spain

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Preface

During the last decade, semantic representation of text has focused on extracting propositional meaning, i.e., capturing who does what to whom, how, when and where. Several corpora are available, and existing tools extract this kind of knowledge, e.g., role labelers trained on PropBank or NomBank. Nevertheless, most current representations tend to disregard significant meaning encoded in human language. For example, sentences 1-2 below share the same argument structure regarding verb contracted, but do not convey the same overall meaning. While in the first example John contracting the disease is factual, in the second it is not:

1. John likely contracted the disease when a mouse bit him in the Adirondacks.
2. John never contracted the disease although a mouse bit him in the Adirondacks.

In order to truly capture what these sentences mean, aspects of meaning that go beyond identifying events and their roles (e.g., uncertainty, negation and attribution) must be taken into account. The Workshop on Computational Semantics Beyond Events and Roles focuses on a broad range of semantic phenomena that lays beyond the identification and linking of eventualities and their semantic arguments with relations such as *agent* (who), *theme* (what) and *location* (where), here so called SemBEaR.

SemBEaR is pervasive in human language and, while studied from a theoretical perspective, computational models are still scarce. Humans use language to describe events that do not correlate with a real situation in the world. They express desires, intentions and plans, and also discuss events that did not happen or are unlikely to happen. Events are often described hypothetically, and speculation can be used to explain why something is a certain way without a strong commitment. Humans do not always (want to) tell the (whole) truth: they may use deception to hide lies. Devices such as irony and sarcasm are employed to play with words so that what is said is not what is meant. Finally, humans not only describe their personal views or experiences, but also attribute statements to others. These phenomena are not exclusive of opinionated texts. They are ubiquitous in language, including scientific works and news as exemplified below:

- Female leaders might have avoided world wars.
- Political experts speculate that Donald Trump’s meltdown is beginning.
- Infected people typically don’t become contagious until they develop symptoms.
- Medical personnel can be infected if they don’t use protective gear, such as surgical masks and gloves.
- You can only catch Ebola from coming into direct contact with the bodily fluids of someone who has the disease and is showing symptoms.
- We have never seen a human virus change the way it is transmitted.
- The government did not release the files until 1998.

In its 2017 edition, the Workshop on Computational Semantics Beyond Events and Roles (SemBEaR) brought together scientists working on these kind of semantic phenomena within computational semantics. The workshop was collocated with the 15th Conference of the European Chapter of the Association for Computational Linguistics (EACL 2017) in Valencia, Spain, and took place on April 4, 2017. The program consisted of oral presentations and an invited talk by Johan Bos (University of Groningen, Netherlands). SemBEaR 2017 is a follow-up of four previous events: the 2010 Negation and Speculation in Natural Language Processing Workshop (NeSp-NLP 2010), and the Extra-Propositional Aspects of Meaning (ExProM) in Computational Linguistics Workshops held in 2012, 2015 and 2016.

We would like to thank the authors of papers for their interesting contributions, the members of the program committee for their insightful reviews, and Johan Bos for being the invited speaker. We are also grateful to the National Science Foundation for a grant to support student travel to the workshop.

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Erik Velldal - University of Oslo
Lilja Øvrelid - University of Oslo

Invited Speaker:

Johan Bos, University of Groningen

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Workshop Program

Tuesday April 4, 2017

- 9:20–9:30 Opening Remarks
- 9:30–10:00 *Understanding the Semantics of Narratives of Interpersonal Violence through Reader Annotations and Physiological Reactions*
Alexander Calderwood, Elizabeth A. Pruett, Raymond Ptucha, Christopher Homan and Cecilia Ovesdotter Alm
- 10:00–10:20 *Intension, Attitude, and Tense Annotation in a High-Fidelity Semantic Representation*
Gene Kim and Lenhart Schubert
- 10:20–10:40 *Towards a lexicon of event-selecting predicates for a French FactBank*
Ingrid Falk and Fabienne Martin
- 10:40–11:00 Discussion Session 1
- 11:00–11:30 Coffee Break
- 11:30–12:00 *Universal Dependencies to Logical Form with Negation Scope*
Federico Fancellu, Siva Reddy, Adam Lopez and Bonnie Webber
- Invited talk*
- 12:00–13:00 *Meaning Banking beyond Events and Roles*
Johan Bos
- 13:00–14:30 Lunch
- 14:30–15:00 *The Scope and Focus of Negation: A Complete Annotation Framework for Italian*
Begoña Altuna, Anne-Lyse Minard and Manuela Speranza
- 15:00–15:30 *Annotation of negation in the IULA Spanish Clinical Record Corpus*
Montserrat Marimon, Jorge Vivaldi and Núria Bel
- 15:30–15:50 *Annotating Negation in Spanish Clinical Texts*
Noa Cruz, Roser Morante, Manuel J. Maña López, Jacinto Mata Vázquez and Carlos L. Parra Calderón
- 15:50–16:00 Discussion Session 2
- 16:00–16:30 Coffee Break
- 16:30–16:50 *Neural Networks for Negation Cue Detection in Chinese*
Hangfeng He, Federico Fancellu and Bonnie Webber
- 16:50–17:10 *An open-source tool for negation detection: a maximum-margin approach*
Martine Enger, Erik Velldal and Lilja Øvrelid
- 17:10–18:00 Discussion Session 3