## NAACL HLT 2016

# The 4th Workshop on Events: Definition, Detection, Coreference, and Representation

**Proceedings of the Workshop** 

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### The Fourth Events Workshop

The **Events Workshop** is devoted to bringing together scholars interested in the definition, representation, and detection of events, event coreference, and relationships between events. After previous successful workshops co-located with NAACL 2013, ACL 2014, and NAACL 2015, the 4th Events workshop will take place on June 17 in San Diego and is co-located with NAACL-HLT 2016. We hope that this workshop will continue the tradition of having discussion-oriented workshop focused on bringing together different perspectives on these issues.

Event definition and detection has a number of large divisions, largely due to differences in which events are annotated. Many annotations only consider events within a particular domain or ontology, as in LDC's ACE and Machine Reading event annotation, or define other conditions (such as only looking at realis events). We hope to foster conversation between those dealing with "all events" approaches (where event detection has approached human performance in the recent Clinical Tempeval evaluations (Bethard et al. 2015)) and those dealing with added constraints added by specific ontologies or domains.

Dramatic strides also have been taken in event coreference. Event coreference has been driven by the event coreference annotations of ACE and Ontonotes, and the cross-document annotations of the ECB (Bejan and Harabagiu (2010, extended by Lee et al. (2012) and Cybulska and Vossen (2014)), but large questions remain, particularly with regard to how complicated phenomena related to coreference should be treated, such as bridging anaphora and subevent relationships between events (Poesio and Artstein 2005; 2008, Recasens et al. 2011, Hovy et al. 2013, Araki et al. 2014), and with regard to methodologies for developing large, high-quality corpora of event coreference.

Similarly, the relationships between events (as with temporal or causal relations), and the relationships between events and larger structures (such as scripts, timelines, or larger events) are important factors in event understanding. TimeML (Pustejovsky, et. al., 2010), or temporal relation annotation, has held numerous Semeval tasks regarding detection of temporal relations. Other relations between events, such as causation (Bethard and Martin 2008; Mizra et al. 2014) or contradiction detection (De Marneffe et al. 2008), have been studied. Building consensus regarding how relations such as causation should be represented, annotated and detection is an ongoing frontier or research.

The seven papers accepted for the workshop illustrate this wide range of work now being done on events. The papers cover a range of topics; from proposals of new tasks and corpora detecting highly relevant events, to proposed annotations of internal representation of event aspect or event-related features, to annotation of causal and temporal relations between events, to works introducing, analyzing, or discussing the evaluation of event and event coreference corpora. This workshop continues the format of previous Events workshops by having a poster session to showcase these projects from around the world.

This iteration of the workshop will have a focus on discussions between different approaches to events. We are honored to have the participation of multiple eminent speakers who can represent those different approaches: Dan Roth, Eduard Hovy, Collin Baker, Sergei Nirenburg and Marjorie McShane.

#### **Organizers:**

Martha Palmer, University of Colorado Boulder Tim O'Gorman, University of Colorado Boulder Teruko Mitamura, Carnegie Mellon University Eduard Hovy, Carnegie Mellon University

#### **Invited Speakers:**

Dan Roth, University of Illinois Urbana-Champaign Collin Baker, University of California Berkeley Sergei Nirenburg, Rensselaer Polytechnic Institute Marjorie McShane, Rensselaer Polytechnic Institute Eduard Hovy, Carnegie Mellon University

#### **Program Committee:**

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### **Conference Program**

#### Friday, June 17, 2016

- 9:00–10:30 Events and Ontologies: A debate between Collin Baker, Sergei Nirenburg and Marjorie McShane
- 11:00–12:30 Trusting human or automated analysis: A debate between Dan Roth and Eduard Hovy
- 1:00–2:30 Poster Session

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*CaTeRS: Causal and Temporal Relation Scheme for Semantic Annotation of Event Structures* 

Nasrin Mostafazadeh, Alyson Grealish, Nathanael Chambers, James Allen and Lucy Vanderwende

- 2:30–3:30 Comparison of event annotations on shared task (discussion led by Martha Palmer)
- 4:00–5:00 Event Sequencing, Annotation and Evaluation (discussion led by Teruko Mitamura)