Ontology-based Extraction of Transcription Regulation Events

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Abstract: I present an on-going work on extraction of transcription regulation events from text by using an ontology which plays a central role in integrating information from different sources. The events of transcription regulation are expressed in the literature with a high degree of compositeness. They have elements such as event types, participants, and attributes. These elements are associated with different keywords, which should be merged into a shared structure. I use the Gene Regulation Ontology (GRO) for the integration purpose. It contains not only biological concepts related to transcription regulation, but also inference rules for deduction of specific event types and attributes from semantics of sentences. It is also used to represent the semantics of linguistic patterns that are used to identify the semantics of sentences. The ontology provides the formality which is required for the extraction of specific and well-defined events as those of transcription regulation.