



**Special Track on**

## ***AI, Cognitive Semantics, Computational Linguistics, and Logics***

Traditionally, the study of computational linguistics (CL) has been performed by computer scientists specializing in the application of computers to the processing of a natural language. Today, computational linguists often work as members of interdisciplinary teams that include linguists (specifically trained in linguistics), language experts (persons with some level of ability in the languages relevant to a given project), and computer scientists.

CL must become more connected to the cognitive sciences through the development of cognitive semantic theories. CL is connected to AI through the development of methods and algorithms for all aspects of language analysis and their computer implementation. We can see language analysis divided into two parts: theoretical analysis and application. The theoretical aspect includes standard areas studied in linguistics: semantics, syntax, and morphology. Semantic theories guide the development of syntactic theories and morphology. Semantic theories can be based on some specific features of computation, but at the present stage of research, there is a gap between linguistic analysis and computer applications in two senses: there are many computer applications without linguistic theoretical support and, conversely, there are a number of theoretical methods with no computer implementation. Another epistemological feature of the present stage of research is that most computational linguistic methods are focused on statistical approaches. The advantage of these methods is that they are easy to apply but the drawback is that they distort the qualitative and genuine cognitive features of language.

The goal of this track is to provide an international forum for discussing the latest approaches in subfields of CL related to cognitive semantics and to AI. Its aim is also to exchange ideas concerning the way of building efficient systems of language analysis based on cognitive semantic models. Its mission is to prove the increase of interaction between modeling in cognitive semantics and computer implementation: a good system analysis requires a good semantic model as framework. On the other hand, the need for semantic models other than those based on statistical methods has to be proved. This track is intended to present works ranking from logical and mathematical models in syntax and semantics as foundations of the design and analysis to natural language processing systems.