Preface

There have been spectacular advances in many tasks of natural language processing (NLP) by making use of artificial intelligence (AI) techniques such as machine/deep learning (M/DL). However, these improvements do not affect all NLP tasks, specifically those that require deep linguistic knowledge, natural language understanding, semantic inference and reasoning. In hybrid architectures, M/DL approaches co-exist with symbol-manipulation as symbolic models seem to play an important role in inference and reasoning about abstract knowledge.

We call hybrid intelligence (HI) those architectures that integrate symbolic information into statis-tical or neural-based models so as to allow machines to learn new knowledge in a more 'intelligent' way by endowing them with common sense and deep understanding. The main aim of HI in NLP is to inject deep and structured linguistic knowledge (not just annotated text) into M/DL models to develop hybrid architectures for NLP tasks. In more general terms, the concept of HI consists of combining machine and human intelligence to overcome the shortcomings of existing AI systems. Abstract and structured knowledge from specialists can be used not just as training data to learn uninterpretable black-box models, but also to design the models themselves by making them more transparent, easy to interpret by humans, and more efficient for specific purposes.

HI4NLP workshop has provided a forum for discussing about exciting research on HI methodology for NLP tasks, with a representative example of the most recent work on this field. The resulting program consists of 6 papers accepted for presentation over 9 submissions. In addition, two keynote talks have been included, by Cesar Gonzalez-Perez (Incipit, CSIC) and Carlos Gómez-Rodríguez (Universidade da Coruña).

In this edition, two prizes have been awarded. The best paper award was to *TALES: Test Set of Portuguese Lexical-Semantic Relations for Assessing Word Embeddings* by Hugo Gonçalo Oiveira, Tiago Sousa and Ana Alves; the second-best paper prize was to *The Semantics of Historical Knowledge. Labelling Strategies for Interdisciplinary and Digital Research in History* by Esther Travé Allepuz, Pablo Del Fresno Bernal, Alfred Mauri Martí and Sonia Medina Gordo. Both papers will receive and invitation to submit an extended version to prestigious international journals.

HI4NLP organisers,
Pablo Gamallo, CiTIUS, Univ. de Santiago de Compostela
Marcos Garcia, LyS, Univ. da Corunha
Patricia Martín-Rodilla, IRLab, Univ. da Corunha
Martín Pereira-Fariña, Faculty of Philosophy, Univ. de Santiago de Compostela

Program Committee