



Associazione Italiana di  
Linguistica Computazionale



## Preface

On behalf of the Programme Committee, a very warm welcome to the Fourth Italian Conference on Computational Linguistics (CLiC-it). This edition of the conference is held in the wonderful city of Rome! The conference is locally organised by the University of Rome “Tor Vergata”, and is hosted at the headquarters of the Italian Research Council (CNR). The CLiC-it conference series is an initiative of the Italian Association for Computational Linguistics (AILC) which, after four years of activity, has clearly established itself as the premier national forum for research and development in the fields of Computational Linguistics and Natural Language Processing, where leading researchers and practitioners from academia and industry meet to share their research results, experiences, and challenges.

This year CLiC-it received 72 submissions, against 64 submissions in 2015 and 69 submissions in 2016. The Programme Committee worked very hard to ensure that every paper received at least two careful and fair reviews. This process finally led to the acceptance of 21 papers for oral presentation and 37 papers for poster presentation, with a global acceptance rate of 80% motivated by the inclusive spirit of the conference and which is in line with the previous editions (81% in 2015 and 80% in 2016). The conference is also receiving considerable attention from the international community, with 21 (29%) submissions this year showing at least one author affiliated to a foreign institution. This amounts to a total of 40 authors over 186 (21%) affiliated to 11 foreign countries: Croatia, Czech Republic, France, Germany, Netherlands, Romania, Spain, Sweden, Switzerland, United Kingdom, and United States. Regardless of the format of presentation, all accepted papers are allocated 6 pages in the proceedings, available as open access publication.

In line with previous editions, the conference is organised around 12 thematic areas. This is a slight reduction with respect to the 13 thematic areas in the 2016 edition of CLiC-it: we have merged the area “information retrieval and question answering” and the area “information extraction, entity linking and (linked) open data”. This year we have also implemented a considerable reduction on the number of area chairs, moving from 30 area chairs in 2016, with two or three area chairs per area, to 16 area chairs in 2017, with one or two area chairs per area, on the basis of the expected number of submissions. On a retrospect, the upper bound of two area chairs per area proved to be a reasonable one, given that the most populated thematic area received 13 submissions.

In addition to the technical programme, this year we are honoured to have as invited speakers such internationally recognised researchers as Marco Baroni (Facebook Artificial Intelligence Research), Yoav Goldberg (Bar-Ilan University), and Rada Mihalcea (University of Michigan). We are very grateful to Marco, Rada and Yoav for agreeing to share with the Italian community their knowledge and expertise on key topics in computational linguistics.

The programme also includes two panels. One focuses on teaching NLP both at the bachelor and master levels in Italy and also Europe, and involves panelists who are lecturers at Italian Universities and teach students with very different backgrounds. In the context of this panel we will also discuss the results of a survey launched in the months prior to CLiC-it 2017 and aimed at obtaining a panoramic overview of all Computational Linguistics and Natural Language Processing-related courses taught at

Italian institutions. The second panel revolves around the work that is being done within the AI task force launched by the Italian Government in order to better understand and explore the opportunities offered by Artificial Intelligence towards public services. We would like to thank warmly all the panelists who accepted to be involved in the two events.

Traditionally, around one half of the participants at CLiC-it are young postdocs, PhD students, and even undergraduate students. This year we want to pay some special attention to these people by featuring three novel, outreach activities that we would like to highlight here. The first activity is intended to expose to excellent research our young students who might not be able to travel every year to top-notch conferences. We have thus started a special track called “Research Communications”, encouraging authors of articles published in 2017 at outstanding international conferences in our field to submit short abstracts of their work. Research communications are not published in the proceedings, but are orally presented within a dedicated session at the conference, in order to enforce dissemination of excellence in research. Out of 7 submissions, we selected 5 excellent works that will be presented at the conference. As a second activity, intended to recognise excellence in student research, this year we are introducing a prize for the best Master Thesis (Laurea Magistrale) in Computational Linguistics, submitted at an Italian University. This special prize is also endorsed by AILC. We have received 10 candidate theses, which have been evaluated by a special jury. The prize will be awarded at the conference, by a member of the jury, accompanied by an oral presentation of the thesis by the student. The third initiative is the introduction of two tutorials, one at the beginning and one at the end of the conference. They are complementary inasmuch one (“Stretching the Meaning of Words: Inputs for Lexical Resources and Lexical Semantic Models”, by Elisabetta Ježek) is targeted to those researchers in NLP who might be less accustomed to lexical theories, while the other one (“Implementing dynamic neural networks for language with DyNet”, by Yoav Goldberg) is targeted to those who want to catch up with state-of-the-art neural approaches, with an applied flavour. We are extremely grateful to Elisabetta and Yoav who have agreed to teach these tutorials in the context of CLiC-it 2017. And to particularly highlight the importance that such opportunities have for young researchers, we are proud of having made the tutorials’ attendance free for all registered students.

Even if CLiC-it is a medium size conference, pulling together this meeting requires major effort on the part of many people. This conference would not have been possible without the dedication, devotion and hard work of the members of the Local Organising Committee, who volunteered their time and energies to contribute to the success of the event. We are also extremely grateful to our Programme Committee members for producing 207 detailed and insightful reviews, as well as to the Area Chairs who assisted the Programme Chairs in their duties. All these people are named in the following pages. We also want to acknowledge the support from endorsing organisations and institutions and from all of our sponsors, who generously provided funds and services that are crucial for the realisation of this event. Special thanks are also due to the University of Rome “Tor Vergata” and to the Italian Research Council for their support in the organisation of the event and for hosting the conference. Finally, we want to acknowledge the EasyChair infrastructure for the management of the review process and the support in the collection of the camera-ready papers for the composition of the conference proceedings.

Please join us at CLiC-it 2017 to interact with experts from academia and industry on topics related to Computational Linguistics and Natural Language Processing and to experience and share new research findings, best practices, state-of-the-art systems and applications. We hope that this year’s conference is intellectually stimulating and that you take home many new ideas and techniques that will help extend your own research.

Roberto Basili, Malvina Nissim, Giorgio Satta  
CLiC-it 2017 General Chairs

# Organising Committee

## Conference and Programme Chairs

- Roberto Basili, University of Rome “Tor Vergata”
- Malvina Nissim, University of Groningen
- Giorgio Satta, University of Padua

## Area Chairs

- Vito Pirrelli, Istituto di Linguistica Computazionale “A. Zampolli”, CNR, Pisa (Cognitive Modelling of Language Processing and Psycholinguistics)
- Marco De Gemmis, University of Bari, and Fabrizio Sebastiani, Istituto di Scienza e Tecnologie dell’Informazione “A. Faedo”, CNR, Pisa (Information Extraction, Information Retrieval and Question Answering)
- Claudia Soria, Istituto di Linguistica Computazionale “A. Zampolli”, CNR, Pisa, and Tommaso Caselli, University of Groningen (Language Resources)
- Elisabetta Ježek, University of Pavia (Linguistic Issues in Computational Linguistics and in Natural Language Processing)
- Alessandro Moschitti, University of Trento (Machine Learning and Language Processing)
- Marcello Federico, Fondazione Bruno Kessler, Trento (Machine Translation and Multilinguality)
- Felice Dell’Orletta, Istituto di Linguistica Computazionale “A. Zampolli”, CNR, Pisa (Morphology and Syntax Processing)
- Rachele Sprugnoli, Fondazione Bruno Kessler, Trento (Natural Language Processing for Digital Humanities)
- Valerio Basile, University of Rome “La Sapienza”, and Nicole Novielli, University of Bari (Natural Language Processing for Web and Social Media)
- Viviana Patti, University of Turin (Pragmatics and Creativity)
- Giovanni Semeraro, University of Bari, and Alessandro Lenci, University of Pisa (Semantics and Knowledge Acquisition)
- Fabio Tamburini, University of Bologna (Spoken Language Processing and Automatic Speech Understanding)

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- Giuseppe Castellucci, Almagest
- Andrea Vanzo, University of Rome “La Sapienza”
- Simone Filice, University of Rome “Tor Vergata”
- Paola Cibello, University of Rome “Tor Vergata”

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