

## **Special Session on Natural Language Processing in Artificial Intelligence - NLPinAI 2018**

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**Date :** Jan 16, 2018 - 09:00 AM

**Event URL :** <http://www.sfbayeventslist.com/events/special-session-on-natural-language-processing-in-artificial-intelligence->

**Organizer :** NYMT

**Venue :**

**Location :** Vila Galã© Santa CruzRua So Fernando, 59100-173 Santa CruzPortugal, Santa Cruz, Portugal, US, ZIP: 59100-173

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## **Special Session on Natural Language Processing in Artificial Intelligence - NLPinAI 2018**

**16 - 18 January, 2018 - Funchal, Madeira, Portugal**

**Within the 10th International Conference on Agents and Artificial Intelligence - ICAART 2018**

### **SCOPE**

Computational and technological developments that incorporate natural language are proliferating. Adequate coverage encounters difficult problems related to partiality, underspecification, and context-dependency, which are signature features of information in nature and natural languages. Furthermore, agents (humans or computational systems) are information conveyors, interpreters, or participate as components of informational content.

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Generally, language processing depends on agents' knowledge, reasoning, perspectives, and interactions.

The session covers theoretical work, advanced applications, approaches, and techniques for computational models of information and its presentation by language (artificial, human, or natural in other ways). The goal is to promote intelligent natural language processing and related models of thought, mental states, reasoning, and other cognitive processes.

### **Topics:**

We invite contributions relevant to the following topics, without limiting to them:

- Type theories for applications to language and information processing
- Computational grammar
- Computational syntax
- Computational semantics of natural languages
- Computational syntax-semantics interface
- Interfaces between morphology, lexicon, syntax, semantics, speech, text, pragmatics
- Parsing
- Multilingual processing
- Large-scale grammars of natural languages
- Models of computation and algorithms for natural language processing
- Computational models of partiality, underspecification, and context-dependency
- Models of situations, contexts, and agents, for applications to language processing
- Information about space and time in language models and processing
- Models of computation and algorithms for linguistics
- Data science in language processing
- Machine learning of language
- Interdisciplinary methods
- Integration of formal, computational, model theoretic, graphical, diagrammatic, statistical, and other related methods
- Logic for information extraction or expression in written and spoken language
- Language processing based on biological fundamentals of information and languages
- Computational neuroscience of language

### **IMPORTANT DATES**

Paper Submission: November 8, 2017 (expired)

Authors Notification: November 21, 2017

Camera Ready and Registration: November 29, 2017

### **CO-CHAIRS**

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**Roussanka Loukanova**

Stockholm University  
Sweden

## Brief Bio

Roussanka Loukanova has master degrees in mathematics from Sofia University, and computer science from Indiana University. She has PhD degree in mathematics from Moscow State University. She has been teaching topics in the areas of mathematics, logic, computability, computer science, and computational linguistics, at Sofia University, Indiana University, University of Minnesota, Illinois Wesleyan University, and Uppsala University. Her research is in the areas of logic, computability, type theories, languages, and information theory. Her major contributions are in recursion theory, computational syntax, semantics, and syntax-semantics interfaces of formal and natural languages. She is a researcher at Stockholm University, Sweden.

**Aarne Ranta**

University of Gothenburg  
Sweden

## Brief Bio

Aarne Ranta is Professor of Computer Science at the University of Gothenburg as well as CEO and co-founder of Digital Grammars AB. Ranta's research was initially focused on constructive type theory and its applications to natural language semantics. It evolved gradually to computational applications, leading to the implementation of GF (Grammatical Framework). The mission of GF is to formalize the grammars of the world and make them available for computer applications. It enables the processing of natural language with the same precision as programming languages are processed in compilers.

**SPECIAL SESSION PROGRAM COMMITTEE**

Varol Akman, Bilkent University, Turkey

Krasimir Angelov, University of Gothenburg, Sweden

Leonor Becerra Bonache, Université Jean Monnet, France

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Jørgen Villadsen, Technical University of Denmark, Denmark  
Elie Wardini, Stockholm University, Sweden

## **SCOPE**

The purpose of the International Conference on Agents and Artificial Intelligence is to bring together researchers, engineers and practitioners interested in the theory and applications in the areas of Agents and Artificial Intelligence. Two simultaneous related tracks will be held, covering both applications and current research work. One track focuses on Agents, Multi-Agent Systems and Software Platforms, Distributed Problem Solving and Distributed AI in general. The other track focuses mainly on Artificial Intelligence, Knowledge Representation, Planning, Learning, Scheduling, Perception Reactive AI Systems, and Evolutionary Computing and other topics related to Intelligent Systems and Computational Intelligence.

A substantial amount of research work is ongoing in these knowledge areas, in an attempt to discover appropriate theories and paradigms to use in real-world applications. Much of this important work is therefore theoretical in nature. However there is nothing as practical as a good theory, as Boltzman said many years ago, and some theories have indeed made their way into practice. Informatics applications are pervasive in many areas of Artificial Intelligence and Distributed AI, including Agents and Multi-Agent Systems; This conference intends to emphasize this connection, therefore, authors are invited to highlight the benefits of Information Technology (IT) in these areas. Ideas on how to solve problems using agents and artificial intelligence, both in R&D and industrial applications, are welcome. Papers describing advanced prototypes, systems, tools and techniques and general survey papers indicating future directions are also encouraged. Papers describing original work are invited in any of the areas listed below. Accepted papers, presented at the conference by one of the authors, will be published in the Proceedings of ICAART with an ISBN. Acceptance will be based on quality, relevance and originality. Both full research reports and work-in-progress reports are welcome. There will be both oral and poster sessions.

Special sessions, dedicated to case-studies and commercial presentations, as well as tutorials dedicated to technical/scientific topics are also envisaged: companies interested in presenting their products/methodologies or researchers interested in holding a tutorial are invited to contact the conference secretariat.

## **CONFERENCE AREAS**

Each of these topic areas is expanded below but the sub-topics list is not exhaustive. Papers may address one or more of the listed sub-topics, although authors should not feel limited by them. Unlisted but related sub-topics are also acceptable, provided they fit in one of the following main topic areas:

1. AGENTS
2. ARTIFICIAL INTELLIGENCE

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Semantic Web  
Multi-Agent Systems  
Distributed Problem Solving  
Agent Communication Languages  
Agent Models and Architectures  
Cooperation and Coordination  
Conversational Agents  
Negotiation and Interaction Protocols  
Programming Environments and Languages  
Task Planning and Execution  
Autonomous Systems  
Cognitive Robotics  
Group Decision Making  
Web Intelligence  
Agent Platforms and Interoperability  
Agent Oriented Software Engineering  
Simulation  
Economic Agent Models  
Mobile Agents  
Privacy, safety and security  
Collective Intelligence  
Physical Agents at Work  
Robot and Multi-robot Systems  
Self Organizing Systems  
Cloud Computing and Its Impact  
Intelligent Auctions and Markets  
Swarm Intelligence

## **AREA 2: ARTIFICIAL INTELLIGENCE**

Intelligent User Interfaces  
Bayesian Networks  
Soft Computing  
Neural Networks  
Natural Language Processing  
Machine Learning  
Planning and Scheduling  
Knowledge Representation and Reasoning  
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Ambient Intelligence  
AI and Creativity  
Evolutionary Computing  
Fuzzy Systems  
Knowledge-Based System  
Industrial applications of AI  
Hybrid Intelligent Systems  
Visualization  
Deep Learning

## **KEYNOTE SPEAKERS**

Luc Steels, ICREA, Institute of Evolutionary Biology (UPF-CSIC) Barcelona, Spain  
Virginia Dignum, Delft University of Technology, Netherlands  
Eduard Hovy, Carnegie Mellon University, United States  
Luís Antunes, Universidade de Lisboa, Portugal

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