



ISSN  
1351-3249

NATURAL

LANGUAGE

ENGINEERING

*Edited by*

*Ruslan Mitkov*

*John Tait*

*Branimir K. Boguraev*

VOLUME 25 PART 1 JANUARY 2019

**CAMBRIDGE**  
UNIVERSITY PRESS

*Natural Language Engineering* meets the needs of professionals and researchers working in all areas of automatic language processing, whether from the perspective of theoretical or corpus linguistics, translation, lexicography, computer science or engineering. Its aim is to bridge the gap between traditional computational linguistics research and the implementation of practical applications with potential real-world use. As well as publishing original research articles on a broad range of topics - from text analysis, machine translation, information retrieval, speech processing and generation to integrated systems and multi-modal interfaces - it also publishes special issues on specific natural language processing methods, tasks or applications. The journal welcomes survey papers describing the state of the art of a specific topic. The Journal of Natural Language Engineering also publishes the popular Industry Watch and Emerging Trends columns as well as book reviews.

---

## EDITORS

Ruslan Mitkov (Executive Editor), University of Wolverhampton, UK. Email: R.Mitkov@wlv.ac.uk

John I. Tait, johntait.net Ltd., UK. Email: john@johntait.net

Branimir K. Boguraev, IBM Thomas J. Watson Research Center, USA. Email: bran@us.ibm.com

---

## ASSOCIATE EDITOR

Diana Inkpen, University of Ottawa, Canada. Email: Diana.Inkpen@uottawa.ca

---

## BOOK REVIEW EDITOR

Diana Maynard, University of Sheffield, UK. Email: d.maynard@sheffield.ac.uk

---

## INDUSTRY WATCH EDITOR

Robert Dale, Language Technology Group, Australia. Email: rdale@language-technology.com

---

## EMERGING TRENDS EDITOR

Kenneth Church, Baidu, CA, USA. Email: kennethchurch@baidu.com

---

## FOUNDING EDITOR

Roberto Garigliano, SenseGraph Ltd., UK.

---

## EDITORIAL BOARD

Kevin Bretonnel Cohen, University of Colorado, USA

Ondřej Bojar, Charles University, Czech Republic

Gregory Grefenstette, Florida Institute for Human & Machine Cognition (IHMC), USA

Tracy Holloway King, A9 Amazon, USA

Sandra Kuebler, University of Indiana, USA

Lori Lamel, LIMSI, France

Suresh Manandhar, University of York, UK

Alessandro Moschitti, Amazon, USA

Preslav Nakov, Qatar Computing Research Institute, HBKU, Qatar

Vivi Nastase, University of Heidelberg, Germany

Roberto Navigli, Sapienza University of Rome, Italy

Kemal Oflazer, Carnegie Mellon University, Qatar

Constantin Orasan, University of Wolverhampton, UK

Sebastian Padó, University of Stuttgart, Germany

Simone Paolo Ponzetto, University of Mannheim, Germany

Nasredine Semmar, CEA LIST, France

Khalil Sima'an, University of Amsterdam, The Netherlands

Richard Sproat, Google, USA

Tomek Strzalkowski, University at Albany, USA

Maite Taboada, Simon Fraser University, Canada

Hwee Tou Ng, National University of Singapore, Singapore

Alfonso Ureña, University of Jaen, Spain

Aline Villavicencio, Federal University of Rio Grande do Sul, Brazil

and University of Essex, UK

Bonnie Webber, University of Edinburgh, UK

---

## EDITORIAL ASSISTANTS

Sandra Elfiky, University of Wolverhampton, UK

Anna Feherova, University of Wolverhampton, UK

April Harper, University of Wolverhampton, UK

Sara Moze, University of Wolverhampton, UK

Omid Rohanian, University of Wolverhampton, UK

Shiva Taslimipoor, University of Wolverhampton, UK

---