



**The 54th Annual Meeting of the  
Association for Computational Linguistics**

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## Preface: General Chair

In my welcome to participants in this year's conference handbook, I especially welcomed those for which it was their first ACL. I expressed the hope that the conference fulfilled their expectations and remained in their memory as a great start. Trying to imagine the first experience of a present-day ACL, the magnitude of the whole event may be a bit overwhelming - our field is on an expanding trajectory, and even a selection of the best work fills a great number of parallel sessions over a number of days; plus, there are the workshops and tutorials to quench many topical thirsts. This ACL again promises to be a next peak in a progressive development.

ACL Conferences are the product of many people working together, kindly offering their services to the community at large. ACL-2016 is no exception to this. I would like to thank each and every person who has volunteered their time to make the event possible. I am deeply impressed with the sense of community that organizing an ACL brings about.

Priscilla Rasmussen, the ACL Business Manager, and the 2015 ACL Executive Committee (Chris Manning, Pushpak Bhattacharyya, Joakim Nivre, Graeme Hirst, Dragomir Radev, Gertjan van Nood, Min-Yen Kan, Herman Ney, and Yejin Choi) have been instrumental in setting ACL-2016 in motion and in guiding the ACL-2016 team along the path from concept to execution. Without the collective memory and hands-on guidance of the committee, an ACL conference will never happen.

The ACL-2016 team was formidable in building all the components of the conference and connecting them together in an impressive programme: Katrin Erk and Noah Smith (Programme Committee Chairs); Valia Kordoni, Markus Egg (Local Arrangements Chairs) who brought together a fantastic local organization team; Sabine Schulte im Walde and Jun Zhao (Workshop Chairs), Alexandra Birch and Willem Zuidema (Tutorial Chairs); Hai Zhao, Yusuke Miyao, and Yannick Versley (Publication Chairs); Tao Lei, He He, and Will Roberts (Student Research Workshop Chairs), Yang Liu, Chris Biemann, and Gosse Bouma (Faculty Advisors for the Student Research Workshop), Marianna Apidianaki and Sameer Pradhan (Demonstration Chairs), Barbara Plank (Publicity Chair), Florian Kunneman and Matt Post (Conference Handbook Team), and Yulia Grishina (Student Volunteer Coordinator).

The Program Chairs selected outstanding invited speakers: Mark Steedman (University of Edinburgh) and Amber Boydston (University of California, Davis).

I am deeply grateful to our sponsors for their generous contributions, allowing the conference not to become prohibitively expensive: Google, Baidu, Amazon (Platinum Sponsors); Bloomberg, Facebook, eBay, Elsevier, Microsoft Research, and Maluuba (Gold Sponsors); Huawei Technologies, Zalando SE (Silver Sponsors); Nuance, Grammarly, Voicebox, Yandex, and Textkernel (Bronze Sponsors).

Finally, I would like to express my deep appreciation for the hard work carried out by all area chairs, workshop organizers, tutorial presenters, and the massive army of reviewers. Kudos to all.

Welcome to ACL-2016!

Antal van den Bosch  
General Chair



## Preface: Program Committee Co-Chairs

Welcome to the 54th Annual Meeting of the Association for Computational Linguistics! This year, ACL received 825 long paper submissions (a new record) and 463 short paper submissions.<sup>1</sup> Of the long papers, 231 were accepted for presentation at ACL—116 as oral presentations and 115 as poster presentations. 97 short papers were accepted—49 as oral and 48 as poster presentations. In addition, ACL also features 25 presentations of papers accepted in the *Transactions of the Association for Computational Linguistics* (TACL). With 353 paper presentations at the main conference, this is the largest ACL program to date.

In keeping with the tremendous growth of our field, we introduced some changes to the conference. Oral presentations were shortened to fifteen (twelve) minutes for long (short) papers, plus time for questions. While this places a greater demand on speakers to be concise, we believe it is worth the effort, allowing far more work to be presented orally. We also took advantage of the many halls available at Humboldt University and expanded the number of parallel talks during some conference sessions.

We introduced a category of outstanding papers to help recognize the highest quality work in the community this year. The 11 outstanding papers (9 long, 2 short, 0.85% of submissions) represent a broad spectrum of exciting contributions; they are recognized by especially prominent placement in the program. From these, a best paper and an IBM-sponsored best student paper have been selected; those will be announced in the awards session on Wednesday afternoon.

Following other recent ACL conferences, submissions were reviewed under different categories and using different review forms for empirical/data-driven, theoretical, applications/tools, resources/evaluation, and survey papers. We introduced special fields in the paper submission form for authors to explicitly note the release of open-source implementations to enable reproducibility, and to note freely available datasets. We also allowed authors to submit appendices of arbitrary length for details that would enable replication; reviewers were not expected to read this material.

Another innovation we explored during the review period was the scheduling of short paper review before long paper review. While this was planned to make the entire review period more compact (fitting between the constraints of NAACL 2016 and EMNLP 2016 at either end), we found that reviewing short papers first eliminated many of the surprises for the long paper review process.

We sought to follow recently-evolved best practices in planning the poster sessions, so that the many high-quality works presented in that format will be visible and authors and attendees benefit from the interactions during the two poster sessions.

ACL 2016 will have two distinguished invited speakers: Amber Boydston (Associate Professor of Political Science at the University of California, Davis) and Mark Steedman (Professor of Cognitive Science at the University of Edinburgh). We are grateful that they accepted our invitations and look forward to their presentations.

There are many individuals we wish to thank for their contributions to ACL 2016, some multiple times:

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<sup>1</sup>These numbers exclude papers that were not reviewed due to formatting, anonymity, or double submission violations (9 short and 21 long papers) or that were withdrawn prior to review (approximately 59 short and 52 long papers).

- The 38 area chairs who recruited reviewers, led the discussion about each paper, carefully assessed each submission, and authored meta-reviews to guide final decisions: Miguel Ballesteros, David Bamman, Steven Bethard, Jonathan Berant, Gemma Boleda, Ming-Wei Chang, Wanxiang Che, Chris Dyer, Ed Grefenstette, Hannaneh Hajishirzi, Minlie Huang, Mans Hulden, Heng Ji, Jing Jiang, Zornitsa Kozareva, Marco Kuhlmann, Yang Liu, Annie Louis, Wei Lu, Marie-Catherine de Marneffe, Gerard de Melo, David Mimno, Meg Mitchell, Daichi Mochihashi, Graham Neubig, Naoaki Okazaki, Simone Ponzetto, Matthew Purver, David Reitter, Nathan Schneider, Hinrich Schuetze, Tamar Solorio, Lucia Specia, Partha Talukdar, Ivan Titov, Lu Wang, Nianwen Xue, and Grace Yang.
- Our full program committee of 884 hard-working individuals who reviewed the conference's 1,288 submissions (including secondary reviewers).
- The ACL coordinating committee members, especially Yejin Choi, Graeme Hirst, Chris Manning, and Shiqi Zhao, who answered many questions as they arose during the year.
- TACL editors-in-chief Mark Johnson, Lillian Lee, and Kristina Toutanova, for coordinating with us on TACL presentations at ACL.
- Ani Nenkova and Owen Rambow, program co-chairs of NAACL 2016, and Michael Strube, program co-chair of ACL 2015, who were generous with advice.
- Yusuke Miyao, Yannick Versley, and Hai Zhao, our well-organized publication chairs, and the responsive team at Softconf led by Rich Gerber.
- Valia Kordoni and the local organization team, especially webmaster Kostadin Cholakov.
- Antal van den Bosch, our general chair, who kept us coordinated with the rest of the ACL 2016 team and offered guidance whenever we needed it.
- Antal van den Bosch, Claire Cardie, Pascale Fung, Ray Mooney, and Joakim Nivre, who carefully reviewed papers under consideration for outstanding and best paper recognition.
- Priscilla Rasmussen, who knows everything about how to make ACL a success.

We hope that you enjoy ACL 2016 in Berlin!

ACL 2016 program co-chairs  
 Katrin Erk, University of Texas  
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# Conference Program

**Monday, August 8, 2016**

**8:45–9:00**     *Opening session*

**9:00–10:10**     *Invited talk I: Amber Boydston*

**10:10–10:40**     *Coffee break*

**Session 1A: Semantic parsing I**

**Session 1B: Information extraction**

**Session 1C: Machine translation I**

**Session 1D: Word meaning I**

**Session 1E: Parsing I**

**10:40–11:00**     *Transition-based dependency parsing with topological fields*  
Daniël de Kok and Erhard Hinrichs

**Monday, August 8, 2016 (continued)**

**Session 1F: Noncompositionality**

**12:00–13:40** *Lunch break*

**Session 2A: Word vectors I**

**Session 2B: Events and schemas**

**Session 2C: Sentiment analysis**

**Session 2D: Parsing II**

**Session 2E: Information retrieval**

**14:40–15:00** *Scalable Semi-Supervised Query Classification Using Matrix Sketching*  
Young-Bum Kim, Karl Stratos and Ruhi Sarikaya

**Session 2F: Phonology and morphology**

**15:00–15:30** *Coffee break*

**Monday, August 8, 2016 (continued)**

**Session 3A: Question answering I**

**Session 3B: Sentence vectors**

**Session 3C: Parsing III**

**Session 3D: Dialog**

**Session 3E: Generation**

**Session 3F: Entities and coreference**

**Session 3G: Topics**

**18:00–21:00** *Poster and dinner session I (includes SRW)*

*Learning Multiview Embeddings of Twitter Users*

Adrian Benton, Raman Arora and Mark Dredze

*Implicit Polarity and Implicit Aspect Recognition in Opinion Mining*

Huan-Yuan Chen and Hsin-Hsi Chen

*A Domain Adaptation Regularization for Denoising Autoencoders*

Stephane Clinchant, Gabriela Csurka and Boris Chidlovskii

*Incremental Parsing with Minimal Features Using Bi-Directional LSTM*

James Cross and Liang Huang

*Improving Statistical Machine Translation Performance by Oracle-BLEU Model Re-estimation*

Praveen Dakwale and Christof Monz

**Monday, August 8, 2016 (continued)**

*Sequence-to-Sequence Generation for Spoken Dialogue via Deep Syntax Trees and Strings*

Ondřej Dušek and Filip Jurcicek

*On the Linearity of Semantic Change: Investigating Meaning Variation via Dynamic Graph Models*

Steffen Eger and Alexander Mehler

*Joint Word Segmentation and Phonetic Category Induction*

Micha Elsner, Stephanie Antetomaso and Naomi Feldman

*A Language-Independent Neural Network for Event Detection*

Xiaocheng Feng, Lifu Huang, Duyu Tang, Heng Ji, Bing Qin and Ting Liu

*Improved Parsing for Argument-Clusters Coordination*

Jessica Fidler and Yoav Goldberg

*Reference Bias in Monolingual Machine Translation Evaluation*

Marina Fomicheva and Lucia Specia

*Cross-lingual projection for class-based language models*

Beat Gfeller, Vlad Schogol and Keith Hall

*A Fast Approach for Semantic Similar Short Texts Retrieval*

Yanhui Gu, Zhenglu Yang, Junsheng Zhou, Weiguang Qu, Jinmao Wei and Xingtian Shi

*Empty element recovery by spinal parser operations*

Katsuhiko Hayashi and Masaaki Nagata

*Semantic classifications for detection of verb metaphors*

Beata Beigman Klebanov, Chee Wee Leong, E. Dario Gutierrez, Ekaterina Shutova and Michael Flor

*Recognizing Salient Entities in Shopping Queries*

Zornitsa Kozareva, Qi Li, Ke Zhai and Weiwei Guo

*Leveraging Lexical Resources for Learning Entity Embeddings in Multi-Relational Data*

Teng Long, Ryan Lowe, Jackie Chi Kit Cheung and Doina Precup

*Multiplicative Representations for Unsupervised Semantic Role Induction*

Yi Luan, Yangfeng Ji, Hannaneh Hajishirzi and Boyang Li



**Monday, August 8, 2016 (continued)**

*Vocabulary Manipulation for Neural Machine Translation*

Haitao Mi, Zhiguo Wang and Abe Ittycheriah

*Natural Language Inference by Tree-Based Convolution and Heuristic Matching*

Lili Mou, Rui Men, Ge Li, Yan Xu, Lu Zhang, Rui Yan and Zhi Jin

*Improving cross-domain n-gram language modelling with skipgrams*

Louis Onrust, Antal van den Bosch and Hugo Van hamme

*Simple PPDB: A Paraphrase Database for Simplification*

Ellie Pavlick and Chris Callison-Burch

*Improving Named Entity Recognition for Chinese Social Media with Word Segmentation Representation Learning*

Nanyun Peng and Mark Dredze

*How Naked is the Naked Truth? A Multilingual Lexicon of Nominal Compound Compositionality*

Carlos Ramisch, Silvio Cordeiro, Leonardo Zilio, Marco Idiart and Aline Villavicencio

*An Open Web Platform for Rule-Based Speech-to-Sign Translation*

Manny Rayner, Pierrette Bouillon, Sarah Ebling, Johanna Gerlach, Irene Strasly and Nikos Tsourakis

*Word Alignment without NULL Words*

Philip Schulz, Wilker Aziz and Khalil Sima'an

*Unsupervised morph segmentation and statistical language models for vocabulary expansion*

Matti Varjokallio and Dietrich Klakow

*Detecting Mild Cognitive Impairment by Exploiting Linguistic Information from Transcripts*

Veronika Vincze, Gábor Gosztolya, László Tóth, Ildikó Hoffmann, Gréta Szatlóczi, Zoltán Bánréti, Magdolna Pákási and János Kálmán

*Multi-Modal Representations for Improved Bilingual Lexicon Learning*

Ivan Vulić, Douwe Kiela, Stephen Clark and Marie-Francine Moens

*Is This Post Persuasive? Ranking Argumentative Comments in Online Forum*

Zhongyu Wei, Yang Liu and Yi Li

*The Value of Semantic Parse Labeling for Knowledge Base Question Answering*

Wen-tau Yih, Matthew Richardson, Chris Meek, Ming-Wei Chang and Jina Suh

**Monday, August 8, 2016 (continued)**

*Attention-Based Bidirectional Long Short-Term Memory Networks for Relation Classification*

Peng Zhou, Wei Shi, Jun Tian, Zhenyu Qi, Bingchen Li, Hongwei Hao and Bo Xu

**Tuesday, August 9, 2016**

**9:00–10:10** *Invited talk II: Mark Steedman*

**10:10–10:40** *Coffee break*

**Session 4A: Relations and knowledge bases**

**Session 4B: Semantic parsing II**

**Session 4C: Word meaning II**

**Session 4D: Tasks and datasets**

**Session 4E: Parsing IV**

**Session 4F: Document analysis**

**12:00–13:40** *Lunch break*

**Tuesday, August 9, 2016 (continued)**

**Session 5A: Deep learning (short papers)**

- 13:40–13:56 *The red one!: On learning to refer to things based on discriminative properties*  
Angeliki Lazaridou, Nghia The Pham and Marco Baroni
- 13:56–14:12 *Don't Count, Predict! An Automatic Approach to Learning Sentiment Lexicons for Short Text*  
Duy Tin Vo and Yue Zhang
- 14:12–14:28 *Dimensional Sentiment Analysis Using a Regional CNN-LSTM Model*  
Jin Wang, Liang-Chih Yu, K. Robert Lai and Xuejie Zhang
- 14:28–14:44 *Deep multi-task learning with low level tasks supervised at lower layers*  
Anders Søgaard and Yoav Goldberg
- 14:44–15:00 *Domain Specific Named Entity Recognition Referring to the Real World by Deep Neural Networks*  
Suzushi Tomori, Takashi Ninomiya and Shinsuke Mori

**Session 5B: Semantics and generation (short papers)**

- 13:40–13:56 *An Entity-Focused Approach to Generating Company Descriptions*  
Gavin Saldanha, Or Biran, Kathleen McKeown and Alfio Gliozzo
- 13:56–14:12 *Annotating Relation Inference in Context via Question Answering*  
Omer Levy and Ido Dagan
- 14:12–14:28 *Automatic Semantic Classification of German Preposition Types: Comparing Hard and Soft Clustering Approaches across Features*  
Maximilian Köper and Sabine Schulte im Walde
- 14:28–14:44 *Natural Language Generation enhances human decision-making with uncertain information*  
Dimitra Gkatzia, Oliver Lemon and Verena Rieser
- 14:44–15:00 *Tweet2Vec: Character-Based Distributed Representations for Social Media*  
Bhuwan Dhingra, Zhong Zhou, Dylan Fitzpatrick, Michael Muehl and William Cohen

**Tuesday, August 9, 2016 (continued)**

**Session 5C: Machine translation II (short papers)**

- 13:40–13:56 *Phrase-Level Combination of SMT and TM Using Constrained Word Lattice*  
Liangyou Li, Andy Way and Qun Liu
- 13:56–14:12 *A Neural Network based Approach to Automatic Post-Editing*  
Santanu Pal, Sudip Kumar Naskar, Mihaela Vela and Josef van Genabith
- 14:12–14:28 *An Unsupervised Method for Automatic Translation Memory Cleaning*  
Masoud Jalili Sabet, Matteo Negri, Marco Turchi and Eduard Barbu
- 14:28–14:44 *Exponentially Decaying Bag-of-Words Input Features for Feed-Forward Neural Network in Statistical Machine Translation*  
Jan-Thorsten Peter, Weiyue Wang and Hermann Ney
- 14:44–15:00 *Syntactically Guided Neural Machine Translation*  
Felix Stahlberg, Eva Hasler, Aurelien Waite and Bill Byrne

**Session 5D: Text classification (short papers)**

- 13:40–13:56 *Very quaffable and great fun: Applying NLP to wine reviews*  
Iris Hendrickx, Els Lefever, Ilja Croijmans, Asifa Majid and Antal van den Bosch
- 13:56–14:12 *Exploring Stylistic Variation with Age and Income on Twitter*  
Lucie Flekova, Daniel Preotjuc-Pietro and Lyle Ungar
- 14:12–14:28 *Finding Optimists and Pessimists on Twitter*  
Xianzhi Ruan, Steven Wilson and Rada Mihalcea
- 14:28–14:44 *Transductive Adaptation of Black Box Predictions*  
Stephane Clinchant, Boris Chidlovskii and Gabriela Csurka
- 14:44–15:00 *Which Tumblr Post Should I Read Next?*  
Zornitsa Kozareva and Makoto Yamada

**Tuesday, August 9, 2016 (continued)**

**Session 5E: Potpourri I (short papers)**

13:40–13:56 *Text Simplification as Tree Labeling*  
Joachim Bingel and Anders Søgaard

13:56–14:12 *Bootstrapped Text-level Named Entity Recognition for Literature*  
Julian Brooke, Adam Hammond and Timothy Baldwin

14:12–14:28 *The Enemy in Your Own Camp: How Well Can We Detect Statistically-Generated Fake Reviews – An Adversarial Study*  
Dirk Hovy

**15:00–15:30** *Coffee break*

**Session 6A: Machine learning**

**Session 6B: Word vectors II**

**Session 6C: Machine translation III**

**Session 6D: Discourse**

**Tuesday, August 9, 2016 (continued)**

**Session 6E: Language and vision**

**Session 6F: Summarization**

**Session 6G: Learner language**

**17:30–19:00 *Poster and dinner session II***

*Character-based Neural Machine Translation*

Marta R. Costa-jussà and José A. R. Fonollosa

*Learning Monolingual Compositional Representations via Bilingual Supervision*

Ahmed Elgohary and Marine Carpuat

*Event Nugget Detection with Forward-Backward Recurrent Neural Networks*

Reza Ghaeini, Xiaoli Fern, Liang Huang and Prasad Tadepalli

*IBC-C: A Dataset for Armed Conflict Analysis*

Andrej Zukov Gregoric, Zhiyuan Luo and Bartal Veyhe

*A Latent Concept Topic Model for Robust Topic Inference Using Word Embeddings*

Weihua Hu and Jun'ichi Tsujii

*Word Embeddings with Limited Memory*

Shaoshi Ling, Yangqiu Song and Dan Roth

*Hawkes Processes for Continuous Time Sequence Classification: an Application to Rumour Stance Classification in Twitter*

Michal Lukasik, P. K. Srijith, Duy Vu, Kalina Bontcheva, Arkaitz Zubiaga and Trevor Cohn

*Hunting for Troll Comments in News Community Forums*

Todor Mihaylov and Preslav Nakov

*Phrase Table Pruning via Submodular Function Maximization*

Masaaki Nishino, Jun Suzuki and Masaaki Nagata

**Tuesday, August 9, 2016 (continued)**

*Multilingual Part-of-Speech Tagging with Bidirectional Long Short-Term Memory Models and Auxiliary Loss*

Barbara Plank, Anders Søgaard and Yoav Goldberg

*Matrix Factorization using Window Sampling and Negative Sampling for Improved Word Representations*

Alexandre Salle, Aline Villavicencio and Marco Idiart

*One model, two languages: training bilingual parsers with harmonized treebanks*

David Vilares, Carlos Gómez-Rodríguez and Miguel A. Alonso

*Using mention accessibility to improve coreference resolution*

Kellie Webster and Joel Nothman

*Exploiting Linguistic Features for Sentence Completion*

Aubrie Woods

*Convergence of Syntactic Complexity in Conversation*

Yang Xu and David Reitter

*User Embedding for Scholarly Microblog Recommendation*

Yang Yu, Xiaojun Wan and Xinjie Zhou

**20:00**      *Social event*

**Wednesday, August 10, 2016**

**9:00–9:40**      *President's talk*

**9:40–10:10**      *Coffee break*

Wednesday, August 10, 2016 (continued)

**Session 7A: Outstanding papers I**

- 11:30–11:50 *Integrating Distributional Lexical Contrast into Word Embeddings for Antonym-Synonym Distinction*  
Kim Anh Nguyen, Sabine Schulte im Walde and Ngoc Thang Vu

**Session 7B: Outstanding papers II**

11:50–13:30 *Lunch break*

13:30–15:00 *ACL business meeting (open to all)*

15:00–15:30 *Coffee break*

**Session 8A: Question answering II (short papers)**

- 15:30–15:46 *Machine Translation Evaluation Meets Community Question Answering*  
Francisco Guzmán, Lluís Màrquez and Preslav Nakov
- 15:46–16:02 *Science Question Answering using Instructional Materials*  
Mrinmaya Sachan, Kumar Dubey and Eric Xing
- 16:02–16:18 *Specifying and Annotating Reduced Argument Span Via QA-SRL*  
Gabriel Stanovsky, Ido Dagan and Meni Adler
- 16:18–16:34 *Improving Argument Overlap for Proposition-Based Summarisation*  
Yimai Fang and Simone Teufel
- 16:34–16:50 *Machine Comprehension using Rich Semantic Representations*  
Mrinmaya Sachan and Eric Xing



Wednesday, August 10, 2016 (continued)

**Session 8B: Word vectors III (short papers)**

- 15:30–15:46 *Cross-Lingual Word Representations via Spectral Graph Embeddings*  
Takamasa Oshikiri, Kazuki Fukui and Hidetoshi Shimodaira
- 15:46–16:02 *Semantics-Driven Recognition of Collocations Using Word Embeddings*  
Sara Rodríguez-Fernández, Luis Espinosa Anke, Roberto Carlini and Leo Wanner
- 16:02–16:18 *Incorporating Relational Knowledge into Word Representations using Subspace Regularization*  
Abhishek Kumar and Jun Araki
- 16:18–16:34 *Word Embedding Calculus in Meaningful Ultradense Subspaces*  
Sascha Rothe and Hinrich Schütze
- 16:34–16:50 *Is "Universal Syntax" Universally Useful for Learning Distributed Word Representations?*  
Ivan Vulić and Anna Korhonen

**Session 8C: Topics and discourse (short papers)**

- 15:30–15:46 *Claim Synthesis via Predicate Recycling*  
Yonatan Bilu and Noam Slonim
- 15:46–16:02 *Modelling the Interpretation of Discourse Connectives by Bayesian Pragmatics*  
Frances Yung, Kevin Duh, Taku Komura and Yuji Matsumoto
- 16:02–16:18 *Nonparametric Spherical Topic Modeling with Word Embeddings*  
Kayhan Batmanghelich, Ardavan Saeedi, Karthik Narasimhan and Sam Gershman
- 16:18–16:34 *A Novel Measure for Coherence in Statistical Topic Models*  
Fred Morstatter and Huan Liu
- 16:34–16:50 *Coarse-grained Argumentation Features for Scoring Persuasive Essays*  
Debanjan Ghosh, Aquila Khanam, Yubo Han and Smaranda Muresan

**Wednesday, August 10, 2016 (continued)**

**Session 8D: Syntax and morphology (short papers)**

- 15:30–15:46 *Single-Model Encoder-Decoder with Explicit Morphological Representation for Re-inflection*  
Katharina Kann and Hinrich Schütze
- 15:46–16:02 *Joint part-of-speech and dependency projection from multiple sources*  
Anders Johannsen, Željko Agić and Anders Søgaard
- 16:02–16:18 *Dependency-based Gated Recursive Neural Network for Chinese Word Segmentation*  
Jingjing Xu and Xu Sun
- 16:18–16:34 *Deep Neural Networks for Syntactic Parsing of Morphologically Rich Languages*  
Joël Legrand and Ronan Collobert
- 16:34–16:50 *Weakly Supervised Part-of-speech Tagging Using Eye-tracking Data*  
Maria Barrett, Joachim Bingel, Frank Keller and Anders Søgaard

**Session 8E: Potpourri II (short papers)**

- 15:30–15:46 *Metrics for Evaluation of Word-level Machine Translation Quality Estimation*  
Varvara Logacheva, Michal Lukasik and Lucia Specia
- 15:46–16:02 *The Social Impact of Natural Language Processing*  
Dirk Hovy and Shannon L. Spruit
- 16:02–16:18 *Using Sequence Similarity Networks to Identify Partial Cognates in Multilingual Wordlists*  
Johann-Mattis List, Philippe Lopez and Eric Bapteste
- 17:00–19:00** *Awards and closing session*