

ACL 2014

**Ninth Workshop on  
Statistical Machine Translation**

**Proceedings of the Workshop**

June 26-27, 2014  
Baltimore, Maryland, USA

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## Introduction

The ACL 2014 Workshop on Statistical Machine Translation (WMT 2014) took place on Thursday and Friday, June 26–27, 2014 in Baltimore, United States, immediately following the Conference of the Association for Computational Linguistics (ACL).

This is the ninth time this workshop has been held. The first time it was held at HLT-NAACL 2006 in New York City, USA. In the following years the Workshop on Statistical Machine Translation was held at ACL 2007 in Prague, Czech Republic, ACL 2008, Columbus, Ohio, USA, EACL 2009 in Athens, Greece, ACL 2010 in Uppsala, Sweden, EMNLP 2011 in Edinburgh, Scotland, NAACL 2012 in Montreal, Canada, and ACL 2013 in Sofia, Bulgaria.

The focus of our workshop was to use parallel corpora for machine translation. Recent experimentation has shown that the performance of SMT systems varies greatly with the source language. In this workshop we encouraged researchers to investigate ways to improve the performance of SMT systems for diverse languages, including morphologically more complex languages, languages with partial free word order, and low-resource languages.

Prior to the workshop, in addition to soliciting relevant papers for review and possible presentation, we conducted four shared tasks: a general translation task, a medical translation task, a quality estimation task, and a task to test automatic evaluation metrics. The medical translation task was introduced this year to address the important issue of domain adaptation within SMT. The results of the shared tasks were announced at the workshop, and these proceedings also include an overview paper for the shared tasks that summarizes the results, as well as provides information about the data used and any procedures that were followed in conducting or scoring the task. In addition, there are short papers from each participating team that describe their underlying system in greater detail.

Like in previous years, we have received a far larger number of submission than we could accept for presentation. This year we have received 27 full paper submissions and 49 shared task submissions. In total WMT 2014 featured 12 full paper oral presentations and 49 shared task poster presentations.

The invited talk was given by Alon Lavie (Carnegie Mellon University and Safaba Translation Solutions, Inc.) entitled “Machine Translation in Academia and in the Commercial World – a Contrastive Perspective”.

We would like to thank the members of the Program Committee for their timely reviews. We also would like to thank the participants of the shared task and all the other volunteers who helped with the evaluations.

Ondřej Bojar, Christian Buck, Christian Federmann, Barry Haddow, Philipp Koehn, Matouš Macháček, Christof Monz, Pavel Pecina, Matt Post, Hervé Saint-Amand, Radu Soricut, and Lucia Specia

Co-Organizers



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Philipp Koehn (University of Edinburgh / Johns Hopkins University)  
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Christof Monz (University of Amsterdam)  
Pavel Pecina (Charles University Prague)  
Matt Post (Johns Hopkins University)  
Hervé Saint-Amand (University of Edinburgh)  
Radu Soricut (Google)  
Lucia Specia (University of Sheffield)

## **Invited Talk:**

Alon Lavie (Research Professor at Carnegie Mellon University / Co-founder, President and CTO - Safaba Translation Solutions, Inc.)

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# Workshop Program

**Thursday, June 26, 2014**

9:00–9:10      Opening Remarks

## **Session 1: Shared Translation Tasks**

9:10–9:30      *Efficient Elicitation of Annotations for Human Evaluation of Machine Translation*  
Keisuke Sakaguchi, Matt Post and Benjamin Van Durme

9:30–10:00    *Findings of the 2014 Workshop on Statistical Machine Translation*  
Ondrej Bojar, Christian Buck, Christian Federmann, Barry Haddow, Philipp Koehn,  
Johannes Leveling, Christof Monz, Pavel Pecina, Matt Post, Herve Saint-Amand,  
Radu Soricut, Lucia Specia and Aleš Tamchyna

10:00-10:30    Panel Discussion

10:30–11:00    Coffee

## **Session 2: Poster Session**

11:00-12:30    Shared Task: Translation

*Parallel FDA5 for Fast Deployment of Accurate Statistical Machine Translation Systems*  
Ergun Biciçi, Qun Liu and Andy Way

*Yandex School of Data Analysis Russian-English Machine Translation System for WMT14*  
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**Thursday, June 26, 2014 (continued)**

*Machine Translation and Monolingual Postediting: The AFRL WMT-14 System*

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11:00-12:30 Shared Task: Medical Translation

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*Experiments in Medical Translation Shared Task at WMT 2014*

Jian Zhang

## Thursday, June 26, 2014 (continued)

12:30–14:00 Lunch

### Session 3: Invited Talk

14:00–15:30 *Machine Translation in Academia and in the Commercial World – a Contrastive Perspective*. Alon Lavie, Research Professor – Carnegie Mellon University, Co-founder, President and CTO – Safaba Translation Solutions, Inc.

15:30–16:00 Coffee

### Session 4: Evaluation

16:00–16:20 *Randomized Significance Tests in Machine Translation*  
Yvette Graham, Nitika Mathur and Timothy Baldwin

16:20–16:40 *Estimating Word Alignment Quality for SMT Reordering Tasks*  
Sara Stymne, Jörg Tiedemann and Joakim Nivre

16:40–17:00 *Dependency-based Automatic Enumeration of Semantically Equivalent Word Orders for Evaluating Japanese Translations*  
Hideki Isozaki, Natsume Kouchi and Tsutomu Hirao

## Friday, June 27, 2014

### Session 5: Shared Evaluation Metrics and Quality Estimation Tasks

9:00–9:30 Quality Estimation Shared Task

9:30–9:50 *Results of the WMT14 Metrics Shared Task*  
Matous Machacek and Ondrej Bojar

9:50–10:30 Panel

10:30–11:00 Coffee



**Friday, June 27, 2014 (continued)**

**Session 6: Poster Session**

11:00–12:30 Shared Task: Quality Estimation

*Efforts on Machine Learning over Human-mediated Translation Edit Rate*  
Eleftherios Avramidis

*SHEF-Lite 2.0: Sparse Multi-task Gaussian Processes for Translation Quality Estimation*  
Daniel Beck, Kashif Shah and Lucia Specia

*Referential Translation Machines for Predicting Translation Quality*  
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*FBK-UPV-UEdin participation in the WMT14 Quality Estimation shared-task*  
José Guilherme Camargo de Souza, Jesús González-Rubio, Christian Buck, Marco Turchi  
and Matteo Negri

*Target-Centric Features for Translation Quality Estimation*  
Chris Hokamp, Iacer Calixto, Joachim Wagner and Jian Zhang

*LIG System for Word Level QE task at WMT14*  
Ngoc Quang Luong, Laurent Besacier and Benjamin Lecouteux

*Exploring Consensus in Machine Translation for Quality Estimation*  
Carolina Scarton and Lucia Specia

*LIMSI Submission for WMT'14 QE Task*  
Guillaume Wisniewski, Nicolas Pécheux, Alexander Allauzen and François Yvon

11:00–12:30 Shared Task: Evaluation Metrics

*Parmesan: Meteor without Paraphrases with Paraphrased References*  
Petra Barancikova

*A Systematic Comparison of Smoothing Techniques for Sentence-Level BLEU*  
Boxing Chen and Colin Cherry

**Friday, June 27, 2014 (continued)**

*VERTa participation in the WMT14 Metrics Task*

Elisabet Comelles and Jordi Atserias

*Meteor Universal: Language Specific Translation Evaluation for Any Target Language*

Michael Denkowski and Alon Lavie

*Application of Prize based on Sentence Length in Chunk-based Automatic Evaluation of Machine Translation*

Hiroshi Echizen'ya, Kenji Araki and Eduard Hovy

*LAYERED: Metric for Machine Translation Evaluation*

Shubham Gautam and Pushpak Bhattacharyya

*IPA and STOUT: Leveraging Linguistic and Source-based Features for Machine Translation Evaluation*

Meritxell González, Alberto Barrón-Cedeño and Lluís Màrquez

*DiscoTK: Using Discourse Structure for Machine Translation Evaluation*

Shafiq Joty, Francisco Guzmán, Lluís Màrquez and Preslav Nakov

*Tolerant BLEU: a Submission to the WMT14 Metrics Task*

Jindřich Libovický and Pavel Pecina

*BEER: Better Evaluation as Ranking*

Milos Stanojevic and Khalil Sima'an

*RED, The DCU-CASICT Submission of Metrics Tasks*

Xiaofeng Wu, Hui Yu and Qun Liu

12:30–14:00 Lunch

**Friday, June 27, 2014 (continued)**

**Session 7: Data and Adaptation**

- 14:00–14:20 *Crowdsourcing High-Quality Parallel Data Extraction from Twitter*  
Wang Ling, Luis Marujo, Chris Dyer, Alan W Black and Isabel Trancoso
- 14:20–14:40 *Using Comparable Corpora to Adapt MT Models to New Domains*  
Ann Irvine and Chris Callison-Burch
- 14:40–15:00 *Dynamic Topic Adaptation for SMT using Distributional Profiles*  
Eva Hasler, Barry Haddow and Philipp Koehn
- 15:00–15:20 *Unsupervised Adaptation for Statistical Machine Translation*  
Saab Mansour and Hermann Ney
- 15:20–16:00 Coffee

**Session 8: Translation Models**

- 16:00–16:20 *An Empirical Comparison of Features and Tuning for Phrase-based Machine Translation*  
Spence Green, Daniel Cer and Christopher Manning
- 16:20–16:40 *Bayesian Reordering Model with Feature Selection*  
Abdullah Alrajeh and Mahesan Niranjan
- 16:40–17:00 *Augmenting String-to-Tree and Tree-to-String Translation with Non-Syntactic Phrases*  
Matthias Huck, Hieu Hoang and Philipp Koehn
- 17:00–17:20 *Linear Mixture Models for Robust Machine Translation*  
Marine Carpuat, Cyril Goutte and George Foster

