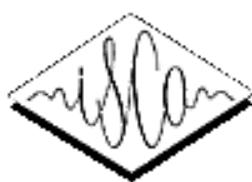
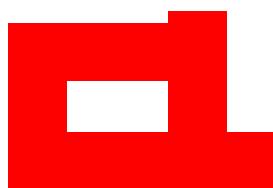


SIGDIAL 2015



**16th Annual Meeting of the  
Special Interest Group on Discourse and  
Dialogue**



**Proceedings of the Conference**

**2-4 September 2015  
Prague, Czech Republic**

**In cooperation with:** Association for Computational Linguistics (ACL)  
International Speech Communication Association (ISCA)  
Association for the Advancement of Artificial Intelligence (AAAI)

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## Introduction

We are excited to welcome you to this year’s SIGDIAL Conference, the 16th Annual Meeting of the Special Interest Group on Discourse and Dialogue. We are pleased to hold the conference this year in Prague, Czech Republic, on September 2nd-4th, in close proximity to INTERSPEECH 2015.

The SIGDIAL conference remains positioned as the publication venue for research under the broad umbrella of discourse and dialogue. This year, the program includes oral presentations and poster sessions on Dialogue Management, Discourse Strategy, Perspective and Point of View, and New Directions. SIGDIAL 2015 also hosts a special session entitled MultiLing 2015: Multilingual Summarization of Multiple Documents, organized by George Giannakopoulos. The papers from this special session that appear in the proceedings were submitted and reviewed as regular SIGDIAL papers, and cleared the same high bar for quality. Papers not accepted through the regular review process are not included in the proceedings, but were still invited to be presented as posters in the special session. Due to the success of last year’s special session, this is the second year SIGDIAL has issued a general call for special sessions.

We received a record breaking number of submissions this year, 136 complete submissions altogether, which included 79 long papers, 42 short papers and 15 demo descriptions—from a broad, international set of authors. Additionally, 2 papers were submitted and then withdrawn, and 1 was rejected without review due to being out of scope. All papers received 3 reviews. We carefully considered both the numeric ratings and the tenor of the comments, both as written in the reviews, and as submitted in the discussion period, in making our selection for the program. Overall, the members of the Program Committee did an excellent job in reviewing the submitted papers. We thank them for the important role their reviews have played in selecting the accepted papers and for helping to maintain the high quality of the program. In line with the SIGDIAL tradition, our aim has been to create a balanced program that accommodates as many favorably rated papers as possible.

This year’s SIGDIAL conference runs 2.5 days as it did in 2014, with the special session being held on the second day. Of the 79 long paper submissions: 14 were accepted as long papers for oral presentation, 21 were accepted as long papers for poster presentation. Of the 42 short paper submissions, 17 were accepted for poster presentation, for a total of 38 posters. There were 7 demonstration papers that were accepted. 3 of the long papers and 4 of the short papers accepted for poster presentation were accepted for publication to appear in the MULTILING Special Session.

We enthusiastically thank the two keynote speakers, Dilek Hakkani-Tur (Microsoft Research, USA) and Frank Fischer (Ludwigs Maximilian Universität München) and for their contributions to research on discourse and dialogue systems, and we look forward to their keynote talks!

We offer our thanks to Svetlana Stoyanchev, Mentoring Chair for SIGDIAL 2015, for her dedicated work on coordinating the mentoring process, just as last year. The goal of mentoring is to assist authors of papers that contain important ideas but lack clarity. Mentors work with the authors to improve English language usage or paper organization. This year, 3 of the accepted papers were mentored. We thank the Program Committee members who served as mentors: Pamela Jordan, Jason Williams, and Heriberto Cuayahuitl.

We extend special thanks to our local arrangements chair, Filip Jurcicek, and his team Libuse Brdickova, Ondrej Dusek, Lukas Zilka, and Ahmad Agha Ebrahimian. We know SIGDIAL 2015 would not have been possible without Filip and his team, who invested so much effort in arranging the conference hotel venue and accommodations, handling registration, making banquet arrangements, and handling numerous other preparations for the conference. The student volunteers for on-site assistance also deserve our appreciation.

Kristy Boyer, Sponsorships Chair, has earned our appreciation for recruiting and liaising with our conference sponsors, many of whom continue to contribute year after year. The sponsorship program enables valuable aspects of the program, such as the invited speakers, conference reception and dinner. In recognition of this, we gratefully acknowledge the support of our sponsors: Educational Testing Service, Interactions, Microsoft Research, Honda Research Institute, Mitsubishi Electric Research Laboratories, and Turnitin/LightSide. At the same time, we thank Priscilla Rasmussen at the ACL for tirelessly handling the financial aspects of sponsorship for SIGDIAL 2015, and for securing our ISBN on a moment's notice!

We also thank the SIGdial board, especially officers, Jason Williams, Amanda Stent and Kristiina Jokinen for their advice and support from beginning to end. We especially appreciate Jason's substantial, prompt and patient replies to numerous questions along the way.

Finally, we thank all the authors of the papers in this volume, and all the conference participants for making this stimulating event a valuable opportunity for growth in research in the areas of dialogue and discourse.

Alexander Koller and Gabriel Skantze,  
General Co-Chairs  
Masahiro Araki and Carolyn Penstein Rosé,  
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#### **Invited Speakers:**

Professor Frank Fischer, Ludwig Maximilian Universität München, Germany  
Dilek Hakkani-Tur, Microsoft Research, United States



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# Conference Program

Wednesday, September 2, 2015

**09:10–10:10 Keynote I**

*Keynote: The Interplay of Discussion, Cognition and Instruction in Computer-Supported Collaborative Learning Environments*

Frank Fischer

**10:35–11:50 Oral Session 1: Dialogue Management**

*Human-Machine Dialogue as a Stochastic Game*

Merwan Barlier, Julien Perolat, Romain Laroche and Olivier Pietquin

*Knowledge transfer between speakers for personalised dialogue management*

Iñigo Casanueva, Thomas Hain, Heidi Christensen, Ricard Marxer and Phil Green

*Miscommunication Recovery in Physically Situated Dialogue*

Matthew Marge and Alexander Rudnicky

**13:00–13:50 Oral Session 2: Discourse Strategy**

*Reinforcement Learning in Multi-Party Trading Dialog*

Takuya Hiraoka, Kallirroi Georgila, Elnaz Nouri, David Traum and Satoshi Nakamura

*An Incremental Turn-Taking Model with Active System Barge-in for Spoken Dialog Systems*

Tiancheng Zhao, Alan W Black and Maxine Eskenazi

**Wednesday, September 2, 2015 (continued)**

**13:50–14:10 Poster madness**

**14:10–16:30 Poster session 1**

*Exploring the Effects of Redundancy within a Tutorial Dialogue System: Restating Students' Responses*

Pamela Jordan, Patricia Albacete and Sandra Katz

*A Discursive Grid Approach to Model Local Coherence in Multi-document Summaries*

Márcio Dias and Thiago Pardo

*Belief Tracking with Stacked Relational Trees*

Deepak Ramachandran and Adwait Ratnaparkhi

*"So, which one is it?" The effect of alternative incremental architectures in a high-performance game-playing agent*

Maike Paetzl, Ramesh Manuvinakurike and David DeVault

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Ryuichiro Higashinaka, Kotaro Funakoshi, Masahiro Araki, Hiroshi Tsukahara, Yuka Kobayashi and Masahiro Mizukami

*PDTB Discourse Parsing as a Tagging Task: The Two Taggers Approach*

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*Which Synthetic Voice Should I Choose for an Evocative Task?*

Eli Pincus, Kallirroi Georgila and David Traum

*Dialog Act Annotation for Twitter Conversations*

Elina Zarisheva and Tatjana Scheffler

*Towards Improving Dialogue Topic Tracking Performances with Wikification of Concept Mentions*

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*Exploiting knowledge base to generate responses for natural language dialog listening agents*

Sangdo Han, Jeesoo Bang, Seonghan Ryu and Gary Geunbae Lee

*Automated Speech Recognition Technology for Dialogue Interaction with Non-Native Interlocutors*

Alexei V. Ivanov, Vikram Ramanarayanan, David Suendermann-Oeft, Melissa Lopez, Keelan Evanini and Jidong Tao

**Wednesday, September 2, 2015 (continued)**

*Conversational Knowledge Teaching Agent that uses a Knowledge Base*

Kyusong Lee, Paul Hongsuck Seo, Junhwi Choi, Sangjun Koo and Gary Geunbae Lee

*Information Theoretical and Statistical Features for Intrinsic Plagiarism Detection*

Rashedur Rahman

*A SIP of CoFee : A Sample of Interesting Productions of Conversational Feedback*

Laurent Prévot, Jan Gorisch, Roxane Bertrand, Emilien Gorene and Brigitte Bigi

*Reinforcement Learning of Multi-Issue Negotiation Dialogue Policies*

Alexandros Papangelis and Kallirroi Georgila

*Fast and easy language understanding for dialog systems with Microsoft Language Understanding Intelligent Service (LUIS)*

Jason D Williams, Eslam Kamal, Mokhtar Ashour, Hani Amr, Jessica Miller and Geoff Zweig

*Multilingual WikiTalk: Wikipedia-based talking robots that switch languages.*

Graham Wilcock and Kristiina Jokinen

*Modelling situated human-robot interaction using IrisTK*

Gabriel Skantze and Martin Johansson

**16:30–17:45 Oral Session 3: Perspective and Point of View**

*I Couldn't Agree More: The Role of Conversational Structure in Agreement and Disagreement Detection in Online Discussions*

Sara Rosenthal and Kathy McKeown

*Memory-Based Acquisition of Argument Structures and its Application to Implicit Role Detection*

Christian Chiarcos and Niko Schenk

*Generating Sentence Planning Variations for Story Telling*

Stephanie Lukin, Lena Reed and Marilyn Walker

**Thursday, September 3, 2015**

**09:05–10:05 Keynote II**

*Keynote: Graph-based Approaches for Spoken Language Understanding*

Dilek Hakkani-Tur

**10:30–11:45 Oral Session 4: New directions**

*Evaluating Spoken Dialogue Processing for Time-Offset Interaction*

David Traum, Kallirroi Georgila, Ron Artstein and Anton Leuski

*THE REAL CHALLENGE 2014: PROGRESS AND PROSPECTS*

Maxine Eskenazi, Alan W Black, Sungjin Lee and David Traum

*Argument Mining: Extracting Arguments from Online Dialogue*

Reid Swanson, Brian Ecker and Marilyn Walker

**11:45–13:30 Lunch, business meeting, and sponsor talks**

**13:30–17:30 Special session (MultiLing 2015) and Open Space**

*Multilingual Summarization with Polytope Model*

Natalia Vanetik and Marina Litvak

*Call Centre Conversation Summarization: A Pilot Task at Multiling 2015*

Benoit Favre, Evgeny Stepanov, Jérémie Trione, Frédéric Bechet and Giuseppe Riccardi

*AllSummarizer system at MultiLing 2015: Multilingual single and multi-document summarization*

Abdelkrime Aries, Djamel Eddine Zegour and Khaled Walid Hidouci

*Comment-to-Article Linking in the Online News Domain*

Ahmet Aker, Emina Kurtic, Mark Hepple, Rob Gaizauskas and Giuseppe Di Fabrizio

## **Thursday, September 3, 2015 (continued)**

*The University of Alicante at MultiLing 2015: approach, results and further insights*  
Marta Vicente, Oscar Alcón and Elena Lloret

*ExB Text Summarizer*

Stefan Thomas, Christian Beutennüller, Xose de la Puente, Robert Remus and Stefan Bordag

*MultiLing 2015: Multilingual Summarization of Single and Multi-Documents, Online Fora, and Call-center Conversations*

George Giannakopoulos, Jeff Kubina, John Conroy, Josef Steinberger, Benoit Favre, Mijail Kabadjov, Udo Kruschwitz and Massimo Poesio

## **Friday, September 4, 2015**

### **09:05–10:20 Oral Session 5: Neural Network for dialogue processing**

*Stochastic Language Generation in Dialogue using Recurrent Neural Networks with Convolutional Sentence Reranking*

Tsung-Hsien Wen, Milica Gasic, Dongho Kim, Nikola Mrksic, Pei-Hao Su, David Vandyke and Steve Young

*The Ubuntu Dialogue Corpus: A Large Dataset for Research in Unstructured Multi-Turn Dialogue Systems*

Ryan Lowe, Nissan Pow, Iulian Serban and Joelle Pineau

*Recurrent Polynomial Network for Dialogue State Tracking with Mismatched Semantic Parsers*

Qizhe Xie, Kai Sun, Su Zhu, Lu Chen and Kai Yu

### **10:20–10:40 Poster madness**

**Friday, September 4, 2015 (continued)**

**10:40–12:40 Poster session 2**

*Opportunities and Obligations to Take Turns in Collaborative Multi-Party Human-Robot Interaction*

Martin Johansson and Gabriel Skantze

*Optimising Turn-Taking Strategies With Reinforcement Learning*

Hatim KHOUZAIMI, Romain Laroche and Fabrice Lefevre

*Acoustic-prosodic entrainment in Slovak, Spanish, English and Chinese: A cross-linguistic comparison*

Rivka Levitan, Štefan Beňuš, Agustin Gravano and Julia Hirschberg

*A statistical approach for Non-Sentential Utterance Resolution for Interactive QA System*

Dinesh Raghu, Sathish Indurthi, Jitendra Ajmera and Sachindra Joshi

*The Interplay of User-Centered Dialog Systems and AI Planning*

Florian Nothdurft, Gregor Behnke, Pascal Bercher, Susanne Biundo and Wolfgang Minker

*Automatic Detection of Miscommunication in Spoken Dialogue Systems*

Raveesh Meena, Jose Lopes, Gabriel Skantze and Joakim Gustafson

*Dialogue Management based on Multi-domain Corpus*

wendong ge and Bo Xu

*Quality-adaptive Spoken Dialogue Initiative Selection And Implications On Reward Modelling*

Stefan Ultes, Matthias Kraus, Alexander Schmitt and Wolfgang Minker

*Metaphor Detection in Discourse*

Hyeju Jang, Seungwhan Moon, Yohan Jo and Carolyn Rose

*User Adaptive Restoration for Incorrectly-Segmented Utterances in Spoken Dialogue Systems*

Kazunori Komatani, Naoki Hotta, Satoshi Sato and Mikio Nakano

*Incremental Coordination: Attention-Centric Speech Production in a Physically Situated Conversational Agent*

Zhou Yu, Dan Bohus and Eric Horvitz

*Hyper-parameter Optimisation of Gaussian Process Reinforcement Learning for Statistical Dialogue Management*

Lu Chen, Pei-Hao Su and Milica Gasic

**Friday, September 4, 2015 (continued)**

*Learning Domain-Independent Dialogue Policies via Ontology Parameterisation*  
Zhuoran Wang, Tsung-Hsien Wen, Pei-Hao Su and Yannis Stylianou

*Reward Shaping with Recurrent Neural Networks for Speeding up On-Line Policy Learning in Spoken Dialogue Systems*  
Pei-Hao Su, David Vandyke, Milica Gasic, Nikola Mrksic, Tsung-Hsien Wen and Steve Young

*Effects of Game on User Engagement with Spoken Dialogue System*  
Hayato Kobayashi, Kaori Tanio and Manabu Sassano

*Evaluation of Crowdsourced User Input Data for Spoken Dialog Systems*  
Maria Schmidt, Markus Müller, Martin Wagner, Sebastian Stüker, Alex Waibel, Hansjörg Hofmann and Steffen Werner

*A distributed cloud-based dialog system for conversational application development*  
Vikram Ramanarayanan, David Suendermann-Oeft, Alexei V. Ivanov and Keelan Evanini

*A TV Program Discovery Dialog System using recommendations*  
Deepak Ramachandran, Mark Fenty, Ronald Provine, Peter Yeh, William Jarrold, Adwait Ratnaparkhi and Benjamin Douglas

*Description of the PatientGenesys Dialogue System*  
Leonardo Campillos Llanos, Dhouha Bouamor, Éric Bilinski, Anne-Laure Ligozat, Pierre Zweigenbaum and Sophie Rosset

*The Cohort and Speechify Libraries for Rapid Construction of Speech Enabled Applications for Android*  
Tejaswi Kasturi, Haojian Jin, Aasish Pappu, Sungjin Lee, Beverley Harrison, Rama Murthy and Amanda Stent

**12:40–13:00 Best paper award ceremony and closing**

