



**Proceedings of the
1st SIGdial Workshop on
Discourse and Dialogue**

**Held in conjunction with
The 38th Annual Meeting of the
Association for Computational Linguistics**

**Edited by
Laila Dybkjær
Koiti Hasida
and
David Traum**

**7-8 October 2000
Hong Kong University of Science and Technology (HKUST)
Hong Kong**

**Proceedings of the
1st SIGdial Workshop on
Discourse and Dialogue**

**Held in conjunction with
The 38th Annual Meeting of the
Association for Computational Linguistics**

**Edited by
Laila Dybkjær
Koiti Hasida
and
David Traum**

**7-8 October 2000
Hong Kong University of Science and Technology (HKUST)
Hong Kong**

© 2000, Association for Computational Linguistics

Order copies of this and other ACL workshop proceedings from:

Association for Computational Linguistics
75 Paterson Street, Suite 9
New Brunswick, NJ 08901 USA
+1-732-342-9100 phone; +1-732-342-9339 fax

Preface

Welcome to the 1st SIGdial Workshop on Discourse and Dialogue. SIGdial is the ACL Special Interest Group in Discourse and Dialogue which was formed in late 1997. With the increasing importance of our area of research there has been a perceived need in the SIGdial Community for a regular workshop spanning the entire field of discourse and dialogue. While there has been a lot of activity in the field, and fairly frequent workshops on various sub-topics, there has not been a regular place for presentation of discourse and dialogue research to receive attention from the larger SIGdial community. This workshop is intended to be the first in a regular series which serves to bring the SIGdial community together.

Topics for this workshop include formal, corpus-based, implementational and analytical work on discourse and dialogue, with a focus on the following three themes:

- Dialogue Systems, i.e. models, methods, strategies, tools and architectures related to spoken, multi-modal, and text/web based dialogue systems.
- Corpora and Corpus Tools, i.e. support for corpus-based work on discourse and dialogue.
- Pragmatic and/or Semantic Modelling, i.e. the pragmatics and/or semantics of discourse and dialogue (beyond a single sentence), and specific aspects of discourse and dialogue structure.

In addition to these three themes, this year's workshop includes a special-theme session on

- Principles for Evaluation of Dialogue Systems.

We would like to thank the members of the Program Committee - Niels Ole Bernsen, Phil Cohen, Morena Danieli, Yasuharu Den, Barbara Di Eugenio, Paul Heisterkamp, Lynette Hirschman, Beth Ann Hockey, Kristiina Jokinen, Pamela Jordan, Hans Kamp, Ian Lewin, Daniel Marcu, Katashi Nagao, Laurent Romary, Remko Scha, Akira Shimazu, Candace Sidner, Mark Steedman, Michael Strube, Jan van Kuppevelt, and Marilyn Walker – for their work. We would also like to thank our invited speaker, Jens Allwood, for his contribution to the Workshop Program. We are sure that these efforts together with the active participation of workshop attendees will make the workshop a stimulating and constructive event for interchange of research results, ideas and visions for future work.

Laila Dybkjær, Natural Interactive Systems Laboratory, Denmark

Koiti Hasida, Sony Computer Science Laboratory, Japan

David Traum, University of Maryland, USA

CONFERENCE PROGRAM

Saturday, October 7

- 9:00-9:15 **Welcome**
- 9:15-10:45 **Paper Session: Annotation and Corpus Work**
- 9:15-9:45 *Japanese Dialogue Corpus of Multi-Level Annotation*
Shu Nakazato
- 9:45-10:15 *ADAM: An Architecture for xml-based Dialogue Annotation on Multiple Levels*
Claudia Soria, Roldano Cattoni and Morena Danieli
- 10:15-10:45 *The MATE Markup Framework*
Laila Dybkjær and Niels Ole Bernsen
- 10:45-11:15 **Break**
- 11:15-12:15 **Paper Session: Prosody and Dialogue**
- 11:15-11:45 *Issues in the Transcription of English Conversational Grunts*
Nigel Ward
- 11:45-12:15 *Identifying Prosodic Indicators of Dialogue Structure:
Some Methodological and Theoretical Considerations*
Ilana Mushin, Lesley Stirling, Janet Fletcher and Roger Wales
- 12:15-14:15 **Lunch and SIGdial Business Meeting**
- 14:15-16:15 **Paper Session: Discourse**
- 14:15-14:45 *From Elementary Discourse Units to Complex Ones*
Holger Schauer
- 14:45-15:15 *Abstract Anaphora Resolution in Danish*
Costanza Navarretta
- 15:15-15:45 *Using Decision Trees to Select the Grammatical Relation of a Noun Phrase*
Simon Corston-Oliver
- 15:45-16:15 *A Common Theory of Information Fusion from Multiple Text Sources.
Step One: Cross-Document Structure*
Dragomir Radev
- 16:15-16:40 **Break**
- 16:40-18:00 **Session on Cooperation**
- 16:40-17:30 *Ideal Cooperation*
Jens Allwood (invited speaker)
- 17:30-18:00 *Social Goals in Conversational Cooperation*
Guido Boella, Rossana Damiano and Leonardo Lesmo

Sunday, October 8

9:00-10:00 Paper Session: Dialogue Management

9:00-9:30 *Dynamic User Level and Utility Measurement for Adaptive Dialog in a Help-Desk System*
Preetam Maloor and Joyce Chai

9:30-10:00 *Dialogue Management in the Agreement Negotiation Process:
A Model that Involves Natural Reasoning*
Mare Koit and Haldur Oim

10:00-10:30 **Break**

10:30-12:00 Paper Session: Dialogue Management (continued)

10:30-11:00 *Document Transformations and Information States*
Staffan Larsson and Annie Zaenen

11:00-11:30 *Dialogue and Domain Knowledge Management in Dialogue Systems*
Annika Flycht-Eriksson and Arne Jönsson

11:30-12:00 *Flexible Speech Act Based Dialogue Management*
Eli Hagen and Fred Popowich

12:00-13:30 **Lunch**

13:30-14:30 Paper Session: Dialogue Systems and Tools

13:30-14:00 *Dialogue Helpsystem based on Flexible Matching of User Query with
Natural Language Knowledge Base*
Sadao Kurohashi and Wataru Higasa

14:00-14:30 *WIT: A Toolkit for Building Robust and Real-Time Spoken Dialogu Systems*
Mikio Nakano, Noboru Miyazaki, Norihito Yasuda, Akira Sugiyama,
Jun-ichi Hirasawa, Kohji Dohsaka and Kiyooki Aikawa

14:30-15:00 **Break**

15:00-16:30 Session on Evaluation

15:00-15:30 *Some Notes on the Complexity of Dialogues*
Jan Alexandersson and Paul Heisterkamp

15:30-16:00 *Designing Evaluation Environment*
Koiti Hasida

16:00-16:30 *Plenary discussion on evaluation*

16:30-17:00 **Closing Discussion**

Table of Contents

<i>Japanese Dialogue Corpus of Multi-Level Annotation</i> Shu Nakazato	1
<i>ADAM: An Architecture for xml-based Dialogue Annotation on Multiple Levels</i> Claudia Soria, Roldano Cattoni and Morena Danieli	9
<i>The MATE Markup Framework</i> Laila Dybkjær and Niels Ole Bernsen	19
<i>Issues in the Transcription of English Conversational Grunts</i> Nigel Ward	29
<i>Identifying Prosodic Indicators of Dialogue Structure: Some Methodological and Theoretical Considerations</i> Ilana Mushin, Lesley Stirling, Janet Fletcher and Roger Wales	36
<i>From Elementary Discourse Units to Complex Ones</i> Holger Schauer	46
<i>Abstract Anaphora Resolution in Danish</i> Costanza Navarretta	56
<i>Using Decision Trees to Select the Grammatical Relation of a Noun Phrase</i> Simon Corston-Oliver	66
<i>A Common Theory of Information Fusion from Multiple Text Sources. Step One: Cross-Document Structure</i> Dragomir Radev	74
<i>Social Goals in Conversational Cooperation</i> Guido Boella, Rossana Damiano and Leonardo Lesmo	84
<i>Dynamic User Level and Utility Measurement for Adaptive Dialog in a Help-Desk System</i> Preetam Maloor and Joyce Chai	94
<i>Dialogue Management in the Agreement Negotiation Process: A Model that Involves Natural Reasoning</i> Mare Koit and Haldur Oim	102
<i>Document Transformations and Information States</i> Staffan Larsson and Annie Zaenen	112
<i>Dialogue and Domain Knowledge Management in Dialogue Systems</i> Annika Flycht-Eriksson and Arne Jönsson	121
<i>Flexible Speech Act Based Dialogue Management</i> Eli Hagen and Fred Popowich	131

<i>Dialogue Helpsystem based on Flexible Matching of User Query with Natural Language Knowledge Base</i> Sadao Kurohashi and Wataru Higasa.....	141
<i>WIT: A Toolkit for Building Robust and Real-Time Spoken Dialogu Systems</i> Mikio Nakano, Noboru Miyazaki, Norihito Yasuda, Akira Sugiyama, Jun-ichi Hirasawa, Kohji Dohsaka and Kiyooki Aikawa	150
<i>Some Notes on the Complexity of Dialogues</i> Jan Alexandersson and Paul Heisterkamp	160

Author Index

Aikawa, Kiyooki	150
Alexandersson, Jan	160
Bernsen, Niels Ole	19
Boella, Guido	84
Cattoni, Roldano	9
Chai, Joyce	94
Corston-Oliver, Simon	66
Damiano, Rossana	84
Danieli, Morena	9
Dohsaka, Kohji	150
Dybkjr, Laila	19
Fletcher, Janet	36
Flycht-Eriksson, Annika	121
Hagen, Eli	131
Heisterkamp, Paul	160
Higasa, Wataru	141
Hirasawa, Jun-ichi	150
Jnsson, Arne	121
Koit, Mare	102
Kurohashi, Sadao	141
Larsson, Staffan	112
Lesmo, Leonardo	84
Maloor, Preetam	94
Miyazaki, Noboru	150
Mushin, Ilana	36
Nakano, Mikio	150
Nakazato, Shu	1
Navarretta, Costanza	56
Oim, Haldur	102
Popowich, Fred	131
Radev, Dragomir	74
Schauer, Holger	46
Soria, Claudia	9
Stirling, Lesley	36
Sugiyama, Akira	150
Wales, Roger	36
Ward, Nigel	29
Yasuda, Norihito	150
Zaenen, Annie	112