Large communities in AI, robotics and interaction technology already work on spoken language-based human-robot interaction. Sophisticated interaction models and implementations are critical in this endeavour but are not often explicitly addressed. Dialogue modelling and dialogue system implementations, on their part, are often developed without sufficiently considering how the models could be used in an embodied robotic system which also interacts with the environment. The different starting points and assumptions call for discussions, exchange of ideas and more integrated approaches to implementations and modelling of spoken dialogues on robot platforms.

The one-day ROBOTDIAL workshop is the first of its kind in the IJCAI community to offer a platform for researchers to discuss and elaborate their views at the intersection of AI, robotics and spoken dialogue modelling. The proceedings contain papers presented at the ROBOTDIAL.

The workshop originated from discussions at the 2020 Dagstuhl Seminar on “Spoken Language Interaction with Virtual Agents and Robots (SLIVAR): Towards Effective and Ethical Interaction”, and it continued and extended discussions on appropriate architectures and representations, in order to build a joint understanding of the aspects and features that address the pertinent questions in the multidisciplinary field of robot dialogues. Original submissions were encouraged on topics related to, but not limited to, the following:

- models of human-robot interactions and dialogue
- multimodal human-robot dialogue
- non-verbal communication in human-robot dialogue
- language modeling for robot interactions
- robots and unstructured conversation
- user studies with human-robot dialogue
- paralinguistics for robot interaction
- cognitive architectures for spoken dialogues
- representations for interaction and dialogue modelling

The workshop webpage is at:

[http://sap.ist.i.kyoto-u.ac.jp/ijcai2020/robotdial/](http://sap.ist.i.kyoto-u.ac.jp/ijcai2020/robotdial/)

The workshop also featured invited papers from the LaCATODA workshop:

Programme

ROBOTDIAL 2020 took place on January 8th 2021 and was held completely online via Virtual Chair and Zoom. In order to accommodate speakers from around the world, the workshop had two main sessions: one in the morning and one in the evening (Japanese time).

“Morning” Session

Opening and keynote (Chaired by Kristiina Jokinen and Divesh Lala)

12:00 UTC / 1:00 CET / 9:00 JST
Opening remarks

12:15 UTC / 1:15 CET / 9:15 JST
Nigel Ward and Matthew Marge
Spoken Language Interaction with Robots

Paper talks 1 (Chaired by Divesh Lala)

1:00 UTC / 2:00 CET / 10:00 JST
Daina Teranishi and Masahiro Araki
Improving user engagement with dialogue systems through meaningful response generation

1:20 UTC / 2:20 CET / 10:20 JST
Kristiina Jokinen
Cascaded Dialogue Modelling for Situated Human-Robot Interactions

1:40 UTC / 2:40 CET / 10:40 JST  Break

Paper talks 2 (Chaired by Kristiina Jokinen)

2:00 UTC / 3:00 CET / 11:00 JST
Divesh Lala, Koji Inoue, Kenta Yoto and Tatsuya Kawahara
Findings from human-android dialogue research with ERICA

2:20 UTC / 3:20 CET / 11:20 JST
Seiya Kawano, Koichiro Yoshino, David Traum and Satoshi Nakura
Dialogue Structure Parsing on Multi-Floor Dialogue Based on Multi-Task Learning

2:40 UTC / 3:40 CET / 11:40 JST  Break

Paper talks 3 (Chaired by Rafal Rzepka)

3:00 UTC / 4:00 CET / 12:00 JST
Hiromi Narimatsu, Hiroaki Sugiya, Masahiro Mizuki and Tsunehiro Arimoto
Rationale for Using Chat-Oriented Dialogue System’s Experience to Convey Empathy
Juuso Eronen, Michal Ptaszynski, Fumito Masui, Gniewosz Leliwa, Michal Wroczynski, Mateusz Piech and Alexander Smywinski-Pohl

Initial Study into Application of Feature Density and Linguistically-backed Embeddings to Improve Machine Learning-based Cyberbullying Detection

3:40 UTC / 4:40 CET / 12:40 JST Break
4:00 UTC / 5:00 CET / 13:00 JST Final discussions

“Evening” Session

Paper talks 4 (Chaired by Pierre Lison)

8:00 UTC / 9:00 CET / 17:00 JST
Opening remarks

8:20 UTC / 9:20 CET / 17:20 JST
Bernd Kiefer and Christian Willms
Implementing Diverse Robotic Interactive Systems Using VOnDA

8:40 UTC / 9:40 CET / 17:40 JST
Ivana Kruijff-Korbayova and Kristiina Jokinen
Dialogue Processing and System Involvement in Multimodal Task Dialogues

9:00 UTC / 10:00 CET / 18:00 JST Break

Paper talks 5 (Chaired by Martin Heckmann)

9:20 UTC / 10:20 CET / 18:20 JST
Stefan Schiffer, Julia Arndt, Laura Platte, Jayadev Madyal and Marlon Spangenberg
DiaBuLI - Building Dialogues for Human-Robot Interactions by Learning from Object Information

9:40 UTC / 10:40 CET / 18:40 JST
Karol Nowakowski, Michal Ptaszynski and Fumito Masui
Spicing up the Game for Under-resourced Language Learning: Preliminary Experiments with Ainu Language-speaking Pepper Robot

10:00 UTC / 11:00 CET / 19:00 JST Break

LaCATODA Invited Talk (Chaired by Rafal Rzepka)

10:20 UTC / 11:20 CET / 19:20 JST
Patrycja Tempaska, Gniewosz Leliwa
Overcoming Evil with Good: Reducing Verbal Violence with Automatic Counter-speech Interventions

10:40 UTC / 11:40 CET / 19:40 JST Break

11:20 UTC / 12:20 CET / 20:20 JST Final discussions and wrap up
Programme Committee

- Gerard Bailly (GIPSA-Lab, France)
- Timo Baumann (University of Hamburg, Germany)
- Hendrik Buschmeier (Bielefeld University, Germany)
- Nick Campbell (Trinity College Dublin, Ireland)
- Irina Illina (University of Lorraine, France)
- Koji Inoue (Kyoto University, Japan)
- Tatsuya Kawahara (Kyoto University, Japan)
- Casey Kennington (Boise State University, USA)
- Dorothea Kolossa (Ruhr University Bochum, Germany)
- Valia Kordoni (Humboldt University Berlin, Germany)
- Ivana Kruijff-Korbayova (DFKI, Germany)
- Wolfgang Minker (University of Ulm, Germany)
- Roger Moore (University of Sheffield, UK)
- Mikio Nakano (C4A Research Institute, Inc., Japan)
- Alexandros Papangelis (Amazon Alexa AI, USA)
- David Schlangen (University of Potsdam, Germany)
- Svetlana Stoyanchev (Toshiba Research Europe)
- Serge Thill (Radboud University, The Netherlands)
- David Traum (USC ICT, USA)
- Stefan Ultes (Daimler AG, Germany)

The workshop had more than 60 participants. We wish to thank the Programme Committee, the presenters and all the workshop participants for a successful online event. The plans are to edit a Special Issue on these topics.

Workshop Organizers

- Kristiina Jokinen (AIRC, AIST Tokyo Waterfront, Japan)
- Martin Heckmann (Aalen University, Germany)
- Divesh Lala (Kyoto University, Japan)
- Pierre Lison (Norsk Regnesentral, Norway)