

Preface

The workshop theme

In recent years, the human ability to *reasoning about mental states of others* in order to explain and predict their behavior has come to be a highly active area of research. Researchers from a wide range of fields – from biology and psychology through linguistics to game theory and logic– contribute new ideas and results.

This interdisciplinary workshop, collocated with the Thirteenth International Conference on Theoretical Aspects of Rationality and Knowledge (TARK XIII), aims to shed light on models of social reasoning that take into account realistic resource bounds. People reason about other people’s mental states in order to understand and predict the others’ behavior. This capability to reason about others’ knowledge, beliefs and intentions is often referred to as *theory of mind*.

Idealized rational agents are capable of recursion in their social reasoning, and can reason about phenomena like common knowledge. Such idealized social reasoning has been modeled by modal logics such as epistemic logic and BDI (belief, desire, intention) logics and by epistemic game theory. However, in real-world situations, many people seem to lose track of such recursive social reasoning after only a few levels. The workshop provides a forum for researchers that attempt to analyze, understand and model how resource-bounded agents reason about other minds.

Topics of interest of the workshop include but are not limited to the following:

- Logics modeling human social cognition;
- Computational cognitive models of theory of mind;
- Behavioral game theory;
- Bounded rationality in epistemic game theory;
- Relations between language and social cognition;
- Models of the evolution of theory of mind;
- Models of the development of theory of mind in children;
- Bounded rationality in multi-agent systems;
- Formal models of team reasoning;
- Theory of mind in specific groups, e.g., autism spectrum disorder;
- Complexity measures for reasoning about other minds.

Invited talks at the workshop

In addition to the contributed lectures and poster presentations, of which the articles are gathered in this volume, the workshop also presents three invited speakers:

- Petra Hendriks (University of Groningen): Bounded reasoning about others in language: Evidence from language acquisition;
- Barbara Dunin-Kępicz (Warsaw University and Polish Academy of Sciences): Calibrating the expressiveness of collective notions;
- Chris Baker (Massachusetts Institute of Technology): Modeling human reasoning about beliefs, desires, goals and social relations.

Acknowledgments

We would like to thank all the people who helped to bring about the workshop *Reasoning About Other Minds: Logical and Cognitive Perspectives*. First of all, we thank all invited speakers, contributed speakers and poster presenters for ensuring a diverse and interesting workshop.

Special thanks are due to the members of the program committee for their professionalism and their dedication to select papers of quality and to provide authors with useful, constructive feedback during the in-depth reviewing process:

Program committee

- Johan van Benthem (University of Amsterdam and Stanford University)
- Robin Clark (University of Pennsylvania)
- Hans van Ditmarsch (University of Sevilla)
- Peter Gärdenfors (Lund University)
- Sujata Ghosh (University of Groningen)
- Noah Goodman (Stanford University)
- Bart Hollebrandse (University of Groningen)
- Eric Pacuit (Tilburg University and University of Maryland)
- Rohit Parikh (City University of New York)
- Jun Zhang (University of Michigan)

In addition, a number of experts outside the program committee also reviewed submissions to the workshop, for which we are very grateful. Thank you Krzysztof Apt, Boicho Kokinov, Barteld Kooi, Katja Mehlhorn, Ben Meijering, Olivier Roy, Sunil Simon, and Jakub Szymanik!

We would like to thank our colleagues in the TARK Organizing Committee for handling many organizational tasks: Virginie Fiutek, Sujata Ghosh, Barteld Kooi, Ben Meijering, Bryan Renne, Ben Rodenhäuser, Olivier Roy, Sonja Smets, Allard Tamminga, and Bart Verheij. The workshop website would not exist without the great help of Ben Meijering and Sujata Ghosh in Groningen.

Finally, we would like to express our gratitude to NWO for largely financing this workshop through Vici grant NWO 227-80-00, *Cognitive Systems in Interaction: Logical and Computational Models of Higher-Order Social Cognition*. We also acknowledge the other TARK sponsors for their financial support: the University

of Groningen, CWI, KNAW, NWO, Springer, Gemeente Groningen, Provincie Groningen, and the Dutch Association for Logic (VvL).

Amsterdam
Groningen

Jan van Eijck
Rineke Verbrugge

July 2011