

SOCIAL ROBOTICS AND HUMAN EXPERIENCE WORKSHOP ABSTRACTS

**11 April 2017, Centre for Cognitive Science (COGS), University of
Sussex**

Organised by Steve Torrance (Sussex) and Ron Chrisley (Sussex) for COGS,
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Consciousness Science, Sussex University.

A social psychological perspective on social robotics, Professor Friederike Eyszel (Bielefeld)

The presentation features recent research from our lab at CITEC, Bielefeld University: This work combines basic and applied research focii and sheds light on social psychological aspects of successful human-machine interaction and technology acceptance. Findings on contemporary attitudes towards different types of robots and predictors of user willingness to accept robots in everyday life (e.g., in schools) settings will be presented. Furthermore, the talk addresses the notion of psychological anthropomorphism and discusses what it means to be human and how this notion is applied to technical systems. This is illustrated by various experimental studies on the determinants of psychological anthropomorphisation.

Friederike Eyszel is Professor of Applied Social Psychology and Gender Research at the Center of Excellence Cognitive Interaction Technology at Bielefeld University, Germany. <https://www.cit-ec.de/en/ge/prof-dr-friederike-eyssel>

Robots and relationships, Professor Margaret Boden (Sussex)

Can we have genuine relationships with non-human beings? Many people think so. And some think they have them with computers (e.g. commercially-available chatbots). I think this is a delusion. Without sharing the human (or even mammalian) condition, there's no ground for empathy there. We shouldn't deceive people into thinking otherwise. (In short, Joe Weizenbaum had a point!)

Margaret A. Boden OBE ScD FBA is Research Professor of Cognitive Science at the University of Sussex, where she helped develop the world's first academic programme in cognitive science. <http://www.ruskin.tv/maggieb/>

Humanizing robots, Professor Giulio Sandini (Genova)

Since the first humanoid robot announced by Honda 30 years ago the complexity and the performance of humanoid robots has been steadily increasing and nowadays we can claim that sensing and motion abilities of robots are approaching those of humans. Moreover, the computational power of today's computers and the possibility to process enormous amount of data in real time, has created the impression that a society where humans and robots co-exist and collaborate is not very far away. Is this true? During the talk I will argue that robots interacting with humans in everyday situations, even if motorically and sensorially very skilled and extremely clever in action execution are still very much primitive in their ability to understand actions executed by others and that this is the major obstacle for the advancement of social robotics. I will argue that the

reason why this is happening is rooted in our limited knowledge about ourselves and the way we interact socially. I will also argue that robotics can serve a very crucial role in advancing this knowledge by joining forces with the communities studying the cognitive aspects of social interaction and by co-designing robots able to establish a mutual communication channel with the human partner to discover and fulfil a shared goal (the distinctive mark of human social interaction).

Giulio Sandini is Director of Research at the Italian Institute of Technology and full professor of bioengineering at the University of Genoa.

There's no such thing as social robotics. Long live social robotics! Professor Massimiliano Lorenzo Cappuccio (UAEU)

Social robotics research has often tended to assume that the robot's capability to match the human's social characteristics and intelligence is crucial to establish successful human-robot interactions. I intend to criticize this assumption and propose an alternative perspective. In the first part of my talk I will rely on a Dreyfusian line of argument to polemically point out that, if social robotics had truly relied on the reciprocity of human and artificial social behaviours, or the latter's capability to imitate the former, then no true social interaction between humans and robots would have ever been possible, given the unsophisticated simplicity and well-known limitations of today's social robots. In the second part, I will highlight how the most successful examples of social robots, especially those designed for clinical applications, build on a rather different assumption: it is not the robot's capability to imitate the human, but the fulfillment of the human's expectations to encounter a social partner, that makes human-robot interaction accomplished and successful. Understanding how these expectations are usually generated and fulfilled first of all requires appreciation of how the relationship between human and robot is not comparable to a standard social interaction between intelligent beings. It rather essentially amounts to a form of self-stimulation enacted by the human through an external device, whose function is not to replicate or even imitate social intelligence, but directly solicit pro-social expectations and immediate reactions. Drawing on data from primatology and developmental psychology, I will highlight how expectations and responses of this kind (especially parental care instincts and child rearing cultural prototypes), build on the human natural predisposition to pretend play and pantomime more than on the alleged human's predisposition to establish social relationships based on similarity or reciprocity. To conclude, I will suggest that the experimental methodology and the theoretical models of social robotics should keep into account the fact that the cognitive work, presupposed by human-robot interaction, is nothing more than a self-stimulatory system, almost entirely carried out by the human system, with very little or even no truly intelligent input from the robot.

Max Cappuccio is associate professor of philosophical psychology at UAE University, where he directs the Interdisciplinary Cognitive Science Laboratory.

Social robotics and autism, Professor Antonio Chella (Palermo)

The talk summarizes the results and experiments of the project "Robotics and Autism," conducted by the RoboticsLab of the University of Palermo and the Autism Spectrum Disorder (ASD) professionals of the Italian regional health service (ASP6 Palermo). The project aimed to experience the employments of humanoid robots as social mediators

between ASD children and classmates. The first part of the talk discusses the experiences conducted with ASD children (11 years old) at a middle school in Palermo during a whole quarter. The objectives of the project were the assessment of the robots NAO and Telenoid on the interaction and social integration among ASD children and schoolmates. The second part of the talk speculates about the development of an embodied model of autism by modelling an (abnormal) Theory of Other Mind and Theory of Own Mind on a humanoid robot and the relevance of this study for a better understanding of the nature of self-consciousness.

*Antonio Chella is Professor at the **Università degli Studi di Palermo** in the Department of Industrial and Digital Innovation (DIID), Palermo, Italy. https://www.researchgate.net/profile/Antonio_Chella*

Current social technology: Near future social robotics, Dr Robert Clowes (New University of Lisbon)

There is a lot of artificial intelligence technology already deeply involved in human social life. Since the development of the social web, internet technology, derived from AI, or even leading AI research (as in the case of Google Deep Mind) has been turned toward the surveillance, profiling and predicting of an ever-increasing segment of human social life. One example is the Edgerank algorithm deployed by Facebook to manage which posts of which friends appear on our personal newsfeed, re-mediating and changing the structure of our social networks in the process. This is only the beginning. Such technology, first inhabiting our mobile phones, is now worn as clothing, taking up residence in our cars, and with Amazon's Alexa, our homes. This technology is not near future but here in the present. Indeed internet-based social technologies are likely to give us a snapshot of where social robotics will be going in the near future. In this talk I analyse the landscape of current social technologies and how they are likely to dovetail with social robotics. As increasingly autonomous devices interact with us using detailed knowledge of our human social interactions and history, social AI technology will form the hidden inference basis for social robotics. This talk aims to point to some of the dilemmas and opportunities, both technological and ethical, this development suggests.

Rob Clowes is a member of the Lisbon Mind & Cognition Group, at ARGLAB, Nova Institute of Philosophy, at the New University of Lisbon (Universidade Nova de Lisboa).

<http://mindandcognition.weebly.com/robert-clowes.html>

Steve Torrance

Steve Torrance has been a visiting senior research fellow at the University of Sussex since the early 2000s, based in the School of Engineering and Informatics. With Ron Chrisley he was a co-founder of the Centre for Cognitive Science (COGS) at Sussex. He is also Professor Emeritus in Cognitive Science from Middlesex University: before retirement from there he held positions, successively, within the subject departments of Philosophy, Computer Science and Psychology.

Ron Chrisley

Ron Chrisley is Reader in Philosophy in the School of Engineering and Informatics at the University of Sussex. Since 2003 he has been the director of the Centre for Research in Cognitive Science (COGS) at the University of Sussex, where he is also on the faculty of the Sackler Centre for Consciousness Science.