AARHUS UNIVERSITY

ROBO**PHILOSOPHY**

SOCIABLE ROBOTS AND THE FUTURE OF SOCIAL RELATIONS

AARHUS UNIVERSITY 20 - 23 AUGUST 2014

CONTENTS

On twitter? — Conference hashtag: #rpc_2014

Walk to conference dinner:

WELCOME BY THE CONFERENCE ORGANIZERS

Welcome to the first conference in "robo-philosophy"! – We, the conference organizers, would like to thank you for creating this event by your participation, and to offer a brief reflection on "robo-philosophy."

Since Giuseppe Veruggio coined the term "robo-ethics" in 2004, philosophers have observed with increasing attention the rise and progress of social robotics. Conferences in artificial intelligence, robotics, sociology, anthropology, and philosophy of technology included an increasing number of talks on the specific philosophical problems that arise with the creation of artificial agents with social intelligence and interactive capabilities.

However, the philosophical reflection of social robotics pertains to all systematic areas of philosophy, not only to ethics and philosophy of mind, but also to metaphysics, ontology, epistemology, philosophy of science, philosophical anthropology and aesthetics, philosophy of culture, political philosophy, and even to philosophy of religion. To our knowledge this conference is the first philosophical event where researchers from all major disciplines of philosophy come together to discuss sociable robots, and this is one historical particularity we wish to highlight by speaking of "robo-philosophy."

More importantly, the term "robo-philosophy" is to invite reflections about a possible turning point in the discipline of philosophy itself. Given that all aspects of human life constitutively involve social interactions, it is hardly surprising that social robotics is a topic for all areas of philosophy; but if social interactions are no longer distinctly human, philosophy may have to change its job description. Can or should philosophy continue to understand itself as the 'inquiry into the human condition' or will it become the 'general theory of interactions'?

Differently put, will philosophy become "robo-philosophy"? For it seems that social robotics puts all philosophical questions into a new key. So far philosophical questions have taken the general form 'what is X (truth, justice, morality, agency etc.)?' by inquiring about conditions C for something's being X—e.g., when is an action morally good, a decision rational, a society just, a belief true, an item beautiful? With the rise of social robotics, our concern in philosophy is not only how we can state conditions C in the simplest, most adequate, and illuminating way. Suddenly the question is also whether we can or should restrict C in such a way that they apply only to humans, or whether we should take the viewpoints (?) and capacities of artificial intelligent beings into account.

The 'new key,' the ever present foil of the question of human exceptionalism for any philosophical topic, manifests itself in a number of core issues that run across the different systematic perspectives in the philosophy of social robotics. In the very foreground is the simulation issue: Do we have reason to assume that certain human capacities cannot be simulated, if so, is this a sense of simulation that we make sufficiently explicit as to make it philosophically relevant? A second systematically cross-cutting theme is the issue of conceptual augmentation: Should we try to subsume the new kind of quasi-social interactions among humans and machines under the conceptual distinctions that we have worked out, or should we develop new conceptual tools? The third theme, the issue of rational desirability, has greatest public attention: Should we, humans, want social robots; will they benefit our goals as human beings? These three generic themes run across the 46 talks of this conference and in the course of our discussions we will likely discover several more.

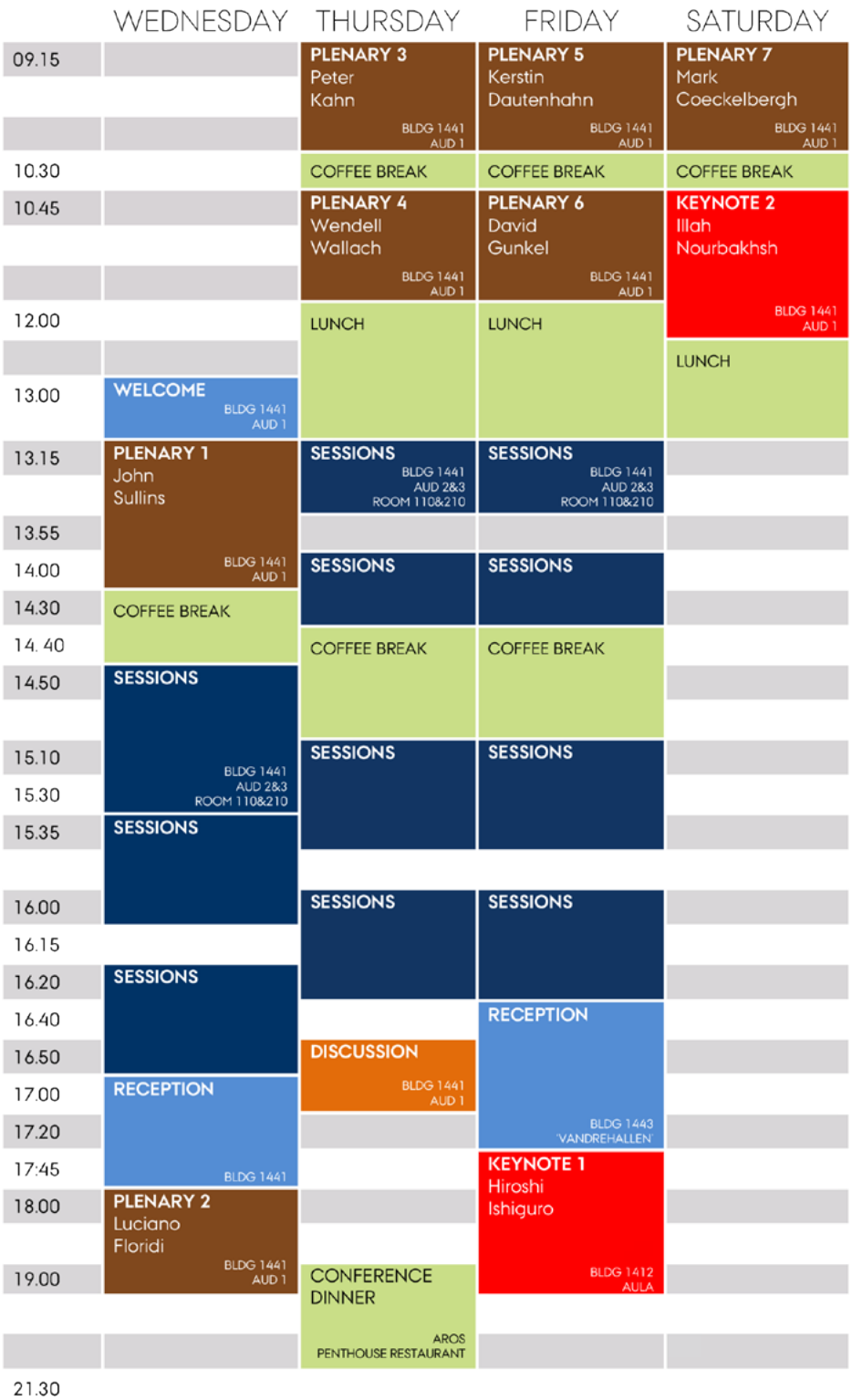
The focus of our conference, the future of social relations, is but one topical area in the wide field of philosophical reflections on developments in social robotics. But it is likely to remain a central topic, even though a look at the projectable development in social robotics may suggest that our

interactions with robotic agents with continuous processing of internet information soon will profoundly deviate from the model of human social interactions. We hope that our joint discussions on "robo-philosophy" will bring us one step further in exploring Sherry Turkle's suggestion that we are currently creating what later generations will identify (decry?) as the "robotic moment in human history."

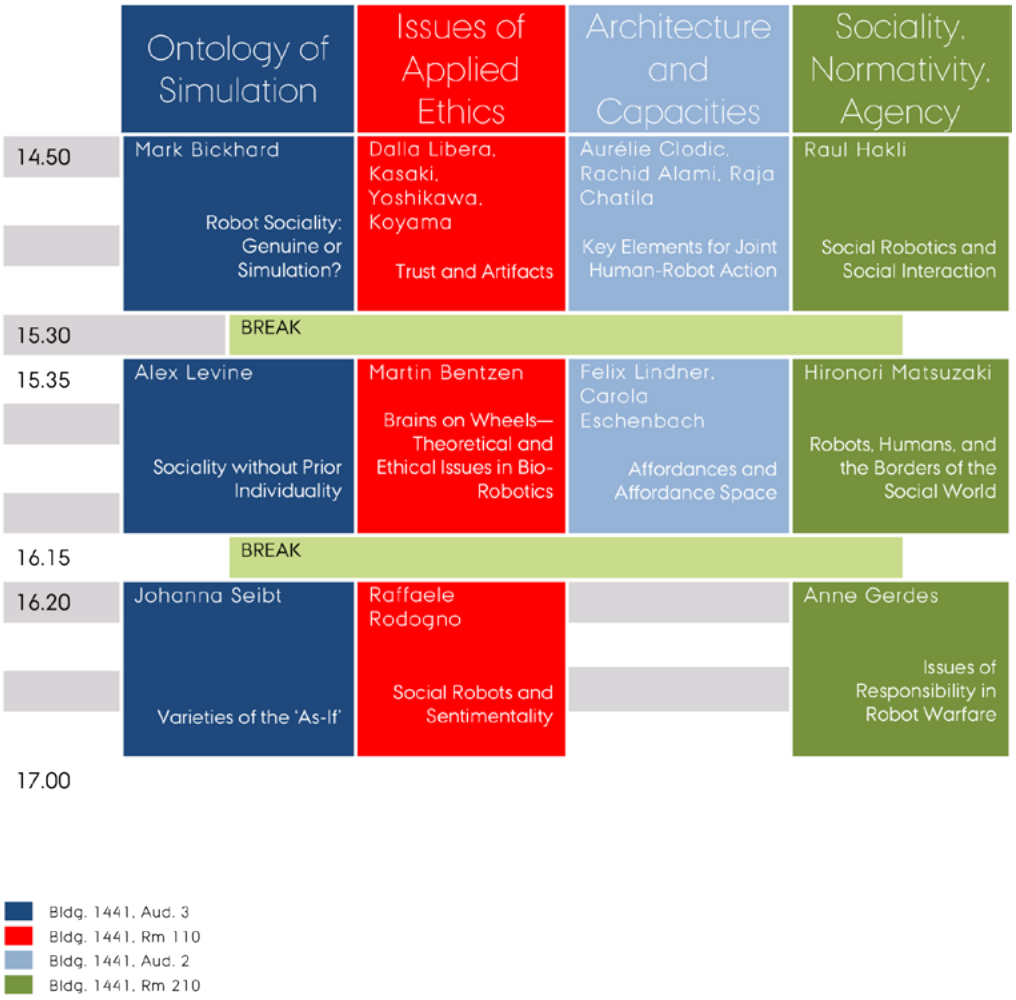
We wish you a very pleasant and productive stay!

Johanna Seibt, Raul Hakli, Marco Nørskov

OVERVIEW OVER CONFERENCE PROGRAM



PARALLEL SESSIONS WEDNESDAY

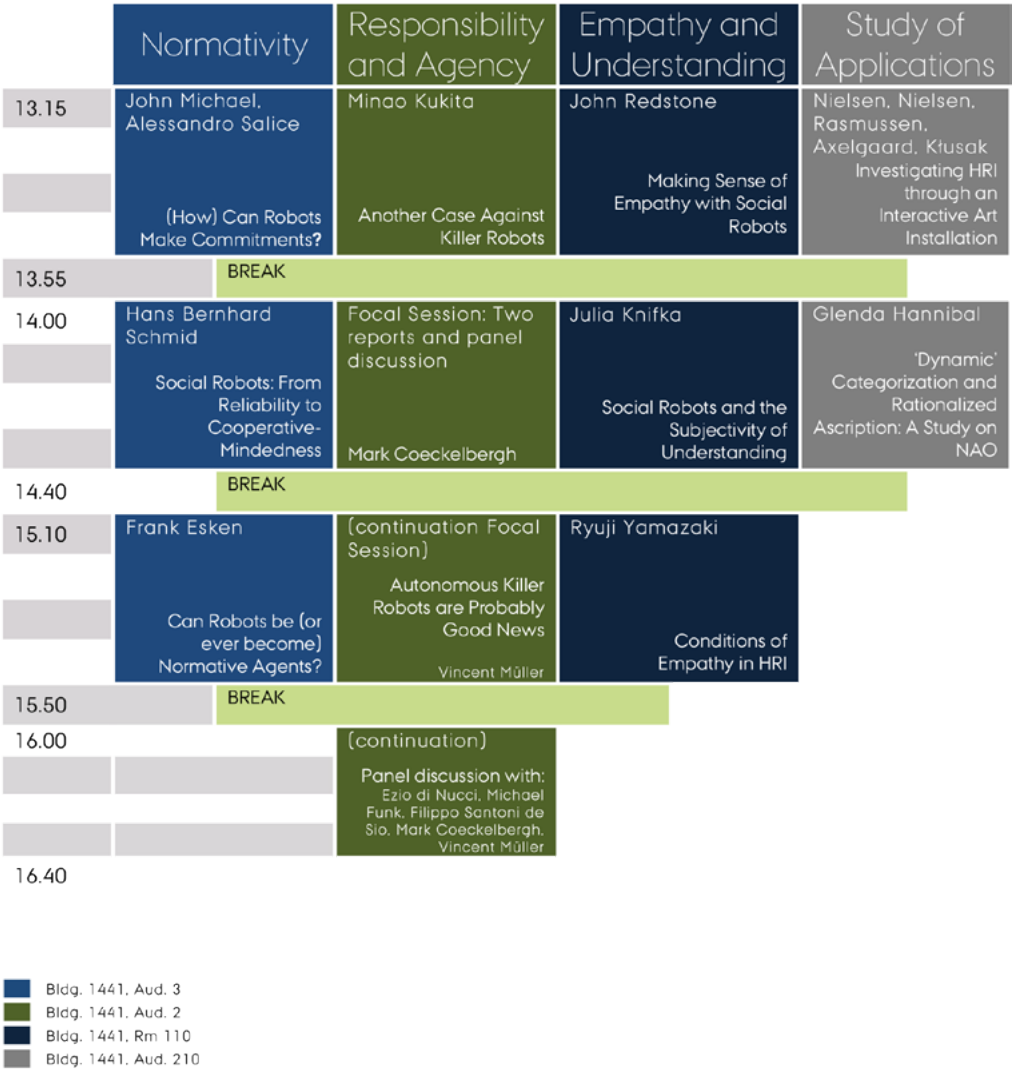


PARALLEL SESSIONS THURSDAY

	Embodied and Social Cognition	Communi-cation	Ethics and Moral Agency	Cultural and Political Issues
13.15	Tom Ziemke Robots Are Not Embodied	Gunhild Borggreen Robots Cannot Lie	Bertram Malle Moral Competence in Robots?	Glenda Shaw Gendered by Design
13.55	BREAK			
14.00	Maria Brincker The Dynamics of Social Affordances	(Panel Session with reports) Communication-theoretic Issues in Social Robotics Charles Ess Eleanor Sandry	Niklas Toivakainen Social Robots as a Mirror of (Failed) Communion	John McKnight Dombots—An Ethical and Technical Challenge
14.40	BREAK			
15.10	Jedediah Allen Social Meta-Learning	(continuation) Satomy Sugiyama, Nello Barile Michaela Pfadenhauer, Christoph Dukat	Daniel Hromada, Ilaria Gaudiello Introduction to the Moral Induction Model and Its Deployment in Artificial Agents	Matthew Gladden The Social Robot as 'Charismatic Leader'
15.50	BREAK			
16.00	Victor Fernández Castro Shaping Robotic Minds	(continuation)	Migle Laukyte Artificial Agents: Some Consequences of a Few Capacities	Marco Nørskov HRI and Human Self-realization
16.40				

Bldg. 1441, Aud. 3
Bldg. 1441, Rm 110
Bldg. 1441, Rm 210
Bldg. 1441, Aud. 2

PARALLEL SESSIONS FRIDAY



KEY NOTE LECTURES

HIROSHI ISHIGURO

Name

Hiroshi Ishiguro (Professor)

Affiliation

Visiting Director of ATR Hiroshi Ishiguro Laboratories & Professor of Osaka University

Title

Android Philosophy

Session

Keynote lecture

Time and location

Friday, August 22, 17:45-19:15; Building 1412, Aula

Abstract

Androids, the very humanlike robots, are mirrors to reflect humanities. By building them, engineering researchers can establish methodologies to represent humanities on the androids and cognitive scientists and philosophers can use them as testbeds for their studies of humanities. Cognitive scientists focused on the basic function of human brains but not so much on complicated meta-level phenomena, such as heart, mind, and consciousness. However, these meta-level phenomena, which are often discussed in philosophy, can be investigated by studying human-android interactions. We call this new framework “android philosophy.” This talk introduces a series of androids developed in ATR Hiroshi Ishiguro Laboratories and Osaka University and discusses on the philosophical issues.

About the speaker

Professor Hiroshi Ishiguro (　Ishiguro Hiroshi) is director of the Intelligent Robotics Laboratory, part of the Department of Systems Innovation in the Graduate School of Engineering Science at Osaka University, Japan. A notable development of the laboratory is the actroid, a humanoid robot with lifelike appearance and visible behaviour such as facial movements. In robot development, Professor Ishiguro concentrates on the idea of making a robot that is as similar as possible to a live human being; at the unveiling in July 2005 of the "female" android named Repliee Q1Expo. In his opinion, it may be possible to build an android that is indistinguishable from a human, at least during a brief encounter. Ishiguro has been listed as one of the 15 Asian Scientists To Watch by Asian Scientist Magazine on 15 May 2011.

ILLAH R. NOURBAKHSH

Name Illah R. Nourbakhsh (Professor)

Affiliation Carnegie Mellon University

Title **Robots, Empowerment, and Equity**

Session Keynote lecture

Time and location Saturday August 23, 10:45-12:15, Building 1441, Auditorium 1

Abstract

Robotics has introduced unexpected, new dynamics to fundamentally social aspects of human empowerment and human equity. In this talk I review two fundamental principles that forge human hope: empowerment and equity. I will then describe how robotics is influencing both dystopian and utopian futures of these constructions, and how technologists might influence the social downstream implications of our work.

About the speaker

Illah R. Nourbakhsh is Professor of Robotics, director of the Community Robotics, Education and Technology Empowerment (CREATE) lab and head of the Robotics Masters Program in The Robotics Institute at Carnegie Mellon University. His current research projects explore community-based robotics, including educational and social robotics and ways to use robotic technology to empower individuals and communities, as described in this CREATE Lab white paper. The CREATE Lab's researchers lead diverse projects, from the application of GigaPan technology to scientific, citizen science and educational endeavours internationally to ChargeCar, a community-based effort to convert gasoline cars into locally customized electric vehicles; Hear Me, a project that uses technology to empower students to become leads in advocating for meaningful social change; Arts and Bots, a program for creative art and robotics fusion in middle school; Message from Me, a new system of communication between pre-K children and their parents to improve home-school consistency; and BodyTrack, an empowerment program that enables citizens to capture behavior, health factors and find ways to improve their well-being, to many other programs. The CREATE Lab's programs have already engaged more than 23,000 people globally, and the CREATE Satellite program is forging additional CREATE lab partners in new geographic zones. Illah's past research has included protein structure prediction under the GENOME project, software reuse, interleaving planning and execution and planning and scheduling algorithms, as well as mobile robot navigation. While on leave from Carnegie Mellon in 2004, he served as Robotics Group lead at NASA/Ames Research Center. He was a founder and chief scientist of Blue Pumpkin Software, Inc., which was acquired by Witness Systems, Inc. Illah earned his bachelor's, master's and PhD in computer science at Stanford University and has been a faculty member of Carnegie Mellon since 1997. In 2009, the National Academy of Sciences named him a Kavli Fellow. In 2013 he was inducted into the June Harless West Virginia Hall of Fame. He is co-author of the second edition MIT Press textbook, Introduction to Autonomous Mobile Robots. He is author of the newly published MIT Press book for general readership, Robot Futures.

PLENARY LECTURES

JOHN P. SULLINS

Name John P. Sullins, Professor of Philosophy, Chair of the Department of Philosophy, Chair of the Center for Ethics, Law and Society (CELS)

Affiliation **Sonoma State University, California, Department of Philosophy, Center for Ethics Law and Society**

Title Machine Morality Operationalized

Session Plenary 1

Time and location Wednesday, August 20, 13:15-14:30; Building 1441, Auditorium 1

Abstract Given that the topic variously named; machine morality, machine ethics, and robo-ethics, has begun to be taken seriously by grant funding agencies as well as by the media and the public at large, it is important to make clear the differences between what we mean when we are talking about these topics in an open philosophical context and what we can expect to be operationalized from those discussions in the design of actual technologies. This is made more urgent by the fact that the proposed milieu for operational moral machines is not simply research labs but the need for these to be quickly deployed in military weapons systems. This problem cannot be taken lightly given that actual human lives hang in the balance and it matters that we get it right the first time. To advance this discussion I will give my thoughts on the proper role of the philosopher in the design of new technologies as well as describing the operational potential of ethical systems in general, artificial moral agency, artificial ethical agency, and artificial phronesis. It will be shown that a modest level of artificial ethical agency is possible and I will suggest some appropriate uses for that technology.

About the speaker John P. Sullins is a professor of philosophy at Sonoma State University in California where he has taught since 2004. He is the chair of the SSU Center for Ethics Law and Society. His current research and publications involve the study of malware ethics, and the analysis of the ethical impacts of military and personal robotics technologies. He has served as the secretary for the Society of Philosophy and Technology since 2005 and the Secretary and treasurer since 2011. He is the 2011 recipient of the Herbert Simon Excellence in Research award from the International Association of Computers and Philosophy.

LUCIANO FLORIDI

Name Luciano Floridi, Professor

Affiliation Oxford Internet Institute, Oxford University, UK

Title **Smart, Autonomous, and Social: Robots as a Challenge to Human Exceptionalism**

Session Plenary 2

Time and location Wednesday, August 20, 17:45-19:00; Building 1482, Auditorium 1

Abstract

In this paper I shall discuss some consequences of robots' increasingly smart, autonomous, and social behaviour. The main thesis supported is that robotics (and AI in general) offers a historical opportunity to rethink human exceptionalism in at least three ways. Intelligent behaviour is confronted by smart behaviour, which can be adaptively more successful in the infosphere. Free behaviour is confronted by the predictability and manipulability of human choices, and by the development of artificial autonomy. And human sociability is confronted by its artificial counterpart, which can be both attractive for humans and indistinguishable by them. In the conclusion, I shall suggest that the development of artificial agents does not lead to any fanciful realization of science fiction scenario, which are irresponsibly distracting. It rather invites us to reflect more seriously and less complacently on who we are, could be, and would like to become. I shall suggest that human exceptionalism is not incorrect but that it lies in a special and perhaps irreproducible way of being successfully dysfunctional. We are a glitch in the natural system, not the ultimate app. We shall remain a bug, while robots will be more and more a feature in Galileo's mathematical book of nature.

About the speaker

Luciano Floridi is Professor of Philosophy and Ethics of Information at the University of Oxford, Senior Research Fellow and Director of Research at the Oxford Internet Institute, and Governing Body Fellow of St Cross College, Oxford. He is also Adjunct Professor, Department of Economics, American University, Washington D.C. Among his recognitions, he has been awarded the Cátedras de Excelencia Prize by the University Carlos III of Madrid (2014-15), was the UNESCO Chair in Information and Computer Ethics and Gauss Professor of the Academy of Sciences in Göttingen. He is a recipient of the APA's Barwise Prize, the IACAP's Covey Award, and the INSEIT's Weizenbaum Award. He is an AISB and BCS Fellow, Editor in Chief of Philosophy & Technology and of the Synthese Library. In 2012, he was Chairman of EU Commission's "Onlife Initiative". His most recent books are: The Fourth Revolution - How the infosphere is reshaping human reality (OUP, 2014), The Ethics of Information (OUP, 2013), The Philosophy of Information (OUP, 2011), The Cambridge Handbook of Information and Computer Ethics (editor, CUP 2010), and Information: A Very Short Introduction (OUP, 2010).

PETER H. KAHN

Name

Peter H. Kahn, Jr., Professor

Affiliation

Department of Psychology and Director of the Human Interaction with Nature and Technological Systems (HINTS) Laboratory, University of Washington, USA

Title

Social and Moral Relationships with Robots

Session

Plenary 3

Time and location

Thursday, August 21, 9:15-10:30; Building 1441, Auditorium 1

Abstract

As social robots become more prevalent, they will pose us with significant challenges, socially and morally. In this presentation, I'll discuss some of my lab's psychological research on this topic. My studies are in collaboration with Hiroshi Ishiguro and Takayuki Kanda, using ATR's humanoid robot, Robovie. I'll present and show video clips from three empirical studies, where we investigated 3 questions, respectively: (a) Do children and adults believe that humanoid robots can have moral standing? (b) Do adults hold humanoid robots morally accountable for causing harm to humans? and (c) Can adults form psychologically intimate relationships with humanoid robots such that they will keep a robot's secret from another human? Then I'll speak about a current project wherein we seek to provide a new vision for HRI: of how interacting with networked social robots can enhance human creativity. I'll suggest that in HRI and more broadly HCI we need to hold out a vision of creating technology so that people can flourish. In my view, that involves integrating exponential technological growth with deep authentic connection with other humans, and with a natural world that we're destroying too quickly, and at our peril.

About the speaker

Peter H. Kahn, Jr. is Professor in the Department of Psychology and Director of the Human Interaction with Nature and Technological Systems (HINTS) Laboratory at the University of Washington. He is also Editor-in-Chief of the academic journal Ecopsychology. His research seeks to address two world trends that are powerfully reshaping human existence: (1) The degradation if not destruction of large parts of the natural world, and (2) unprecedented technological development, both in terms of its computational sophistication and pervasiveness. He received his Ph.D. from the University of California, Berkeley in 1988. His publications have appeared in such journals as Child Development, Developmental Psychology, Human-Computer Interaction, and Journal of Systems Software, as well as in such proceedings as CHI, HRI, and Ubicomp. His 5 books (all with MIT Press) include Technological Nature: Adaptation and the Future of Human Life (2011). His research projects are currently funded by The National Science Foundation.

WENDELL ARNHOLD WALLACH

Name

Wendell Arnhold Wallach, Bioethics Scholar

Affiliation

Interdisciplinary Center for Bioethics, Yale University, USA

Title

Moral Machines and Human Ethics

Session

Plenary 4

Time and location

Thursday, August 21, 10:45-12:00; Building 1441, Auditorium 1

Abstract

Philosophers reflecting upon the prospects for developing machines capable of making moral decisions contend that this exercise sheds light upon human moral philosophy. Susan Anderson and Michael Anderson have claimed that machine ethics reveals hidden action principles. Wendell Wallach and Colin Allen propose that developing moral machines forces us to think more comprehensively about the various factors contributing to good moral judgment than has taken place to date. In particular, they focus upon the role of supra-rational capabilities (emotions, consciousness, a theory of mind, etc.) in making good moral judgments. And yet present day computational systems are vastly different from humans. Does the development of moral machines truly contribute to the philosophical understanding of ethics, or is that merely hyperbole offered by pioneers in this new field of research?

Some critics of machine ethics propose that ethical decision making can not be reduced to algorithms. Indeed, it remains unclear whether ethical theories such as consequentialism or Kant's categorical imperative are computationally tractable. And yet, if the philosophical study of ethics does not lead to action principles that might be instantiated algorithmically, what is its function? Questions raised by the development of moral machines force us to think deeply about the ways in which we humans are similar to and the manner in which we truly differ from the artificial entities we will create.

About the speaker

Wendell Wallach is a consultant, ethicist, and scholar at Yale University's Interdisciplinary Center for Bioethics. He is also a scholar with the Lincoln Center for Applied Ethics (ASU), a Fellow at the Institute for Ethics & Emerging Technology, and is a visiting scholar at The Hastings Center. At Yale Mr. Wallach has chaired the Center's working research group on Technology and Ethics for the past nine years. Mr. Wallach co-authored (with Colin Allen) Moral Machines: Teaching Robots Right From Wrong, which maps the new field of enquiry variously called machine ethics, machine morality, computational morality, or friendly AI. Presently he is writing a book to be published by Basic Books in 2015 on the governance, law, and ethical challenges posed by emerging technologies.

KERSTIN DAUTENHAHN

Name Kerstin Dautenhahn, Professor

Affiliation School of Computer Science, University of Hertfordshire, UK

Title **Social Robots as Companions: Challenges and Opportunities**

Session Plenary 5

Time and location Friday, August 22, 9:15-10:30; Building 1441, Auditorium 1

Abstract

Human-Robot Interaction is a growing area of research where researchers try to understand how to design robotic systems that can interact with people. My research focuses on companion robots that can provide useful assistance to users. While we focus on the one hand on fundamental issues of human-robot interaction, learning and adaptation, the research is inspired by concrete application areas. Two application areas are of particular interest, namely assistance for elderly users in a home context, and robot-assisted therapy for children with autism.
Since 2004, as part of the previous EU projects Cogniron and LIREC, as well as the current EU project ACCOMPANY we are developing social robots as companions, who can provide useful assistance in a socially acceptable manner. Target users are e.g. elderly people who might benefit from a robot in their home in order to help them live independently. Our studies are conducted in the University of Hertfordshire Robot House where we use the narrative framing technique in order to immerse study participants in our experimental scenarios. The second application area concerns research into robot assisted play for children with autism – an area that I have been studying since 1998 (see Aurora project). Autism is a life-long developmental disorder that impacts on communication and social interaction skills. The talk will introduce our research in this domain and focus on KASPAR, a robot designed and built in our research group, being used since 2005 in order to target interactions with children with autism that address particular developmental or therapeutic needs of the individual children. The talk will outline the particular challenges in the domain of companion robots, and lessons learnt from this research with implications for the field of Human-Robot Interaction in general and assistive technology in particular.

ACCOMPANY project: accompanyproject.eu
KASPAR project: www.kaspar.herts.ac.uk
Aurora project: www.aurora-project.com

About the speaker

Kerstin Dautenhahn is full Professor in the School of Computer Science at University of Hertfordshire in U.K. where she coordinates the Adaptive Systems Research Group. She has published more than 300 research articles on social robotics, human-robot interaction, assistive technology and Artificial Life. She has been Principal Investigator of her research team in several European and EPSRC funded projects. Prof. Dautenhahn is Editor in Chief of the journal "Interaction Studies: Social Behaviour and Communication in Biological and Artificial Systems", as well as Associate Editor of "Adaptive Behavior" (Sage Publications), the "International Journal of Social Robotics" (Springer), "IEEE Transactions on Affective Computing" and the "IEEE Transactions on Autonomous Mental Development". She is also on the Advisory Board of the journal "AI and Society" (Springer). As part of the euRobotics initiative she coordinates the Topic Group on "Natural Interaction with Social Robots".

DAVID J. GUNKEL

Name

David J. Gunkel
Professor and Presidential Teaching Professor

Affiliation

Department of Communication
Northern Illinois University, USA

Title

The Other Question: Rethinking the Issue of Robot Rights

Session

Plenary 6

Time and location

Friday, August 22, 10:45-12:00, Building 1441, Auditorium 1

Abstract

Philosophers as varied as Martin Heidegger, G. E. Moore, Slavoj Žižek and Daniel Dennett have all, at one time or another, argued that the objective of philosophy is not to supply answers to difficult questions but to examine the questions and our modes of inquiry. "The task of philosophy," Žižek writes, "is not to provide answers or solutions, but to submit to critical analysis the questions themselves, to make us see how the very way we perceive a problem is an obstacle to its solution." Following this procedure, I will argue that the way we have typically perceived and inquired about the problem of machine moral standing has been and continues to be an obstacle to its solution. In particular, I will (1) demonstrate how the usual way of proceeding, that is, asking questions that take the form of "Can machines have rights?" already involve considerable philosophical problems, and that these difficulties proceed not from the complex nature of the subject that is asked about but from the very mode of inquiry itself. In other words, I will demonstrate how asking this seemingly correct and intuitive question might already be the problem. (2) In response to this, I will advocate for another mode of questioning that is capable of ascertaining the full impact and significance of social robotics. This question, namely "Should machines have rights?" is not concerned with first determining or deciding the ontological character, the inner workings, or essential qualities of others. Instead it employs a phenomenological methodology that approaches the question of moral standing otherwise. This alternative, which follows the example of Emmanuel Levinas and others, approaches moral status not as an essential property of things but as something that is socially negotiated and constructed in face of others. In the end, the objective of this effort is to contribute to the debate concerning ethics and social robotics not by endorsing or supporting one side or the other but by critically examining and working to reconfigure the terms of the debate itself.

About the speaker

David J. Gunkel is an award winning author and educator specializing in the philosophy of technology and information technology and ethics. He holds the position of Presidential Teaching Professor in the Department of Communication at Northern Illinois University (USA) and is the author of four books Hacking Cyberspace (Westview, 2001); Thinking Otherwise: Philosophy, Communication, Technology (Purdue University Press, 2007); The Machine Question: Critical Perspectives on AI, Robots and Ethics (MIT Press, 2012); and Heidegger and the Media (Polity Press, 2014). He is the founding co-editor of the International Journal of Žižek Studies and the Indiana University Press book series in Digital Game Studies. More information is available at gunkelweb.com

MARK COECKELBERGH

Name Prof. Mark Coeckelbergh

Affiliation De Montfort University, UK

Title **The Automation of the Social? What Robots Teach Us about Sociality and Responsibility**

Session Plenary 7

Time and location Saturday, August 23, 9:15-10:30, Building 1441, Auditorium 1

Abstract

Robots are not only tools used in various practical settings such as labs, health care and the military; uses and practices which can then be understood and evaluated by "applied" philosophy. Like other entities such as "animals" and imaginary beings, they are also tools philosophers can use to reflect on the meaning of the human, the social, and responsibility; tools to do "robo philosophy" in a strong sense of the term, that is, to engage in a kind of thinking which acknowledges that it is itself shaped by robots and other technologies.
In this talk I will give examples of such interpretative-material exercises and focus on the question: If "social" or "sociable" robots are being developed, what does this teach us about sociality and responsibility? I show that, on the one hand, non-humans and material objects and technologies have always been part of the social and have helped to define and constitute it, and that the social is flexible and permeable enough to include robots as "automatons" in various roles, meanings, and relations. If our current, modern social ontologies resist such inclusion, they will need to be revised. However, I then argue that, on the other hand, the project to automate sociality itself is far more problematic and is doomed to fail, for the same reasons which also render "machine responsibility" or "moral machines" impossible. Articulating these reasons helps me to sketch a richer view of sociality and responsibility than offered by positivist psychology and standard moral psychology, which miss the lived, experienced relationality of the moral-social theatre, its unique situations, events and narratives, the full meaning of its gazes, gestures and movements, and its play of demands and responses which cannot fully be described from an external, "objective" point of view, let alone be fully coded and programmed. Moreover, defining the social and the conditions for responsible agency is itself a morally and politically significant undertaking, which makes decisions on who is in and who is out.
I conclude that robots can and will be further integrated in the social, that current developments in robotics are already framing our (re)thinking of our concept of the social, that this (re)thinking is itself already of moral and political significance, and that we should reject any suggestion that sociality can be fully understood, controlled and automated. Efforts to do so can only result in caricatures of the social and, ultimately, in violence – when we have stopped responding.

About the speaker

Mark Coeckelbergh is Professor of Technology and Social Responsibility at the Centre for Computing and Social Responsibility, De Montfort University, UK. He is also co-Chair of the IEEE Robotics & Automation Society Technical Committee on Robot Ethics and is involved in European research projects in the areas of robotics and responsible innovation. Previously he was Managing Director of the 3TU Centre for Ethics and Technology. His publications include Growing Moral Relations (Palgrave Macmillan 2012), Human Being @ Risk (Springer 2013), and numerous articles on ethics and technology, in particular robotics and ICT. He also has research interests in environmental philosophy and financial ethics.

SESSION TALKS

RACHID ALAMI

Name
Rachid Alami (Senior Researcher),
Co-authors: Aurélie Clodic and Raja Chatila

Affiliation
Laboratoire d'Analyse et d'Architecture des systèmes (LAAS), Université de Toulouse, CNRS, France

Title
Key Elements for Joint Human-Robot Action

Session
Architecture and Capacities

Time and location
Wednesday, August 20, 14:50-15:30; 1441 Auditorium 2

Abstract
For more than a decade, the field of human-robot interaction has generated many contributions of interest to the robotics community at large. The field is vast, going all the way from perception to action and decision. In the same time, research on human-human joint action has become a topic of intense research in cognitive psychology and philosophy, bringing elements and even architecture hints to help our understanding of human-human joint action. In this paper, we try to analyse some findings from these disciplines and connect them to the human-robot joint action case. This work is for us a first step toward the definition of a framework dedicated to human-robot interaction.

About the speaker
Rachid Alami is Senior Scientist at CNRS. He is currently the head of the Robotics and Articifial Intelligence Department at LAAS. He contributed and took important responsibilities in several national, European and international research and collaborative projects (IST FP6: COMETS, COGNIRON, URUS, PHRIENDS; IST FP7: CHRIS, SAPHARI, SPENCER). His main research contributions fall in the fields of Robot Architectures, task and motion planning, multi-robot cooperation, and human-robot interaction.

JEDEDIAH WP ALLEN

Name Jedediah WP Allen, Assistant Professor

Affiliation Psychology Department, Bilkent University, Turkey

Title **Social Meta-Learning: Learning How to Use Others as a Resource for Learning**

Session Embodied and Social Cognition

Time and location Thursday August 21, 15:10-15:50; Building 1441, Auditorium 3

Abstract

Neither humans nor robots can be pre-programmed to competently operate in the physical or social world: there is too much complexity and it cannot be anticipated beforehand what will be relevant. In the realm of social interaction, both of these issues are especially important, and therefore, both humans and robots must be equipped with the ability to learn from others (social learning) and to develop their ability to learn from others (social meta-learning). Participation in human culture and advances through cultural evolution have depended on the possibility of robust forms of social learning and social learning development. Imitation is widely thought to be one of these robust forms of social learning but research has not tended to recognize that imitation must itself undergo learning and development. Imitation is often studied with respect to children and animals learning about how to interact with physically opaque objects (i.e., novel artifacts). Debates have tended to focus on whether children and especially animals are required to mindread the demonstrator in order to imitate them "correctly". The idea in mindreading is that the mental goal, intention, belief, etc. is thought to define the meaning of the social situation and without it, children will not learn about the social reality. However, the meaning of a social situation can also be modeled in terms of a mutually held understanding of some range of possible interactions. I shall argue that mindreading is not necessary for learning about social realities through imitation; the fundamental constraint is coordination.

About the speaker

Jedediah Allen is an assistant professor of Psychology at Bilkent University, Turkey. His background is in Developmental Psychology and Developmental Cognitive Science. Most broadly, his research interests are in the nature, learning, and development of knowledge within the specific domains of socio-cognitive and cognitive development in infancy and early childhood. Specific areas of interest include: imitation, folk psychology, infant research methodology, the nativist-empiricist debate, and the emergence of new knowledge.

TRINE SKJØDT AXELGAARD

Name Trine Skjødt Axelgaard, Art&Technology bachelor graduate
Co-authors: Morten Nielsen, Rie Rasmussen, Vibeke Holm Nielsen, Agata Kłusak

Affiliation Aalborg University, Denmark

Title **Investigating Human-Robot Interaction through an Interactive Art Installation**

Session Studies of Applications

Time and location Friday, August 22, 15:10-15:50, Building 1441, Room 210

Abstract We describe a Human-Robot Interaction (HRI) field experiment, situated in a public space and based on observations of participants interacting with an art installation. The art installation is developed from research in bio-inspired robotics, anthropomorphism, behaviors in nature, and biology. The article explains an interdisciplinary study in HRI using methodologies from art, Human Computer Interaction (HCI), and scientific research. Research observations are conducted using methods as cognitive walkthrough, bodystorming, interviews, and video recordings. The experiment is realised in order to investigate how new technology can be implemented in nature without acting as an obstructive element to the ecological system and the inhabitants of the environment.

NELLO BARILE

Name

Nello Barile, Senior Researcher
Co-author: Satomi Sugiyama

Affiliation

Institute of communication and consumption G.P. Fabris
IULM University of Milan, Italy

Title

The automation of taste: A consideration of social robots and mobile ICTs through an analysis of Shazam and Spotify

Session

Communication (Focal Session on Communication-Theoretic Issues in Social Robotics)

Time and location

Thursday August 21, 15:10-15:50; Building 1441, Room 110

Abstract

Today robotics and robotic functions are increasingly relevant to our everyday life. Although the notion of social robots tends to trigger the idea of autonomous machines such as humanoid and zoomorphic robots, it can be extended to include information and communication technologies (ICTs). The paper seeks to describe the implications of the deepest penetration of the mobile ICTs in the everyday life through the miniaturization of technologies as well as the cogent effect of software and new applications controlled by algorithms. As the smart phones and wearable gadgets continue to evolve and come closer to the human body, and also, transform from "a hard and utilitarian conception to a softer ideal based on the emotional value of new devices" as a process of ontobranding (Barile, 2009), this is an important and timely question to examine. In particular, this paper considers how the mobile ICTs such as a smart phone has a power to shape, and furthermore, "automate" our emotions and taste by exploring the widely-adopted music applications: Shazam and Spotify. Ultimately, it seeks to further understand the practice of "ubiquitous social roboting" (Fortunati, 2013), arguing that the automation of the taste, facilitated by the smart phone and its applications and algorithms, leads to the human carrying some traces of robots.

About the speaker

Nello Barile teaches Media studies and Sociology of cultural processes at IULM University of Milan where he coordinated a Master programme in Creativity Management. He holds a PhD in communication sciences, resources management, and formative processes at the University of Rome "La Sapienza." Among his publications are Brand New World: Il consumo delle marche come forma di rappresentazione del mondo (Milano 2009) and "From the Posthuman Consumer to the Ontobranding Dimension: Geolocalization, Augmented Reality and Emotional Ontology as a Radical Redefinition of What Is Real" in Intervalla: vol 1: Social Robots and Emotion: Transcending the Boundary Between Humans and ICTs, ed. Satomi Sugiyama & Jane Vincent; "A Knot to Untie: A Social History of Ties Between Fetishism, Communication and Power" in Habits of Being (vol. 2), ed. C. Giorcelli & P. Rabinowitz 2012. He is also a co-editor of The New Television Ecosystem (2012) with A. Abruzzese, J. Gebhardt, J. Vincent and L. Fortunati.

MARTIN MOSE BENTZEN

Name Martin Mose Bentzen, Assistant Professor

Affiliation Department of Management Engineering, Technical University of Denmark, Denmark

Title **Brains on wheels – theoretical and ethical issues in bio-robotics**

Session Applied Ethics

Time and location Wednesday, August 20, 15:35-16:15, Building 1441, Room 110

Abstract

Almost all current robots are computer based. However, robots based on biological neuron cultures grown in vitro are being developed and studied. Kevin Warwick's group at University of Reading have been hooking cultured neurons from rat fetuses to remote controlled cars in effect creating cyborgs with bodies, senses and biological brains. Technological advances within the area could make it possible to grow brains of a size comparable to or exceeding that of the human brain (about 85,000,000,000 neurons) and, thus, it is hoped, making robots packing cognitive power comparable to or exceeding that of a mature human being. Here we might have both a short cut to the singularity, the point where artificial intelligence surpasses human intelligence, and a potential avenue for life beyond the biological brain, should the researchers e.g. succeed in transferring a neuron culture from one medium to another.
Whatever excitement these prospects may arouse, there are some issues which are seemingly downplayed a bit within this emerging community, some being of a theoretical nature and some being of an ethical nature. In this talk I take a critical look at these issues from a philosophical point of view. In particular, I address the following questions. Is this line of research based on theoretically plausible assumptions? Is it ethically defensible?

About the speaker

Martin Mose Bentzen has a strong interest in the foundations of social robotics, in particular in the possibility of building ethical robots. He is engaged in constructing deontic reasoning systems suitable for Human-Robot communication, which are more in accordance with actual human reasoning patterns than current deontic logics. He is also interested in the ethical, political and social implications of building robots, including biological robots, and in the implications of introducing robots into various social domains. He participates rather eagerly in the public debate in Denmark about such issues.

MARK H. BICKHARD

Name Mark H. Bickhard

Affiliation Philosophy, Psychology, Cognitive Science; Lehigh University, USA

Title **Robot Sociality: Genuine or Simulation?**

Session Ontology of Simulation

Time and location Wednesday August 20, 14:50-15:30; Building 1441, Auditorium 3

Abstract

It is clear that people can interact with programs and with robots in ways that appear to be, and can seem to participants to be, social. Asking the question of whether or not such interactions could be genuinely social requires examining the nature of sociality and further examining what requirements are involved for the participants in such interactions to co-constitutively engage in genuine social realities — to constitute genuine social agents. I will attempt to address both issues. A further question is "Why ask the question?" Isn't "sociality" like a program in that simulating the running of a program is the running of a program — so sufficiently simulated sociality is genuine sociality? What more could be relevant and why?
There are at least two sorts of answers: 1) to better understand the metaphysics of sociality and thereby its potentialities and ways in which "merely" simulated sociality might fall short, especially of the developmental and historistic potentialities of sociality, and 2) to better understand the issues of ethics surrounding interactions among and between humans and robots.

About the speaker

Mark Bickhard has been at Lehigh University since 1990, where he is Henry R. Luce Professor of Cognitive Robotics and the Philosophy of Knowledge. He works within a process metaphysical framework, and has developed an action and interaction based model of representation that has extensive implications across multiple domains of psychology, including perception and language; brain studies; social ontologies and social persons; and others.
A list of publications is on his website.

GUNHILD BORGGREEN

Name Gunhild Borggreen, Associate Professor

Affiliation Department of Arts and Cultural Studies, University of Copenhagen, Denmark

Title **"Robots cannot lie": Performative Parasites of Robot-Human Theatre**

Session Communication

Time and location Thursday, 13:15-13:55; Building 1441, Room 110

Abstract The presentation reflects on theories of performative speech acts from the British philosopher of language J.L. Austin's *How To Do Things With Words* (based on a series of lectures in the 1950s). Using Austin's notion of "parasitic" language of an actor on the stage as a starting point, the paper analyses the Japanese Robot-Human Theatre production *Hataraku Watashi* (I, Worker) by Hirata Oriza and Ishiguro Hiroshi from 2008 as a site for investigating the complex layers of intention, effect and cultural conventions in human-robot interaction. Linking the fiction of the stage production to laboratory testings that include robots in simulated real-life situations, the notion of how robots "lie" are discussed in terms of different types of participants: theatre audiences and test persons. The presentation will focus on how the robot acts "parasitic" upon normal circumstances and thus points out the troubled notions of "normal" or "natural" in robot-human interaction, as well as in human-human interaction.

About the speaker Gunhild Borggreen is the co-founder of ROCA (Robot Culture and Aesthetics), a cross-disciplinary practice-based research network at University of Copenhagen (ikk.ku.dk/roca). Gunhild's main research area covers gender, nationhood and performativity in Japanese contemporary art and visual culture, and her book *Disrupted Images. Nation in Contemporary Japanese Visual Culture* is forthcoming from Brill. Gunhild's research on robots deal with robots in art and society in Japan, as well as robot visuality (what robots look like and how robots "see"), some of which is published in *Transvisuality - Dimensioning the visual in a visual culture* (forthcoming from Liverpool University Press). Gunhild is the editor of and contributor to *Performing Archives - Archives of Performance* (Museum Tusculanum Press 2013), and she publishes in international journals such as *Performance Research* and *Copenhagen Journal of Asian Studies*.

MARIA BRINCKER

Name Maria Brincker, Assistant Professor of Philosophy

Affiliation University of Massachusetts Boston, USA

Title **The Dynamics of Social Affordances**

Session Embodied and Social Cognition

Time and location Thursday, August 21, 14:00-14:40; Building 1441, Auditorium 3

Abstract

The current zeitgeist is arguably moving towards contextual ways of thinking of cognition and the notion of affordance, with its insistence on relating organisms to environments, perception to action and fact to value, is re-gaining popularity across many fields. In this talk I shall talk about affordances in general but mostly focus on social affordances. I here contrast 3rd person social perception with mutual 2nd person relations. The question is in which ways the reciprocity of relations is afforded socially. I shall try to disentangle some of the many dynamic complexities that such mutuality imposes on agencies, which at the same time respond to and serve as affordances for others, and propose that even many seemingly 3rd person cases involves reciprocity dynamics. Lastly, I shall hint at how such an analysis might be brought to bare in various more distal and online interactions.

About the speaker

Maria Brincker is an assistant professor of Philosophy at UMass Boston. Her research engages interdisciplinary issues typically on the border of philosophy and neuroscience. Recent and forthcoming publications include work on mirror neurons, affordances, aesthetic perception and sensorimotor issues in autism (the latter co-authored with Elizabeth Torres). In all of these projects she theorizes various sensorimotor and organism-context dynamics, and through these propose solutions that re-conceptualize basic constitutive structures of various cognitive processes. She received her PhD from the CUNY graduate center and then held an Art & Neuroscience fellowship at Columbia University before coming to UMass.

RAJA CHATILA

Name

Raja Chatila (Senior Researcher)
Co-authors: Rachid Alami and Aurélie Clodic

Affiliation

Sorbonne Universités, UPMC, Univ Paris 06, Institut des Systèmes Intelligents et de Robotique, France.
CNRS, UMR 7222, Institut des Systèmes Intelligents et de Robotique, Paris, France.

Title

Key Elements for Joint Human-Robot Action

Session

Architecture and Capacities

Time and location

Wednesday, August 20, 14:50-15:30; Building 1441, Auditorium 2

Abstract

For more than a decade, the field of human-robot interaction has generated many contributions of interest to the robotics community at large. The field is vast, going all the way from perception to action and decision. In the same time, research on human-human joint action has become a topic of intense research in cognitive psychology and philosophy, bringing elements and even architecture hints to help our understanding of human-human joint action. In this paper, we try to analyse some findings from these disciplines and connect them to the human-robot joint action case. This work is for us a first step toward the definition of a framework dedicated to human-robot interaction.

About the speaker

Raja Chatila, IEEE Fellow, is senior scientist at CNRS. He is director of the Institute of Intelligent Systems and Robotics (ISIR) at University Pierre and Marie Curie (Paris). He has led or contributed to several projects in robotics along his career on autonomous and cognitive robotics, and made several contributions on motion planning, simultaneous localization and mapping (SLAM), cognitive and control architectures, human-robot interaction, learning, and to applications in the areas of service, field and space robotics. He is author of over 140 international publications on these topics. He coordinated the European FP6 FET Integrated Project "The cognitive Robot Companion" (COGNIRON) in 2004-2008. He is president of the IEEE Robotics and Automation Society for the term 2014-2015.

AURÉLIE CLODIC

Name

Aurélie Clodic, Research Engineer
Co-authors: Rachid Alami and Raja Chatila

Affiliation

Laboratoire d'Analyse et d'Architecture des systèmes (LAAS), Université de Toulouse, CNRS, France

Title

Key Elements for Joint Human-Robot Action

Session

Architecture and Capacities

Time and location

Wednesday, August 20, 14:50-15:30; Building 1441, Auditorium 2

Abstract

For more than a decade, the field of human-robot interaction has generated many contributions of interest to the robotics community at large. The field is vast, going all the way from perception to action and decision. In the same time, research on human-human joint action has become a topic of intense research in cognitive psychology and philosophy, bringing elements and even architecture hints to help our understanding of human-human joint action. In this paper, we try to analyse some findings from these disciplines and connect them to the human-robot joint action case. This work is for us a first step toward the definition of a framework dedicated to human-robot interaction.

About the speaker

Aurélie Clodic is a Research Engineer at LAAS-CNRS. She received a PhD in robotics in 2007 for which she elaborated and implemented ingredients for human-robot joint activity in several contexts (robot guide in a museum, robotic assistant in the framework of the COGNIRON project). Her research interest includes human-robot collaborative task achievement and robotics architecture design (focused on decision-making and supervision) dedicated to HRI.

FABIO DALLA LIBERA

Name Fabio Dalla Libera, Specially Appointed Assistant Professor, Osaka U
Co-authors: Masashi Kasaki, Tora Koyama, Yuichiro Yoshikawa

Affiliation Osaka University

Title **Trust and Artifacts**

Session Issues of Applied Ethics

Time and location Wednesday, August 20, 14:50-15:30, Building 1441, Room 110

Abstract Trust is currently studied in many different disciplines from different perspectives. Nevertheless, the focus of studies is always on interpersonal trust. In this talk, first, we examine a number of definitions (i.e., necessary and sufficient conditions) of trust put forth in philosophy. Next, we use a game theoretic setting and simulation to specify in more detail under what condition rational agents place trust in others. Third, we conceptualize several ways to incorporate the result of our simulation to artifacts and robots in particular.

About the speaker Fabio Dalla Libera is Specially Appointed Assistant Professor at Osaka University, Japan. He received his PhD (Robotics) from Padua University, Italy, in 2011. He was awarded a Postdoctoral Research Fellow of the Japan Society for the Promotion of Science in 2011 and 2012 (Short term and Long term, respectively). Since April 2007, he has been collaborating with Prof. Ishiguro's Intelligent Robot Laboratory, Osaka University, Japan and with the JST ERATO Asada Project. His research interests include tactile sensing in human-robot interaction and the development of biologically inspired algorithms, with particular focus on the exploitation of stochastic resonance.

CHRISTOPH DUKAT

Name Christoph Dukat, Junior researcher and lecturer of sociology

Affiliation Karlsruhe Institute of Technology (KIT), Institute of Sociology, Germany

Title **Creating an optional communication setting: The Performative Deployment of the Social Robot PARO in Dementia Care**

Session Communication (Panel session: Communication-theoretic Issues in Social Robotics)

Time and location Thursday, August 21, 14:00-16:40, Building 1441, Room 110

Abstract

Our technical point of reference to the subject of social robotics is the robot baby seal PARO. Because PARO is currently being deployed in Germany mainly as activation therapy for elderly people with dementia, we are conducting a long-term ethnographic study to investigate how this socially assistive robot is applied by professional carers in a residential care centre for the elderly. The underlying general hypothesis on which our approach is based is that it is no means clear at the beginning of the development phase what a technology actually is going to be. Rather, this emerges only in coordination with the context of application. Moreover, we hypothesise that the appearance and the performative deployment of a technical artefact are therefore interdependent. Only in combination with experiences – the experiences of others, imparted as knowledge, and first-hand experience of actually using the technology – are its design and technical functions of relevance to what it is regarded as being. Our video-assisted ethnographic study of the performative deployment of PARO as activation therapy for elderly people with dementia has revealed that the robot is deployed as an occasion for communication, on the one hand, and as an observation instrument on the other. In particular, the latter manner of use proves to be of relevance in relation to dementia because it creates an optional spatio-temporal communication setting, which can be sustained for a relatively long time.

About the speaker Christoph Dukat's main research areas are sociology of knowledge and culture, social robotics, social clouds and social networks. Main publications:

Technical Assistant or Assistance by Means of Technology? The Performative Deployment of the Social Robot PARO in Dementia Care. In: International Journal of Social Robotics (with Michaela Pfadenhauer) (forthcoming); research.net/index.php/fqs/article/view/23/49

Caton, S.; Dukat, C.; Grenz, T.; Haas, C.; Pfadenhauer, M.; Weinhardt, C. (2012): Foundations of Trust: Contextualising Trust in Social Clouds. 2nd International Conference on Social Computing and Its Applications (SCA 2012). (Xiangtan, Hunan, China)

CAROLA ESCHENBACH

Name
Carola Eschenbach
Co-author: Felix Lindner

Affiliation
Department for Informatics, Knowledge and Language Processing Group, University of Hamburg, Germany

Title
Affordances and Affordance Space: A Conceptual Framework for the Application in Social Robotics

Session
Architecture and Capacities

Time and location
Wednesday, August 20, 15:35-16:15, Building 1441, Auditorium 2

Abstract
Socially aware robots have to coordinate their actions considering the spatial requirements of the humans with whom they interact. We propose a general framework based on the notion of affordances that generalizes geometrical accounts to the problem of human-aware placement of robot activities. The framework provides a conceptual instrument to take into account the heterogeneous abilities and affordances of humans, robots, and environmental entities. We discuss how affordance knowledge can be used in various reasoning tasks relevant to human-robot interaction.

About the speaker
Carola Eschenbach studied computer science at the University of Hamburg. She has worked in computational linguistics, linguistic semantics, spatial cognition, and formal ontology.

FRANK ESKEN

Name Frank Esken, Professor

Affiliation University of Salzburg, Institute of Philosophy

Title **Can robots be (or ever become) normative agents?**

Session Normativity

Time and location Friday, August 22, 15:10-15:50, Building 1441, Auditorium 3

Abstract

Questions of normativity relate to what ought to be. Already at this starting point the consensus about "normativity" reaches its limits. Some would argue that norms and normative understanding arise exclusively in a social or moral context, while others think that normativity has a much broader meaning including all kinds of practical reason. Norms in the narrower sense are rules and regularities to which one ought to conform because other people demand it. In other words: in contrast to the term "normative" – as used in the context of practical rationality – the "ought" as it is used in the context of moral norms and conventions is a social matter and not simply an individual matter of believing that one ought to do X in order to achieve goal Y. The question for the agent is not what he needs to do in order to reach a goal; the question is what he should do to fulfill what others expect from him. A fully fledged understanding of social norms as well as of conventions presupposes means-end-reasoning of the form: "I could do X to reach Z, but I should do A to reach Z". I will consider the question what it would mean for an artificial system to be able to fulfill this condition.

About the speaker

Frank Esken has Interim Chair-Professorship for Philosophy of Mind at the University of Osnabrück, Institute of Cognitive Science. Since 2012 he has been a Research Fellow in the ESF Project "Understanding the Normative Dimensions of Human Conduct" (NormCon) at the University of Salzburg. He has previously held positions at Hanse-Wissenschaftskolleg (HWK), University of Copenhagen, and Institut Jean-Nicod, Paris. Some relevant recent publications: Esken, F. (2009): "What does it mean to possess a subjective perspective? The relation between basic forms of consciousness and the establishing of a subjective perspective", in: W. Mack & G. Reuter (ed.), Social Roots of Self-Consciousness. Psychological and Philosophical Contributions, Berlin, New York: Akademie Verlag, 80-102. Esken, F. (2012): "Early forms of metacognition in human children", in: M.J. Beran et al. (ed.), Foundations of Metacognition, Oxford UP, 134-146.
Brandl, J., Esken, F., Priewasser, B. (2014, in press): "Normative protest in young children: What it is and what it might be", Phenomenology and the Cognitive Sciences.

CHARLES ESS

Name Charles Ess, Professor in Media Studies

Affiliation Department of Media and Communication
University of Oslo, Norway

Title **Communication-theoretic Issues in Social Robotics**

Session Communication; (Panel session: Communication-theoretic Issues in Social Robotics)

Time and location Thursday, August 21, 14:00-16:40, Building 1441, Room 110

Abstract As a co-editor of the forthcoming special issue of the International Journal of Social Robotics defined by our panel theme, I will first offer an introduction to the panel by way of an overview of the issue – what we take to be some of the most significant findings, observations, and future research trajectories. I will then sketch the trajectory of our panel – namely, a beginning with Eleanor Sandry's review and extension of communication theory so as to argue that "machine-like robots can be interpreted as social by humans." Satomi Sugiyama and Nello Barile turn our attention to a second focus of social robotics, namely, "ubiquitous social roboting" as instantiated in algorithms that "automate" our emotions and taste as we consume music through our smartphones – meaning that we carry "traces of robots" throughout our daily lives. Finally, Michaela Pfadenhauer and Christoph Dukat report on their study of one of the most well-known of social robots – Paro – as used in eldercare, in order to illuminate larger questions of how to define a robotic technology and its development. The panel will thus provide both a broad overview of contemporary research in social robotics, close attention to specific instantiations of social robots, and considerations of these vis-a-vis important theory in communication and philosophy of technology.

About the speaker Charles M. Ess is Professor in Media Studies, Department of Media and Communication, University of Oslo, and Emeritus Professor of Philosophy and Religion, Drury University. Ess has received awards for excellence in teaching and scholarship; he has also held several guest professorships in Europe and Scandinavia – most recently as Guest Professor, Philosophy Department, University of Vienna (2013-2014). Ess has published extensively in Information and Computing Ethics (e.g., Digital Media Ethics, 2nd edition, Polity Press, 2013) and in Internet Studies (e.g., with William Dutton, The Rise of Internet Studies, new media and society 15, 5, 2013). Ess emphasizes cross-cultural approaches to media, communication, and ethics, focusing especially on virtue ethics and its illuminations of being human in an (analogue-)digital age.

VICTOR FERNANDEZ CASTRO

Name Victor Fernandez Castro, PhD Student

Affiliation Philosophy Department I, University of Granada

Title **Shaping Robotic Minds**

Session Embodied and Social Cognition

Time and location Thursday, August 21, 16:00-16:40, Building 1441, Auditorium 3

Abstract

Social cognition research has focused on the debate on the nature of mechanisms underlying social abilities. However, the competing views in the debate share a basic assumption: mental states attribution is central for social cognition. The aim of this paper is two fold: firstly, I present an alternative framework known as mindshaping. According to it, human beings are biologically predisposed to learn and teach cultural and rational norms and complex cultural patterns of behaviour that enhance social cognition. Secondly I will highlight how this new framework can open new perspectives of research in the area of social robotics.
Mindshaping view can help to shed a new light on social robotics. Firstly, mindshaping is important for developmental robotics for his emphasis in the developmental aspect of social cognition. Secondly, it supposes an alternative to Machiavellian Intelligence hypothesis, and thus, it can shed light on the relationship between general and social intelligence. Finally, I consider mindshaping mechanisms as providing a new way to look at the companion robotics. Companion robotics needs to perform actions in the worlds according to the needs of humans. In other words, they need mechanisms to regulate their own behaviour according to human expectations.

About the speaker Víctor Fernández Castro is Philosophy PhD student at University of Granada. His main research interest is the contribution of language to human cognitive abilities such as social cognition, regulation of behavior and attention or self-evaluation.

MICHAEL FUNK

Name Michael Funk, Research Assistant

Affiliation Institute for the Philosophy of Technology, Technical University Dresden, Germany

Title **Panel Discussion: Responsibility and Agency**

Session Responsibility and Agency

Time and location Friday August 22, 16:00-16:40; Building 1441, Auditorium 2

Abstract (participant in panel discussion)

About the speaker Current research includes intercultural and transdisciplinary philosophies of technologies and sciences, applied ethics, robotics and life sciences. Together with Prof. Bernhard Irrgang and in cooperation with the University of Tokyo Center for Philosophy he organized the international conference "Future of Robotics in Germany and Japan" (Dresden, November 2010). Latest publications:

- Funk, Michael & Bernhard Irrgang (eds.) 2014: Robotics in Germany and Japan. Philosophical and Technical Perspectives. Frankfurt am Main: Peter Lang Edition.
- Funk, Michael & Jörg Jewanski 2014: "Mozart to Robot – Cultural Challenges of Musical Instruments" in: Funk, Michael & Bernhard Irrgang (eds.) 2014: Robotics in Germany and Japan. Philosophical and Technical Perspectives. Frankfurt am Main: Peter Lang Edition, pp. 135-143.
- Funk, Michael 2014: "Humanoid Robots and Human Knowing – Perspectivity and Hermeneutics in Terms of Material Culture" in: Funk, Michael & Bernhard Irrgang (eds.) 2014: Robotics in Germany and Japan. Philosophical and Technical Perspectives. Frankfurt am Main: Peter Lang Edition, pp. 69-87.
- Funk, Michael & Mark Coeckelbergh 2013: "Is Gesture Knowledge? A Philosophical Approach to the Epistemology of Musical Gestures" in: De Preester, Helena (ed.) 2013: Moving Imagination - Explorations of Gesture and Inner Movement in the Arts. Amsterdam & Philadelphia: John Benjamins Publishing Company, pp. 113–132.

ILARIA GAUDIELLO

Name

Ilaria Gaudiello
Co-author: Daniel Devatman Hromada

Affiliation

Universite Paris 8, Laboratory of Human and Artificial Cognition, St Denis, France

Title

Introduction to the Moral Induction Model And Its Deployment in Artificial Agents

Session

Ethics and Moral Agency

Time and location

Thursday, August 21, 15:10-15:50; Building 1441, Room 210

Abstract

Individual specificity and autonomy of a morally reasoning system is principally attained by means of a constructionist inductive process. Input into such a process are moral dilemmata or their story¬like representations, its output are general patterns allowing to classify as moral or immoral even the dilemmas which were not represented in the initial “training” corpus. Moral inference processes can be simulated by machine learning algorithms and can be based upon detection and extraction of morally relevant features. Supervised or semi¬supervised approaches should be used by those aiming to simulate parent child or teacher student information transfer processes in artificial agents. Pre-existing models of inference, e.g. the grammar inference models in the domain of computational linguistics, can offer certain inspiration for anyone aiming to deploy a moral induction model. Historical data, mythology or folklore could serve as a basis of the training corpus which could be subsequently significantly extended by a crowdsourcing method exploiting the web¬-based « Completely Automated Moral Turing test to tell Computers and Humans Apart ». Such a CAMTCHA approach could be also useful for evaluation of an agent’s moral faculties.

ANNE GERDES

Name Anne Gerdes, Associate professor

Affiliation Department of Design and Communication, University of Southern Denmark

Title **Issues of Responsibility in Robot Warfare**

Session Sociality, Normativity, Agency

Time and location Wednesday, August 20, 16:20-17:00, Building 1441, Room 210

Abstract

Contrary to robots, we can be held morally responsible for our actions since our decisions are up to us. However, in the military setting, humans have started "to move out of the loop" long time ago through involvement in increasingly complex technologically mediated relations demonstrated by the growing use of for instance (semi)-autonomous weapon systems. As such, we might question whether it makes sense to uphold the idea that machines can only be causally but not morally responsible for their actions. Consequently, maybe the kind of relations of responsibility which unfold in connection with military robotics cannot be captured by addressing autonomy in a strict Kantian sense?
Hence, in my presentation, I'll set out to: (1) outline different approaches to artificial moral agency, (2) discuss whether or not it makes sense to introduce views about morality as distributed between technologies and humans in a military setting, and (3) explore challenges to Just War Theory in the light of battlefield robotics. Here, special attention is paid to the hallmark criteria of jus in bello, i.e., the principles of proportionality and discrimination.

About the speaker

Anne Gerdes is an Associate Professor at University of Southern Den¬mark, Department of Design and Communication, where she teaches courses on ICT-ethics and value based design. She is a member of the steering committee of the ETHICOMP conference and leader of the Danish Research Network on IT-ethics. Her research interests include ethical issues in rela¬tion to AI, cyborg technology, persuasive technology, privacy and nation¬al security.
Recent publications of relevance:

- Gerdes, A 2013, 'Ethical Issues in Human Robot Interaction'. H Nykänen, OP Riis & J Zeller (red), Theoretical and Applied Ethics. Aalborg Universitetsforlag, Aalborg, s. 125-143. Applied Philosophy, vol. 5
- Gerdes, A & Øhrstrøm, P 2013, 'Preliminary Reflections on a Moral Turing Test'. T Ward Bynum, W Fleisman, A Gerdes, G Møldrup Nielsen & S Rogersen (eds.), ETHICOMP 2013 The possibilities of ethical ICT. Print & Sign University of Southern Denmark, s. 167-175.

MATTHEW E. GLADDEN

Name Matthew E. Gladden, Research Affiliate

Affiliation Center for Continuing and Professional Education, Georgetown University, USA

Title **The Social Robot as 'Charismatic Leader': A Phenomenology of Human Submission to Nonhuman Power**

Session Cultural and Political Issues

Time and location Thursday August 21, 15:10-15:50; Building 1441, Auditorium 2

Abstract

A number of scholars have explored the possibility of human trust in robots. In this paper, I build on this research to consider a more specific sort of trust relationship: that of a human follower's obedience to a robot who leads through the exercise of referent power and Weber's 'charismatic authority.' Such a robot would lead human beings not by virtue of possessing superior knowledge or legal authority, but by inspiring human followers through the robot's possession of personal sanctity, charisma, and moral attractiveness. This case is noteworthy because it might at first glance seem to represent the most difficult, least effective, and least likely way for robots to exercise influence over human beings. However, by analyzing current robotic engineering efforts and selected fictional depictions of robots, I argue that it will most likely happen rather naturally. Building on Coeckelbergh, I argue against the contractarian-individualist approach which presumes that human beings will be able to 'choose' our robot leaders, and instead propose a phenomenological-social understanding of the manner in which robot leaders will emerge naturally from within our society's social fabric, without a conscious, rational decision on the part of human beings. Finally, drawing on Abrams and Rorty, I suggest that the long-term stability of these leader-follower relations will hinge on a fundamental question of robotic intelligence and motivation that stands as yet unresolved.

About the speaker

Matthew Gladden is a Research Affiliate at Georgetown University's Center for Continuing and Professional Education and an MBA student in the Institute of Computer Science of the Polish Academy of Sciences. He is interested in the potential of social robots to serve as colleagues, subordinates, and supervisors of human beings within organizations (especially businesses), as viewed from the perspective of management theory. As Associate Director of the Woodstock Theological Center at Georgetown University, he managed research and publication on topics including transhumanism and business ethics. He has also taught philosophical ethics at Purdue University and serves on the board of the International Society for Human and AI Resource Management.

RAUL HAKLI

Name Raul Hakli, Assoc. Professor

Affiliation Department of Culture and Society, PENSOR research group, Aarhus University, Denmark

Title **Social Robotics and Social Interaction**

Session Sociality, normativity, agency

Time and location Wednesday, August 20, 15:35-16:15; Building 1441, Room 210

Abstract This talk will study the implications of the use of social robotics to our concepts of social interaction both in everyday usage and in philosophical theories of social action. People sometimes seem to conceive their activities with robots as cases of social interaction even though they do not attribute to robots all the capacities that philosophers take to be necessary requirements for participating in social interaction. For instance, Margaret Gilbert has argued that any social interaction, such as having a conversation, requires that the parties of interaction are jointly committed in the activity in question and that such commitments involve obligations. However, it seems that such normative concepts as commitments and obligations are not attributable to robots, at least at the current stage of development in social robotics. This creates a tension between how social interaction is understood in everyday contexts and how it is analysed in philosophy. I will study different ways to understand this tension both in terms of realist vs. ascriptivist approaches to robot capacities and in terms of different methodological orientations towards conceptual analysis of social interaction.

About the speaker Raul Hakli is an Associate Professor at Aarhus University. He received his PhD in philosophy from University of Helsinki in 2010, where he taught philosophy and computer science since 2002. His main research publications are on collective epistemology, social ontology, and collective intentionality. In collaboration with Raimo Tuomela and Kaarlo Miller he explored varieties of "we-reasoning" in contexts of social ontology and with application to collective decision-making. A year ago he joined the PENSOR group and since then explores the applicability of core notions of social ontology and collective intentionality to social robotics.

GLENDA HANNIBAL

Name Glenda Hannibal, BA in Philosophy

Affiliation Department of Culture and Society, Aarhus University, Denmark

Title **'Dynamic' Categorization and Rationalized Ascription: A Study on NAO**

Session Study of Applications

Time and location Friday, August 22, 16:00-16:40, Building 1441, Room 210

Abstract

Several studies on Human-Robot Interaction have shown that when children and adults encounter social robots they make use of 'dynamic' categorization in the sense that ascription of e.g. mental states, biological properties, sociality and moral status are context dependent. In the context of a minor pilot study, with the aim of comparing results with those of the larger studies that have been undertaken among American children, I tried to explore the claims of 'dynamic' categorization among some Danish schoolchildren at Løsning Skole. Based on the findings, which showed a change of reference to the social robot NAO over time, the pilot study suggests that there is a variation in categorization. Taken that the findings seems to confirm that categorization is dependent on e.g. time and situation, I will in my talk discuss the philosophical implications of the 'dynamic' categorization claims for (i) ontology and our understanding of categories, and (ii) for the epistemology of classificatory descriptions and its relation to concepts of rationality.

About the speaker

Glenda Hannibal earned her BA in Philosophy from Aarhus University, where she is currently a MA student. Glenda has focused her studies on exploring the philosophical implications of 'dynamic' categorization of social robots. More generally, her interest is on how people perceive and relate to social robots in the areas of ontology, epistemology and philosophy of mind. Due to her strong interest in social robots Glenda has been an active member of the research group 'Philosophical and Transdisciplinary Enquiries Into Social Robotics' (PENSOR) since 2012.

DANIEL DEVATMAN HROMADA

Name

Daniel Devatman Hromada
Co-author: Ilaria Gaudiello

Affiliation

Slovak University of Technology, Faculty of Electrical Engineering and Information Technology, Department of Robotics and Cybernetics, Bratislava, Slovakia
Universite Paris 8, Laboratory of Human and Artificial Cognition, St Denis, France

Title

Introduction to the Moral Induction Model And Its Deployment in Artificial Agents

Session

Ethics and Moral Agency

Time and location

Thursday, August 21, 15:10-15:50; Building 1441, Room 210

Abstract

Individual specificity and autonomy of a morally reasoning system is principally attained by means of a constructionist inductive process. Input into such a process are moral dilemmata or their story¬like representations, its output are general patterns allowing to classify as moral or immoral even the dilemmas which were not represented in the initial "training" corpus. Moral inference processes can be simulated by machine learning algorithms and can be based upon detection and extraction of morally relevant features. Supervised or semi¬supervised approaches should be used by those aiming to simulate parent child or teacher student information transfer processes in artificial agents. Pre-existing models of inference, e.g. the grammar inference models in the domain of computational linguistics, can offer certain inspiration for anyone aiming to deploy a moral induction model. Historical data, mythology or folklore could serve as a basis of the training corpus which could be subsequently significantly extended by a crowdsourcing method exploiting the web¬-based « Completely Automated Moral Turing test to tell Computers and Humans Apart ». Such a CAMTCHA approach could be also useful for evaluation of an agent's moral faculties.

About the speaker

Hromada is currently in the last phase of double PhD studies with a thesis titled "Evolutionary modeling of language development". His topics of interest include evolutionary computing, artificial life, machine learning, big data, pedagogy, participative and parallel democracy models, computational and developmental psycholinguistics, roboethics and robotheology. He is founder and first senator of the biggest independent social network in Slovakia kyberia.sk (awarded Honorary Mention in Ars Electronica 2013 Digital Communities Prix), a European citizen, a PERL geek, a cognitive libertarian, and a happy father.

MASASHI KASAKI

Name Masashi Kasaki, JSPS Postdoctoral Fellow, Kyoto U
Co-authors: Fabio Dalla Libera, Tora Koyama, Yuichiro Yoshikawa

Affiliation Kyoto University

Title **Trust and Artifacts**

Session Issues of Applied Ethics

Time and location Wednesday, August 20, 14:50-15:30, Building 1441, Room 110

Abstract Trust is currently studied in many different disciplines from different perspectives. Nevertheless, the focus of studies is always on interpersonal trust. In this talk, first, we examine a number of definitions (i.e., necessary and sufficient conditions) of trust put forth in philosophy. Next, we use a game theoretic setting and simulation to specify in more detail under what condition rational agents place trust in others. Third, we conceptualize several ways to incorporate the result of our simulation to artifacts and robots in particular.

About the speaker Masashi Kasaki is a Japan Society for the Promotion of Science Postdoctoral Fellow at Kyoto University (Philosophy) and Guest Associate Professor at Osaka University (Engineering Science), Japan. He received his PhD (Philosophy) from the University of Calgary, Canada, in 2010. His research interests lie primarily in epistemology, philosophical methodology, and philosophy of psychology and its application to robotics. His most recent publications are: "The Traditional Conception of the A Priori"(co-authored with C. S. I. Jenkins), forthcoming in Synthese, and "Virtue Epistemology and Environmental Luck," forthcoming in the Journal of Philosophical Research.

AGATA KŁUSAK

Name Agata Kłusak, Art&Technology bachelor graduate
Co-authors: Morten Nielsen, Trine Skjødt Axelgaard, Rie Rasmussen, Vibeke Holm Nielsen

Affiliation Aalborg University, Denmark

Title **Investigating Human-Robot Interaction through an Interactive Art Installation**

Session Study of Applications

Time and location Friday, August 22, 15:10-15:50; Building 1441, Room 210

Abstract We describe a Human-Robot Interaction (HRI) field experiment, situated in a public space and based on observations of participants interacting with an art installation. The art installation is developed from research in bio-inspired robotics, anthropomorphism, behaviors in nature, and biology. The article explains an interdisciplinary study in HRI using methodologies from art, Human Computer Interaction (HCI), and scientific research. Research observations are conducted using methods as cognitive walkthrough, bodystorming, interviews, and video recordings. The experiment is realised in order to investigate how new technology can be implemented in nature without acting as an obstructive element to the ecological system and the inhabitants of the environment.

JULIA KNIFKA

Name Julia Knifka, Research & Teaching Associate, PhD-Student

Affiliation Department of Philosophy, Karlsruhe Instiute of Technology (KIT), Germany

Title **Social Robots and the Subjectivity of Understanding. A Socio-Phenomenological Approach to the Interaction between Humans and Robots**

Session Empathy and Understanding

Time and location Friday, August 22, 14:00-14:40; Building 1441, Room 110

Abstract

Inspired by C. Breazeal's interaction paradigms – readability, believability and understandability – the focus of this contribution lies on the question of understandability in a human-robot-interaction. The ability to understand each other is the foundation of any social interaction. The way we perceive the other as an actor in relation to ourselves (1st person vs. 2nd person perspective), facilitates our understanding. The notion of understanding will be discussed and transferred onto the possibility of a human-robot-interaction. To this extent, the socio-phenomenological approach of Alfred Schütz on human-human interaction will shed light on the possibilities and problems of a human-robot interaction. The Schützian Phenomenology of Life-World concentrates on the social aspects of our day-to-day experience within the life-and common-sense world. The life-world as such, is not only the fundamental ontological category of human existence (Schütz) but is a socially constructed world. Within this life-world, we intersubjectively relate to each other. The foundation of this relationship is formed by observations a human being makes concerning the actions of the other being. These observations are influenced by the "natural attitude" towards our fellowmen, which means humans project their living bodies onto everything they encounter and relate to it intentionally. This is not restricted to humans, but it can include animals, plants, artifacts and thus robots. The sociable robot, as envisioned by Breazeal, should achieve acceptance by understandability. However, an interaction between a human and a robot, which is based on mutual understanding, appears to be asymmetrical and para-social in its nature.

About the speaker

Julia Knifka is a Ph.D. candidate in Philosophy. She received her M.A. and B.A. in European Culture and History of Ideas from the KIT (Karlsruhe Institute of Technology), Germany. Awarded with a scholarship by the Baden-Württemberg Stiftung, she spent the academic year 2008/09 at Yale University, USA. The Japanese Society for the Promotion of Science (JSPS) funded her research stay at the University of Tokyo (Department of History and Philosophy of Science) in 2014. Her dissertation focuses on the problem of interaction in the field of Human-Robot-Interaction (HRI). Additional research interests include Philosophical Anthropology and Cultural Theories.

TORA KOYAMA

Name Tora Koyama, Specially Appointed Assistant Professor, Osaka U
Co-authors: Fabio Dalla Libera, Masashi Kasaki, Yuichiro Yoshikawa

Affiliation Osaka University

Title **Trust and Artifacts**

Session Issues of Applied Ethics

Time and location Wednesday, August 20, 14:50-15:30, Building 1441, Room 110

Abstract Trust is currently studied in many different disciplines from different perspectives. Nevertheless, the focus of studies is always on interpersonal trust. In this talk, first, we examine a number of definitions (i.e., necessary and sufficient conditions) of trust put forth in philosophy. Next, we use a game theoretic setting and simulation to specify in more detail under what condition rational agents place trust in others. Third, we conceptualize several ways to incorporate the result of our simulation to artifacts and robots in particular.

About the speaker Tora Koyama is Specially Appointed Assistant Professor of the Graduate School of Human Sciences at Osaka University, Japan. He received his PhD (Philosophy) from Osaka University in 2004. His research interests are in philosophy, mainly metaphysics, philosophical methodology, and philosophical robotics. He has been conducting interdisciplinary study on robots and philosophy at the Center of Human-friendly Robotics Based on Cognitive Neuroscience, Osaka University.

MINAO KUKITA

Name Minao Kukita, Assoc. Professor

Affiliation Graduate School of Information Science, Nagoya University, Japan

Title **Another Case Against Killer Robots**

Session Responsibility and Agency

Time and location Friday August 22, 13:15-13:55; Building 1441, Auditorium 2

Abstract An intense dispute is now going on around autonomous weapons which would kill without humans who order it to do so. Researchers have argued against such an idea as autonomous robotic weapons that will take lethal action without human supervision. But most of the objections do not address the ``killing by robots'' itself, but ``killing by robots in warfare,'' so that there could be other kinds of killer robots to which these objections do not apply. For example, executioner robots or euthanasia robots seem not to be susceptible to the typical arguments against killer robots.
In this talk we will first show that typical arguments against killer robots cannot be applied to some kinds of killer robots such as executioner robots or the likes. Then we will try to articulate another reason against killer robots which can be applied even to these robots. Finally we will thereby support the further claim that there are situations in which it is immoral to delegate robots to do morally significant tasks on behalf of human agents.

About the speaker Minao Kukita's main research areas are robot ethics, philosophy of language, and philosophy of mathematics. A recent relevant publication is "Can robots understand values?: Artificial morality and ethical symbol grounding," in Proceedings of 4th International Conference on Applied Ethics and Applied Philosophy in East Asia, Feb. 2014, pp. 65-76.

MIGLE LAUKYTE

Name Migle Laukyte, Postdoctoral Researcher

Affiliation Law Department, European University Institute, Italy

Title **Artificial Agents: Some Consequences of a Few Capacities**

Session Ethics and Moral Agency

Time and location Thursday, August 21, 16:00-16:40; Building 1441, Room 210

Abstract

In this paper I offer a way to think about artificial agents in terms of their capacities or competence, and I work out what this approach means for their status and for the way we ought to treat such agents, focusing in particular on the question of the rights ascribable to them. The discussion draws largely on the work done by Christian List and Philip Pettit on group agency and is organized in five main sections.
First, I lay out an argument showing that List and Pettit's theory of group agency holds not only for group agents but also for artificial agents. I then turn to the status of artificial agents, discussing in particular their responsibility and their personhood, likewise drawing on the theory developed by List and Pettit. I address some critical points in the analogy between group agents and artificial agents, looking in particular at differences between (a) a group agent as composed of individual agents and an artificial agent as an individual agent, and (b) the autonomy of artificial agents and that of group agents. Finally, I consider some implications of ascribing responsibility and personhood to artificial agents, focusing on the rights they may accordingly be recognized as having, while also arguing that what I am calling the competence approach offers reasons for moving away from an anthropocentric approach to the relation between human agents and artificial agents.

About the speaker

I am a second-year Max Weber postdoctoral research fellow at the European University Institute, and a teaching assistant for the undergraduate programme in Legal Informatics at the University of Bologna.
I am working on the legal status of nonhuman agents and on liability arising in connection with autonomous technologies: I am investigating the idea of rights that in time can be granted to artificial agents and I am also working on new schemes for liability that would enable us to deal with the problems such agents may give rise to. Those issues frame my interest in roboethics and computer ethics.
I am also interested in the philosophy of technology and in particular in the way philosophical ideas can help us deal with future challenges: I have accordingly been working to apply Martha Nussbaum's capabilities approach to intelligent robots, and to combine Kant's transcendental philosophy with Ray Kurzweil's theory of mind.

ALEX LEVINE

Name Alex Levine, Professor of Philosophy

Affiliation Department of Philosophy, University of South Florida, Tampa, Florida, USA

Title **Sociality without Prior Individuality**

Session Ontology of simulation

Time and location Wednesday, August 20, 15:35-16:15, Bldg. 1441, Aud. 3

Abstract

In philosophical discussions of the relationship between concepts of individuality and sociality, the autonomous individual is generally supposed to be prior to social structures. But explicitly articulating this presupposition evokes the deep ambiguities (or equivocations?) in typical concepts of priority and posteriority—it could mean that it's ontologically prior, that the essence of thought somehow presupposes language as a condition for its possibility. Or it could mean that it's temporally prior on some time-scale or another. But which: the geological or phylogenetic timescale; the historical timescale; or the developmental or ontogenetic timescale? Alng the latter, developmental, timescale individuals express primary intersubjectivity and acquire secondary intersubjectivity (Gallagher 2005), language, and literacy, wiring their brains in the process? But there is also an important sense in which a human infant, born in the 21st century, is never pre-linguistic at all, as from conception it finds itself in a linguistic situation—in an environment replete with, and shaped by language.

What I have suggested about language and thought applies equally well, I will argue, to the relationship between individual and society; developmental systems theorists have made similar cases. In the process, the equivocal character of typical priority claims will be cast into stark relief. Just as embodied robotics has had to confront the prospect of intelligence without representation (Brooks), so social robotics must confront the prospect of sociality without individuality.

About the speaker Alex Levine has worked in the philosophy of mind, philosophy of science, and the intersection of the two. He has published on the global reception of Darwinism (including the co-authored monographs From Man to Ape and Darwinistas) and on the epistemological consequences of adopting a process-metaphysical framework. He is currently at work on a book on the relationship between the extended mind thesis and the Marxian theory of alienation.

FELIX LINDNER

Name

Felix Lindner
Co-author: Carola Eschenbach

Affiliation

Department for Informatics, Knowledge and Language Processing Group, University of Hamburg, Germany

Title

Affordances and Affordance Space: A Conceptual Framework for the Application in Social Robotics

Session

Architecture and Capacities

Time and location

Wednesday, August 20, 15:35-16:15; Building 1441, Auditorium 2

Abstract

Socially aware robots have to coordinate their actions considering the spatial requirements of the humans with whom they interact. We propose a general framework based on the notion of affordances that generalizes geometrical accounts to the problem of human-aware placement of robot activities. The framework provides a conceptual instrument to take into account the heterogeneous abilities and affordances of humans, robots, and environmental entities. We discuss how affordance knowledge can be used in various reasoning tasks relevant to human-robot interaction.

About the speaker

Felix Lindner holds a diploma degree in Computer Science from the University of Hamburg. He is currently doctoral student at the University of Hamburg working on affordance-based models of social spaces for activity-placement planning as applied to social robotics. His research interests include computational models and architectures for socially aware robot decision making, robot navigation strategies in social space, and affordance theory.

Main publications:

- Lindner, Felix & Eschenbach, Carola (2013). Affordance-Based Activity Placement in Human-Robot Shared Environments. In G. Herrmann et al. (eds.) Social Robotics. 5th International Conference, ICSR 2013, Bristol, UK (pp. 94-103). Springer LNCS 8239.
- Lindner, Felix & Eschenbach, Carola (2011). Towards a formalization of social spaces for socially aware robots. In Egenhofer, M., N. Giudice, R. Moratz & M. Worboys (eds.) Spatial Information Theory. 10th International Conference, COSIT 2011, Belfast, ME, USA (pp. 283-303). Springer LNCS 6899.

BERTRAM F. MALLE

Name Bertram F. Malle, Professor

Affiliation Department of Cognitive, Linguistic, and Psychological Sciences. Brown University, USA

Title **Moral Competence in Robots?**

Session Ethics and Moral Agency

Time and location Thursday, August 21, 13:15-13:55, Building. 1441, Room 210

Abstract

I start with the premise that any acceptable social robot must have some degree of moral competence. I offer a framework for what moral competence is and sketch the prospects for it to be developed in artificial agents. I first consider and reject three proposals for requirements of "moral agency"—having free will, having a soul, and having moral emotions. I then suggest that the question of moral agency is too narrow—that moral agency is part of moral competence but that moral competence goes further. I propose that human moral competence consists of five distinct but related components and that a successful social robot should instantiate all of them: (1) A system of norms; (2) a moral vocabulary; (3) moral cognition and affect; (4) moral decision making and action; and (5) moral communication. I briefly discuss each component and two sets of challenges: to properly understand their human implementation and to prepare for their possible robotic implementation.

About the speaker

Bertram F. Malle was born in Graz, Austria, and earned Master's degrees in philosophy/linguistics (1987) and psychology (1989) at the University of Graz. After coming to the United States in 1990 he received his Ph.D. at Stanford University in 1995 and joined the University of Oregon Psychology Department. Since 2008 he is Professor at the Department of Cognitive, Linguistic, and Psychological Sciences at Brown University. He received the Society of Experimental Social Psychology Outstanding Dissertation award in 1995, a National Science Foundation CAREER award in 1997, and he is past president of the Society of Philosophy and Psychology. Malle's research, which has been funded by the NSF, Army, Templeton Foundation, and Office of Naval Research, focuses on social cognition, moral judgment, and more recently human-robot interaction. He has published over 80 articles and several books, including: Intentions and intentionality: Foundations of Social Cognition (with L. J. Moses and D. A. Baldwin, eds.), MIT Press, 2001; How the Mind Explains Behavior, MIT Press, 2004; and Other minds (with S. D. Hodges, eds.), Guilford Press, 2005.

HIRONORI MATSUZAKI

Name Hironori Matsuzaki

Affiliation Department of Social Science, University of Oldenburg, Germany

Title **Robot, Humans, and the Borders of the Social World**

Session Sociality, Normativity, and Agency

Time and location Wednesday August 20, 15:35-16:15; Building 1441, Room 210

Abstract This paper investigates fundamental border issues of the social world, which are triggered by the development and diffusion of autonomous human-like robots. (1) I start with the question of how the artificial humanoids will challenge the notion of being social and exert crucial effects on institutional orders of a current human society. In a further step (2), I aim to outline – by reference to the basic assumptions of sociality within social theory – a conceptual framework for the empirical analysis of such elementary border phenomena. In doing so, I discuss a methodological problem that will occur if the basic model of sociality is grounded on a twosome constellation. (3) With this in mind, I claim that the core features of the social should be explained from a triangulated interaction between three embodied entities (ego/alter/tertius), which relate to each other based on expected expectations of others. (4) I finally discuss further preconditions of social interaction, by describing how the three participants position and orient themselves spatially/temporally.

About the speaker Research activities in: Social Theory, Philosophical Anthropology, Sociology of Scientific Knowledge, Science and Technology Studies (especially Ethical, Legal and Societal Issues concerning Robotic Human Science and Social Robotics). Expertise in methods of qualitative social research. Since 2010 Research Associate in the research project "Development of Humanoid and Service Robots: An International Comparative Research Project – Europe and Japan"

Publications:

- Constructing the robot's position in time and space – the spatio-temporal preconditions of artificial social agency, STI Studies 10(1), 2014: 85-106. [with Gesa Lindemann]
- When Robots Meet Society – Risk Issues and Legal Constraints in Japan, in: E. Hilgendorf & J.-P. Günther (eds.) Robotik und Gesetzgebung, Baden-Baden, 2013, 345-376.
- Menschenwürde und Roboter, in: J.C. Joerden et al. (eds.) Menschenwürde und Medizin, Berlin, 2013, 919-931. [with Gregor Fitzi]

JOHN CARTER MCKNIGHT

Name John Carter McKnight, Research Associate

Affiliation Department of Sociology, Lancaster University, United Kingdom

Title **Dombots – An Ethical and Technical Challenge**

Session Cultural and Political Issues

Time and location Thursday, August 21, 14:00-14:40; Building 1441, Auditorium 2

Abstract

Questions of emotional and sexual intimacy with robots are often framed around images of the feminine submissive. However, the history of technology as replacement for labor, including sexual labor, and sexual practices in computer-mediated environments, suggests that BDSM, involving psycho-sexual submission mediated by software, is both more likely and less ethically fraught. BDSM relies on the consensual and negotiated transfer of agency from the submissive: such transfer to an object is possible in theoretical, ethical and engineering terms. Dominant robots implicate broad ethical and practical challenges in the development of autonomous robotic systems, but in a more narrow and approachable manner than, for example, those associated with lethal autonomous weapons. Such "Dombots" also offer a range of social and sexual therapeutic advantages, and development of such systems should be pursued.

About the speaker

John Carter McKnight is a postdoctoral Research Associate in the Department of Sociology at Lancaster University in the UK, and a former corporate finance attorney. His research is divided into two main areas, with substantial overlap:

Online communities, platforms, and producers:
He studies the social and material technologies of online community formation and management, examining the interplay of community culture, technological platforms, user interface/experience design, and relations with professional content creators. His particular areas of interest include science and technology public communication and science fiction fandom.

Ethics and governance of emerging technologies:
Much of his work examines the management and governance, formal and informal, internal and external, of innovation, with a particular interest in robotics, space exploration, and alternative financial tools such as cryptocurrencies.

JOHN MICHAEL

Name
John Michael, PhD Marie Curie Researcher
Co-author: Alessandro Salice

Affiliation
Department of Cognitive Science, Central European University, Budapest, Hungary

Title
(How) Can Robots Make Commitments?

Session
Normativity

Time and location
Friday, August 22, 13:15-13:55; Building 1441, Auditorium 3

Abstract
Commitment is a fundamental building block of social reality. In particular, commitments seem to play a fundamental role in human social interaction. In this paper, we discuss the possibility of designing robots that engage in commitments, are motivated to honor commitments, and expect others also to be so motivated. We identify several challenges that such a project would likely confront, and consider possibilities for meeting these challenges.

About the speaker
John Michael is a Marie Curie Research Fellow at the Department of Cognitive Science at the Central European University in Budapest. He is also an affiliated researcher at the Interacting Minds Centre, Aarhus University, and at the Center for Subjectivity Research, Copenhagen University. His background is in philosophy of mind, cognitive science, and philosophy of science, and his main interests are in social cognition research. The aim of his current project is to develop a framework that specifies the psychological mechanisms with which agents identify and assess the level of their own and others' interpersonal commitments. The project starts out by specifying three desiderata for a theoretical account of commitment: to identify the motivational factors that lead agents to honor commitments and which thereby make commitments credible, to pick out the psychological mechanisms and situational factors that lead agents to sense that implicit commitments are in place, and to illuminate the onto- and phylogenetic origins of commitment. In order to satisfy these three desiderata, the project conceptualizes a broad category of phenomena of which commitment in the strict sense is a special case, and introduces the term 'minimal commitment' to designate this broad category. By focusing on interpersonal commitments within the context of joint action, the project creates a new perspective for interpreting recent data from research in developmental psychology, behavioral economics, animal cognition, and social robotics.

VINCENT C. MÜLLER

Name

Vincent C. Müller, Professor
Co-author: Thomas Simpson

Affiliation

Professor of Philosophy, Anatolia College/ACT, Thessaloniki, Greece
James Martin Research Fellow "Future of Computing and Cognitive Systems" FHI, Faculty of Philosophy University of Oxford

Title

Autonomous Killer Robots are Probably Good News

Session

Responsibility and Agency

Time and location

Friday, August 22, 14:00-16:40, Building 1441, Auditorium 2

Abstract

This paper addresses the emerging policy debate around the development and deployment of lethal autonomous weapons systems (LAWS), often referred to as 'lethal autonomous robots (LARs) or simply as 'drones' or 'killer robots'. The consensus is that now is the time for a collective decision to be made on LAWS, prior to their development. There is a significant policy gap because the great majority of writers and campaigners advocate the pre-emptive banning of LAWS on moral grounds. We disagree, and believe that the key moral arguments are yet to be made. We argue that autonomous drones in war reduce human suffering and increase accountability; they do not take responsibility away from humans and they do not increase the probability of war. We are afraid of killer robots, but we should not: they are good news.

About the speaker

Vincent C. Müller's research focuses on the nature and future of computational systems, particularly on the prospects and dangers of artificial intelligence. He is the coordinator of the European Network for Cognitive Systems, Robotics and Interaction with over 900 members, funded by the European Union through two FP7 projects with 3.9 mil. €, 2009-2014 (www.eucognition.org). He also organizes a conference series on the 'Theory and Philosophy of AI' (www.pt-ai.org).

Müller has published a number of articles in leading journals on the philosophy of computing, the philosophy of AI and cognitive science, the philosophy of language, applied ethics, and related areas. He has edited ten volumes on the theory of cognitive systems and artificial intelligence and is preparing a monograph on the fundamental problems of AI and. He was Stanley J. Seeger Fellow at Princeton University and is currently James Martin Research Fellow at the University of Oxford.

His main site is at www.sophia.de .

MORTEN NIELSEN

Name

Morten Nielsen, Art&Technology bachelor graduate
Co-authors: Trine Skjødt Axelgaard, Rie Rasmussen, Vibeke Holm Nielsen, Agata Kłusak

Affiliation

Aalborg University, Denmark

Title

Investigating Human-Robot Interaction through an Interactive Art Installation

Session

Study of Applications

Time and location

Friday, August 22, 15:10-15:50; Building 1441, Room 210

Abstract

We describe a Human-Robot Interaction (HRI) field experiment, situated in a public space and based on observations of participants interacting with an art installation. The art installation is developed from research in bio-inspired robotics, anthropomorphism, behaviors in nature, and biology. The article explains an interdisciplinary study in HRI using methodologies from art, Human Computer Interaction (HCI), and scientific research. Research observations are conducted using methods as cognitive walkthrough, bodystorming, interviews, and video recordings. The experiment is realised in order to investigate how new technology can be implemented in nature without acting as an obstructive element to the ecological system and the inhabitants of the environment.

VIBEKE HOLM NIELSEN

Name

Vibeke Holm Nielsen, Art&Technology bachelor graduate
Co-authors: Morten Nielsen, Trine Skjødt Axelgaard, Rie Rasmussen, Agata Kłusak

Affiliation

Aalborg University, Denmark

Title

Investigating Human-Robot Interaction through an Interactive Art Installation

Session

Study of Applications

Time and location

Friday, August 22, 15:10-15:50; Building 1441, Room 210

Abstract

We describe a Human-Robot Interaction (HRI) field experiment, situated in a public space and based on observations of participants interacting with an art installation. The art installation is developed from research in bio-inspired robotics, anthropomorphism, behaviors in nature, and biology. The article explains an interdisciplinary study in HRI using methodologies from art, Human Computer Interaction (HCI), and scientific research. Research observations are conducted using methods as cognitive walkthrough, bodystorming, interviews, and video recordings. The experiment is realised in order to investigate how new technology can be implemented in nature without acting as an obstructive element to the ecological system and the inhabitants of the environment.

EZIO DI NUCCI

Name	Ezio Di Nucci, Assistant Professor of Philosophy
Affiliation	Universität Duisburg-Essen
Title	**Panel Session: Robots and Responsibility**
Session	Responsibility and agency
Time and location	Friday, August 22, 14:00-16:40, Building 1441, Auditorium 2
Abstract	(Panelist)
About the speaker	Ezio Di Nucci is Assistant Professor of Philosophy at Universität Duisburg-Essen. Among his recent books are Mindlessness (2013) and Ethics Without Intention (2014).

MARCO NØRSKOV

Name Marco Nørskov, Asst. prof.

Affiliation Department of Culture and Society, PENSOR group, Aarhus University, Denmark

Title **Human-Robot Interaction and Human Self-realization: Reflections on the Epistemology of Discrimination**

Session Cultural and Political Issues

Time and location Thursday, August 21, Building 1441, Auditorium 2, 16:00-16:40

Abstract The ethical debate on robots has become a cutting edge issue in many countries. It is, however, most often approached through an us-versus-them perspective—as if we were watching a soccer game and taking one side. Informed by Eastern as well as Western thought, the aim of this article is to identify various problematic effects of this standard approach by questioning the central premise that it is based on, namely, the essential distinction between human beings and robots. In addition, by including Heidegger's warnings against the danger that accompanies modern technology, this paper discusses the possibility that human-robot interaction even could evolve the participating human and facilitate its self-development positively.

About the speaker Marco Nørskov received his MSc in Mathematics and Philosophy in 2007 and PhD degree in Philosophy in 2011. He is currently an Assistant Professor at the Research Programme for Philosophy and Intellectual Ideas at Aarhus University (Denmark) and cooperate researcher at the Hiroshi Ishiguro Laboratories (Japan). His research is focused on intercultural philosophy of technology with a special interest in HRI, Japanese philosophy and phenomenology.

Latest publication: Nørskov, M. (2014). Revisiting Ihde's Fourfold "Technological Relationships": Application and Modification. Philosophy & Technology, 1-19, doi:10.1007/s13347-014-0149-8.

MICHAELA PFADENHAUER

Name Michaela Pfadenhauer, Professor

Affiliation Karlsruhe Institute of Technology (KIT), Institute of Sociology, Germany

Title **Creating an Optional Communication Setting: The Performative Deployment of the Social Robot PARO in Dementia Care**

Session Communication (Panel session "Communication-theoretic Issues in Social Robotics")

Time and location Thursday, August 21, 14:00-16:40; Building 1441, Room110

Abstract Our technical point of reference to the subject of social robotics is the robot baby seal PARO. Because PARO is currently being deployed in Germany mainly as activation therapy for elderly people with dementia, we are conducting a long-term ethnographic study to investigate how this socially assistive robot is applied by professional carers in a residential care centre for the elderly. The underlying general hypothesis on which our approach is based is that it is by no means clear at the beginning of the development phase what a technology actually is going to be. Rather, this emerges only in coordination with the context of application. Our video-assisted ethnographic study of the performative deployment of PARO as activation therapy for elderly people with dementia has revealed that the robot is deployed as an occasion for communication, on the one hand, and as an observation instrument on the other. In particular, the latter manner of use proves to be of relevance in relation to dementia because it creates an optional spatio-temporal communication setting, which can be sustained for a relatively long time.

About the speaker Pfadenhauer's main research areas include sociology of knowledge and culture, social robotics, mediatization, and ethnography.

Publications:

- The New Sociology of Knowledge 2013; "Technical Assistant or Assistance by Means of Technology? The Performative Deployment of the Social Robot PARO in Dementia Care" In: International Journal of Social Robotics (with Christoph Dukat) (forthcoming);
- "On the Sociality of Social Robots. A Sociology of Knowledge perspective." In: Science, Technology & Innovation Studies 10(1), 2014, pp. 137-163; "Ethnography of Scenes. Towards a Sociological Life-world Analysis of (Post-traditional) Community-building [31 paragraphs]. In: Forum Qualitative Sozialforschung, 6(3), Art. 43, 2005. Available at: www.qualitative-research.net/index.php/fqs/article/view/23/49

RIE RASMUSSEN

Name

Rie Rasmussen, Art&Technology bachelor graduate
Co-authors: Morten Nielsen, Trine Skjødt Axelgaard, Vibeke Holm Nielsen, Agata Kłusak

Affiliation

Aalborg University, Denmark

Title

Investigating Human-Robot Interaction through an Interactive Art Installation

Session

Study of Applications

Time and location

Friday, August 22, 15:10-15:50; Building 1441, Room 210

Abstract

We describe a Human-Robot Interaction (HRI) field experiment, situated in a public space and based on observations of participants interacting with an art installation. The art installation is developed from research in bio-inspired robotics, anthropomorphism, behaviors in nature, and biology. The article explains an interdisciplinary study in HRI using methodologies from art, Human Computer Interaction (HCI), and scientific research. Research observations are conducted using methods as cognitive walkthrough, bodystorming, interviews, and video recordings. The experiment is realised in order to investigate how new technology can be implemented in nature without acting as an obstructive element to the ecological system and the inhabitants of the environment.

JOSH REDSTONE

Name Josh Redstone, PhD Candidate

Affiliation Institute of Cognitive Science, Carleton University, Canada

Title **Making Sense of Empathy with Social Robots**

Session Empathy and Understanding

Time and location Friday, August 22, 13:15-13:55; Building 1441, Room 110

Abstract

Social robots exploit human-like behaviors so that people might form emotional bonds with them. Ostensibly, this bonding is an empathic response from the person toward the robot. However, as Catrin Misselhorn points out, it's conceptually problematic to say that people empathize with social robots, for the social robots of the present arguably don't possess human-like emotions. To address this concern, she proposes that: (1) empathy with robots can be conceived of in terms of an interaction between perception and the imagination that she calls "imaginative perception" [henceforth: "IP"]; and (2), that a failure of IP might explain negative emotional responses toward robots, such as the "uncanny valley" phenomenon. In this paper I'll analyze these elements of Misselhorn's work, toward the end of making sense of empathy with social robots.

Firstly, by outlining some different constructs of empathy, viz.: affective empathy (e.g. sympathy, emotional contagion) and cognitive empathy or "theory of mind," I'll show that IP only concerns affective empathic phenomena. Since some researchers hold that intact cognitive empathic abilities are necessary to experience the full range of affective empathic phenomena, I'll make the case that cognitive empathic phenomena also have an explanatory role to play where emotional responses toward social robots are concerned. Secondly, I'll explore the role that the imagination plays in IP, with the aim of showing that IP is better conceived of in terms of misperception, rather than as something that is "imaginative." I shall conclude with some remarks concerning how this alternative to IP is also helpful for explaining other emotional responses toward robots, such as the aforementioned uncanny valley phenomenon.

About the speaker

My research concerns conceptual issues that arise at the intersection of philosophy, cognitive science, and social robotics research. For my Master's thesis, I explored such issues as they emerge in empirical research into the so-called "uncanny valley" phenomenon. As a PhD candidate, I'm investigating what conceptual issues appear in empirical research concerning social robotics, empathy, and the emotions.

RAFFAELE RODOGNO

Name Raffaele Rodogno, Assoc. Professor

Affiliation Philosophy, Aarhus University, Denmark

Title **Social Robots and Sentimentality**

Session Issues of Applied Ethics

Time and location Wednesday, August 20, 16:20-17:00; Building 1441, Room 110

Abstract In this paper I discuss the objection that we are deplorably sentimental, i.e., we misrepresent the world in order to indulge in certain feelings, whenever we feel affection and act in an affectionate way towards certain social robots. I will focus my
discussion on documented behaviors typical of elderly people towards pet robots such as Paro. Having analyzed the possible moral faults involved by sentimentalism, I engage in a more conceptual discussion of whether the feelings and actions at
issue here are indeed correctly described as involving a pejorative kind of sentimentality. Doubts to that effect are raised by consideration of the Paradox of Fiction: subjects regularly exhibit apparently genuine emotional responses to characters and situations that they explicitly represent as being merely imaginary. The argumentative strategy is that, if we can admit in a non-paradoxical way of emotional reactions towards fictional objects, we may thereby admit of genuine emotional reactions towards pet robots that are not sentimental.

About the speaker My main academic interest lays at the intersection of ethics, legal and social philosophy with the empirically informed study of the emotions and other philosophically relevant parts of psychology. Within this area, I work on well-being, autism, state punishment, desert, blameworthiness, personal identity, and the scope of moral consideration including the environment and robots. Publications: In Defense of Shame (with J. Deonna and F. Teroni) OUP, 2012;
Sentientism, Wellbeing, and Environmentalism. Journal of Applied Philosophy 27(1), 2009; Personal Identity Online, Philosophy & Technology 25(3), 2012; Shame, Guilt, and Punishment, Law and Philosophy, 28(5), 2009; Guilt, Anger and Retribution, Legal Theory, 16(1), 2010.

ALESSANDRO SALICE

Name
Alessandro Salice, PhD PostDoc Fellow
Co-author: John Michael

Affiliation
Center for Subjectivity Research, University of Copenhagen, Denmark

Title
(How) Can Robots Make Commitments?

Session
Normativity

Time and location
Friday, August 22, 13:15-13:55; Building 1441, Auditorium 3

Abstract
Commitment is a fundamental building block of social reality. In particular, commitments seem to play a fundamental role in human social interaction. In this paper, we discuss the possibility of designing robots that engage in commitments, are motivated to honor commitments, and expect others also to be so motivated. We identify several challenges that such a project would likely confront, and consider possibilities for meeting these challenges.

About the speaker
Alessandro Salice is a PostDoc Fellow at the Center for Subjectivity Research at the University of Copenhagen. He is also an affiliated researcher at the Institute for Social Ontology and Philosophy of the Social Sciences, University of Vienna. His background is in phenomenology, metaphysics, and philosophy of language, and his main interests are in social ontology and collective intentionality research. The aim of his current project is to test the hypothesis that there are different forms of we-intentionality and that two of them play a particularly relevant role when it comes to group-forming processes. The first form of we-intentionality seems to be intrinsically goal-oriented and to presuppose the idea of coordination among individuals, whereas the second apparently requires the individuals sharing a social identity. The project aims at fleshing out these ideas by connecting it with insights developed within phenomenology, schizophrenia studies, group-identification theory, philosophy of mind and social robotics.

ELEANOR SANDRY

Name

Eleanor Sandry, Lecturer

Affiliation

Department of Internet Studies/Centre for Culture and Technology
Curtin University, Australia

Title

Re-evaluating the form and communication of social robots

Session

Communication-theoretic Issues in Social Robotics

Time and location

Thursday August 21, 14:00-14:40; Building 1441, Room 110

Abstract

This presentation re-evaluates what constitutes a social robot by employing a range of communication theories, alongside ideas of anthropomorphism and zoomorphism, to analyse how different forms of robot are interpreted as socially aware and communicative. A critical assessment of the development of humanlike and animal-like robotic companions is juxtaposed with a consideration of human relations with machine-like robots in working partnerships. Although some traditions of communication theory offer perspectives that support the development of humanlike and animal-like social robots, these perspectives have been criticised by communication scholars as unethically closed to the possibilities of otherness and difference. However, an analysis of human relations with Explosive Ordnance Disposal (EOD) robots and with AUR, the robotic desk lamp, demonstrates that machine-like robots are interpreted by humans as social and communicative others. This interpretation is supported by processes of tempered anthropomorphism and/or zoomorphism, which allow people to communicate with machine-like robots while also ensuring that a sense of the otherness of the machine and respect for its non-human abilities is retained.

About the speaker

Eleanor Sandry's research is focused on exploring a diverse range of communication theory in developing an ethical and pragmatic recognition of, and respect for, otherness and difference in communication. She has just completed her book manuscript, Robots and Communication, for publication by Palgrave Macmillan in the Pivot series (late 2014/early 2015).

"Re-evaluating the form and communication of social robots". International Journal of Social Robotics (2014). Manuscript under final editorial review. (This paper forms the basis for my presentation at Robophilosophy 2014).

"Dancing around the subject with robots: ethical communication as a 'triple audiovisual reality'". PLATFORM: Journal of Media and Communication 4, no. 1 (2012): 79-90.

FILIPPO SANTONI DE SIO

Name Filippo Santoni de Sio, Research Fellow

Affiliation Department Philosophy, Delft University of Technology & 3TU Centre for Ethics and Technology, The Netherlands

Title **Panel Session: Robots and Responsibility**

Session Responsibility and agency

Time and location Friday, August 22, 14:00-16:40, Building 1441, Auditorium 2

Abstract (Panelist)

About the speaker Filippo Santoni de Sio is a philosopher. His area of expertise is the theory of action and responsibility. He is a member of the TU Delft-Oxford-based Enhancing Responsibility project on the ethics of cognitive enhancement; and member of the task force on robotics of the 3TU Centre for Ethics and Technology (NL).

HANS BERNHARD SCHMID

Name Hans Bernhard Schmid, Prof. Dr.

Affiliation University of Vienna

Title **Sociable Robots: from Reliability to Cooperative-Mindedness**

Session Normativity

Time and location Friday, August 22, 14:00-14:40; Building 1441, Auditorium 3

Abstract

In recent research in philosophy and developmental psychology it is argued that a basic feature of sociability is the capacity for collective intentionality. Thus an important part of the question of whether or not robots are – or can be seen as – sociable depends on whether or not they are – or can be seen as – potential partners in joint intentional activity. This paper examines the kind of mutual relations that have to be in place between partners in joint action.
The account proposed in this paper combines cognitivist and normativist analyses. The basic idea is that cooperative-mindedness should not be seen as "inner reflections" of how things are or should be with one's putative partners, but rather as effective factors in the interaction. Cooperative-mindedness is not just a way of "seeing" potential partners; we are beings who are very perceptive concerning each other's attitudes towards us, and in typical cases, our own attitudes clearly show on our faces. "Seeing" somebody as a potential partner in joint action thus means addressing him or her. The way cooperative-mindedness addresses potential partners is by representing them as potentially motivated to conform with one's own expectation based on that agent's susceptibility the reason provided to him or her by that expectation. The attitude in question provides the target with a motivating and justifying reason to be similarly cooperative-minded. I argue that this structure is at the heart of a basic conception of interpersonal trust. The way in which this attitude makes it possible to reasonably sustain cooperative-mindedness in the face of uncertainty concerning the putative partner's reliability is in the power of trust: it is not unreasonable to assume that a sustained cooperative-minded attitude, especially in the face of past negative experience, may move a partner to go along in a joint venture. Thus the attitude in question is in part of the self-fulfilling kind, which makes it difficult to ascertain the limits of reasonable cooperative-mindedness.

About the speaker

Professor for Political and Social Philosophy, University of Vienna. Areas of Specialization: Social and Sociological Theory, Phenomenology.

Websites:
social.univie.ac.at/members/hans-bernhard-schmid
univie.academia.edu/HansBernhardSchmid

JOHANNA SEIBT

Name Johanna Seibt, Assoc. Professor

Affiliation Department of Culture and Society, PENSOR group, Aarhus University, Denmark

Title **Varieties of the 'As-If': Towards an Ontology of Simulated Social Interaction**

Session Ontology of Simulation

Time and location Wednesday, August 20, 16:20-17:00; Building 1441, Auditorium 3

Abstract

Much of the ethical debate about social robotics applications hinges on the ontological classification of our interactions with robots. While researchers in social robotics have gone some way to classify different types of human robot interactions, these are, I argue, still too coarse-grained in order to provide suitable interfaces with the philosophical debate. In this talk I define five notions of simulation or partial realization, formally defined in terms of relationships between process systems (approximating, displaying, mimicking, imitating, replicating).
Based on these distinctions I sketch a taxonomy of human-robot interactions. Our concepts for social interactions among humans are commonly linked to the realization of certain physical, behavioral, agentive, emotional, and intentional processes within interaction partners. (I will bracket in this talk the issue which social interactions result from, and which enable, the symmetric and asymmetric distributions of these processes over time). Since each of the n criterial processes for a concept of interaction C can be realized in at least six modes (full realization plus five modes of simulation), we receive a rich array of interaction concepts. In conclusion I offer a few reflections on what I call—in analogy to Chalmers's term—the 'hard problem' of philosophy of social robotics and on how one might bring the suggested taxonomy of human-robot interaction to bear on ethical issues.

About the speaker

Johanna Seibt has her main research area in analytical philosophy, where she published widely on topics in the history and methodology of analytical metaphysics and ontology. She has worked on the theoretical foundations of a new approach to process ontology and is currently exploring applications of this framework for the interpretation of nature, sociality, and cognition. She is coordinator of the PENSOR (Philosophical Enquiries into Social Robotics) project, as well as coordinator of the new Danish research TRANSOR network (Transdisciplinary Studies of Social Robotics).

Relevant publications: Theory and Applications of Ontology (in Philosophy and Computer Science, 2 Volumes), co-edited with R. Poli; A. Kamea, M. Healey (2010); "Embodying the Internet: Towards the Moral Self Via Communication Robots?" (co-authored with Marco Nørskov), Philosophy & Technology 25 (3), 285-307.

G. SHAW-GARLOCK

Name G. Shaw-Garlock, BA, MA, PhD (Candidate), Senior Research Analyst

Affiliation School of Communication, Faculty of Communication, Art and Technology, Simon Fraser University, Canada

Title **Gendered by Design: Feminine Codes in Social Robotics**

Session Cultural and Political Issues

Time and location Thursday, August 21, 13:15-13:55; Building 1441, Auditorium 2

Abstract The design of gendered sociable robots is the focus of this work. Drawing on a Communication Studies perspective, culturally diverse affective sociable robotics projects that are inflected with feminine social codes, sometimes in function or form are analyzed. Communication studies, an interdisciplinary approach, shapes my inquiry of this topic through careful attendance to the social shaping dimensions of technology and asks the questions: what do these technologies do to us and how might they change social relationships?
The process of ascribing gender to robots makes evident that "gender belongs both to the order of the material body and to the social and discursive or semiotic systems within which bodies are embedded" (Wajcman, 2004). This work considers the ways in which gender becomes embedded within certain technological objects, such as sociable technologies, that are intended for use or within contexts historically understood as feminine (e.g. cleaning, service, companion bots such as iRobot's Roomba, Weizenbaum's Eliza, and iPhone's Siri), as well as those projects that intentionally create robotic bodies in the literal image of woman (e.g. EMA or Eternal, Maiden, Actualization, Sega's first-generation robotic girlfriend; Repliee, a female android created in the image of a Japanese media celebrity).

About the speaker As an academic professional, Glenda Shaw-Garlock is a doctoral candidate in the School of Communication, at Simon Fraser University working under the guidance of Dr. Richard Smith. Her dissertation project relates to the affection experienced within human-technology interactions. Ms. Shaw-Garlock's research interests also include the cultural history of automatons and robotics in different cultures; the gendering of technological artifacts; the emergence of sociable and emotive technology in society; and critical perspectives on science, technology and culture.

THOMAS SIMPSON

Name

Thomas Simpson
Co-author: Vincent C. Müller

Affiliation

Senior Research Fellow at Wadham College, UK, and University Lecturer in Philosophy and Public Policy at the Blavatnik School of Government, University of Oxford

Title

Autonomous Killer Robots are Probably Good News

Session

Responsibility and agency

Time and location

Friday August 22, 14:00-16:40; Building 1441, Auditorium 2

Abstract

This paper addresses the emerging policy debate around the development and deployment of lethal autonomous weapons systems (LAWS), often referred to as 'lethal autonomous robots (LARs) or simply as 'drones' or 'killer robots'. The consensus is that now is the time for a collective decision to be made on LAWS, prior to their development. There is a significant policy gap because the great majority of writers and campaigners advocate the pre-emptive banning of LAWS on moral grounds. We disagree, and believe that the key moral arguments are yet to be made. We argue that autonomous drones in war reduce human suffering and increase accountability; they do not take responsibility away from humans and they do not increase the probability of war. We are afraid of killer robots, but we should not: they are good news.

About the speaker

Dr. Tom Simpson is a Senior Research Fellow at Wadham College, and Associate Professor of Philosophy and Public Policy at the Blavatnik School of Government, University of Oxford. His research centres on the notion of trust, addressing both its theoretical dimensions and practical implications. Trust raises important theoretical questions. These include: What is trust? When is trust justified? Under what conditions do we know by trusting others? How should trust be restored when broken? Areas of practical application are numerous. During his doctorate he worked with Microsoft Research on trust on the Internet. He is currently engaged on a collaboration with Groningen looking at the restoration of trust in banking. He also works on the ethics of war and religious epistemology.

SATOMI SUGIYAMA

Name

Satomi Sugiyama, Associate Professor
Co-author: Nello Barile

Affiliation

Department of Communication and Media Studies, Franklin University Switzerland, Switzerland

Title

The automation of taste: A consideration of social robots and mobile ICTs through an analysis of Shazam and Spotify

Session

Communication (Panel session on Communication-theoretic Issues in Social Robotics)

Time and location

Thursday, August 21, 14:00-16:40; Building 1441, Room 110

Abstract

Today robotics and robotic functions are increasingly relevant to our everyday life. Although the notion of social robots tends to trigger the idea of autonomous machines such as humanoid and zoomorphic robots, it can be extended to include information and communication technologies (ICTs). The paper seeks to describe the implications of the deepest penetration of the mobile ICTs in the everyday life through the miniaturization of technologies as well as the cogent effect of software and new applications controlled by algorithms. As the smart phones and wearable gadgets continue to evolve and come closer to the human body, and also, transform from "a hard and utilitarian conception to a softer ideal based on the emotional value of new devices" as a process of ontobranding (Barile, 2009), this is an important and timely question to examine. In particular, this paper considers how the mobile ICTs such as a smart phone has a power to shape, and furthermore, "automate" our emotions and taste by exploring the widely-adopted music applications: Shazam and Spotify. Ultimately, it seeks to further understand the practice of "ubiquitous social roboting" (Fortunati, 2013), arguing that the automation of the taste, facilitated by the smart phone and its applications and algorithms, leads to the human carrying some traces of robots.

About the speaker

Satomi Sugiyama (Ph.D. Rutgers University) is associate professor of Communication and Media Studies at Franklin University Switzerland. Her research interests include communication technology (particularly mobile technology), culture, and fashion processes. She has been conducting research on the way young people perceive and use the mobile device in various cultural contexts. Her work has appeared in several edited books as well as academic journals including New Media and Society. Sugiyama received MacArthur and National Endowment for the Humanities fellowships at Colgate University while completing her Ph.D. at Rutgers University. In 2010, she has received the international exploratory workshop grant from the Swiss National Science Foundation in order to initiate a collaborative work exploring the notion of social robots and ICTs. The workshop outcome has been published in intervalla: platform for intellectual exchange (http://www.fc.edu/intervalla). The workshop also led to the COST workshop on social robotics, spearheaded by Leopoldina Fortunati (University of Udine) in 2013. In this endeavor, she has been exploring the idea of the mobile/smart phone as a "quasi-social robot." She is currently co-editing a special issue "Social Robots: Form, Content, Critique" for the International Journal of Social Robotics (Springer) with Michaela Pfadenhauer and Charles Ess.

NIKLAS TOIVAKAINEN

Name Niklas Toivakainen, PhD student

Affiliation Department of Philosophy, History, Culture and Art Studies, University of Helsinki, Finland

Title **Social Robots as a Mirror of (Failed) Communion**

Session Ethics and Moral Agency

Time and location Thursday, August 21, 14:00-14:40; Building 1441, Room 210

Abstract

My paper will start by noting that the increased presence of sociable robots in society has altered or shifted the discussion of the nature of AI systems from dominantly ontological to more ethical concerns. Welcoming such a shift, and supporting the idea that the notion of "intelligence", "consciousness" is best understood when acknowledging morals as a determinate factor, I try to argue that the dominant notion of morals and ethics is confused. Opposing notions that moral agency must either be a case of phenomenal consciousness or a set of implementable/computable ethical principles of conduct, I try to show that normative ethics is best understood as a moral response to interpersonal difficulties. Hence in moral terms, normative ethics is not something fundamental or purely rational but rather something which indicates a morally charged failure to live in openness/communion with others. In fact, the aspiration to formalise is already in itself a morally charged notion, as it is driven by a demand to make phenomena yield to one's will. Hence when inquiring about the "nature" of (sociable) robots, one should always ask in relation to which demands and for which purposes they are developed, including what political and economic forces are behind such a development? Further, I propose that although robots can come to simulate ethical norms, they appeal to us precisely because our moral relationship to them is purely formal, i.e. devised and controllable, and in many cases best understood as a technique for avoiding interpersonal difficulties.

About the speaker

My main field of interest is the interconnections between the philosophy of mind/language, philosophy of science and technology, philosophy of psychology and ethics. During 2010-2013 I worked as part of the research project "A science of the soul? — Wittgenstein, Freud and Neuroscience in dialogue" financed by the Academy of Finland.

Publications:

- "Philosophy and everyday language", in Ethics-Society-Politics: Papers of the 35th International Wittgenstein Symposium, eds. Martin G. Weiss and Hajo Greif. Kirchberg am Wechsel, 2012, Austrian Ludwig Wittgenstein Society.
- "Man and his Invention", forthcoming in Njohja, No. 3, 2014, Pristina, Kosovo.
- "The moral roots of conceptual confusion in Artificial Intelligence research", forthcoming in American Philosophical Association Newsletter on Philosophy & Computers, Vol. 14. No. 1.

RYUJI YAMAZAKI

Name Ryuji Yamazaki, Visiting Assoc. Professor, Researcher

Affiliation Aarhus University, Denmark and ATR, Japan

Title **Conditions of Empathy in HRI**

Session Empathy and Understanding

Time and location Friday, August 22, 16:00-16:40; Building 1441, Room 110

Abstract

The purpose of this paper is to consider the sociality of social robots with the focus on the notion of empathy. Humans often react with empathy for robots when they interact with them (Rosalia et al. 2005). A central question is whether such empathic reactions by humans are justifiable from a conceptual and ethical point of view. In this talk I will mainly address the conceptual strand of this question, leaving ethical considerations for the end; I will investigate whether empathy with robots is appropriate or misapplied relative to our current concept of empathy.
In a first step I clarify what is in the scope of empathy, i.e., what it is that we relate to when we have empathy with someone. Often empathy is described as the ability to perceive and share the feelings of others. Since robotics engineers have, in fact, constructed systems that seem capable of experiencing or feeling something like pleasure and pain, this account of empathy would seem to apply to robots. In a second step I discuss the question whether such 'sharing' of feelings requires that we reflectively attribute mental states to the object of empathy; exploring this path I show how the Theory-Theory and the Simulation Theory of the ascription of mental states would handle empathy. Alternatively, one can argue that the sharing of feelings is an emotional state that we attain interactively and rather immediately; this is the perspective of Interaction Theory and I argue that this view gives us a more plausible account of empathy. In a third step I will show that Interaction Theory can be fruitfully linked to classical phenomenological studies on feelings, moods, emotions, and intersubjectivity, i.e. bodily interlacement of selfhood and otherness.

About the speaker

Ryuji Yamazaki received B.A. and M.A. degrees in Philosophy from Chuo University, Tokyo, and a Ph.D. in Knowledge Science from Japan Advanced Institute of Science and Technology, Ishikawa, in 1999, 2004, and 2010. His research interests are android science, dementia care, cross-generational communication, philosophy of technology and phenomenology. Publication: "Promoting Socialization of Schoolchildren Using a Teleoperated Android: An Interaction Study", IJHR, vol. 10, no. 1, pp. 1350007(1-25), 2013.

YUICHIRO YOSHIKAWA

Name Yuichiro Yoshikawa, Associate Professor, Osaka U
Co-authors: Fabio Dalla Libera, Masashi Kasaki, Tora Koyama

Affiliation Osaka University

Title **Trust and Artifacts**

Session Issues of Applied Ethics

Time and location Wednesday, August 20, 14:50-15:30, Building 1441, Room 110

Abstract Trust is currently studied in many different disciplines from different perspectives. Nevertheless, the focus of studies is always on interpersonal trust. In this talk, first, we examine a number of definitions (i.e., necessary and sufficient conditions) of trust put forth in philosophy. Next, we use a game theoretic setting and simulation to specify in more detail under what condition rational agents place trust in others. Third, we conceptualize several ways to incorporate the result of our simulation to artifacts and robots in particular.

About the speaker Yuichiro Yoshikawa is Associate Professor of the Department of Systems Innovation, Graduate School of Engineering Science, Osaka University, Japan. He received his PhD (Engineering) from Osaka University in 2005. He has been working in interdisciplinary research fields using robots, e.g., the development of communication robots, analysis of human robot interaction, and cognitive developmental robotics.

TOM ZIEMKE

Name Tom Ziemke, Professor

Affiliation University of Skövde, Sweden

Title **Robots are not embodied: Implications for human-robot social interaction**

Session Embodied and Social Cognition

Time and location Thursday August 21, 13:15-13:55; Building 1441, Auditorium 3

Abstract

There is increasingly much agreement in the cognitive sciences that human cognition is embodied - to some significant extent. However, as I have tried to point out in a number of papers over the last 10-15 years, there is much less agreement regarding in what sense(s) cognition is embodied. In particular, there is much agreement that sensorimotor interaction with the environment is fundamental to cognition. From a historical perspective, this emphasis on the sensorimotor body is at least partly due to the crucial role that the conceptual shift in artificial intelligence (AI) research - from computational to robotic models - has played in the overall development of embodied cognitive science. Most embodied AI research, however, in particular work on symbol grounding and related approaches, reduces the body to a mere sensorimotor interface for internal processes that are still just as computational as they were 30-40 years ago. In Harnad's terms, this type of AI has only gone from a computational to a robotic functionalism. In theory, this could be limited to AI research, but in practice the view of the physical body as the computational mind's sensorimotor interface to the world still pervades much of cognitive science and philosophy of mind. The argument presented here is that there are good reasons to say that at least today's robots are in fact not embodied - in any sense that would allow for human-like embodied cognition - and that this has implications for social interactions between humans and robots.

About the speaker

Tom Ziemke received his PhD from the University of Sheffield, UK. His main research interest is embodied cognition, i.e., the role of the body in cognitive processes, in emotional mechanisms, in social interactions, and in interactions with different types of technology. He has more than 100 peer-reviewed publications and has edited two books on embodied cognition and social interaction. He is involved in a number of European research projects in the area of cognitive systems and robotics, is a member of the executive committee of the EUCog network (www.eucognition.org) and coordinator of a new FP7 integrated project called DREAM (www.dream2020.eu), which deals with the use of social robots in therapy for children with autism spectrum disorders.

RESTAURANT GUIDE

We recommend the following restaurants and cafés in Aarhus, using the following categories:
L=Lower priced
M=Medium priced
U = Upper priced

A
Kähler Spisesalon (U)
Danish design and nordic gastronomy. And 'Smørrebrød' to go.
M.P. Bruuns Gade 33
8000 Aarhus C
Tlf: 86 12 20 53
Web: www.spisesalon.dk

B
Nordisk Spisehus (M-U)
City gourmet inspired by international Michelin restaurants
M.P. Bruuns Gade 31
8000 Aarhus C
Tlf. 86 17 70 99
Web: www.nordiskspisehus.dk/

C
Café Lecoq (M)
French Bar, Restaurant & Brasserie
Graven 16
8000 Århus C
Phone: +45 86 19 50 74
Web: www.cafe-lecoq.dk

D (approximately 30 km south of Aarhus)
Norsminde kro (M to U)
Quality slowfood in a danish restaurant
Gl. Krovej 2
8380 odder
Phone: +45 86 93 24 44
Web: www.norsminde-kro.dk

E
Cafe Smagløs (L)
An old cafe/bar with good food and music
Klostertorvet 7
8000 Århus C
Phone: +45 86 13 51 33
Web: www.smagloes.dk

F
Sct. Oluf Restaurant (L-M)
French atmosphere and danish cosyness

Mejlgade 33
8000 Aarhus
Phone: +45 86 12 75 54
Web: www.facebook.com/pages/Sct-Oluf-Restaurant-og-Bar-ApS

G
Restaurant Det Glade Vanvid (M-U)
All inclusive, wine ad libitum danish gourmet
Pakkerivej 2b
8000 Århus C
Phone: +45 87 42 0123
Web: www.kocherier.dk/RESTAURANT-DET-GLADE-VANVID.62.aspx

H
CANblau Århus (M)
Traditional spanish tapas
Klosterport 2
DK-8000 Århus C
Phone: +45 86 88 88 19
Web: www.canblau.dk/

I
Den Rustikke (L)
French and friendly
Mejlgade 20
8000 Aarhus C
Phone: +45 86 12 00 95
Web: www.denrustikke.dk

J
Restaurant Le Basilic (L-M)
Danish-French fusion. Bring your own wine.
Mejlgade 85
8000 Aarhus C
Phone: +45 86 18 24 41
Web: www.basilicaarhus.dk/

K
Restaurant Miró (U)
Serving gourmet and 'hygge' for 25 years.
Marstrandsgade 2
8000 Århus C
Phone: +45 86 13 87 00
Web: www.restaurant-miro.dk

K
Römer Brunch & Bistro (L-M)
Located near 'Åen' and lots of similar cafes in the heart of Aarhus

Åboulevarden 50
8000 Aarhus C
Phone: +45 86 12 03 30
Web: www.jakobsenco.dk/romer-brunch-bistro

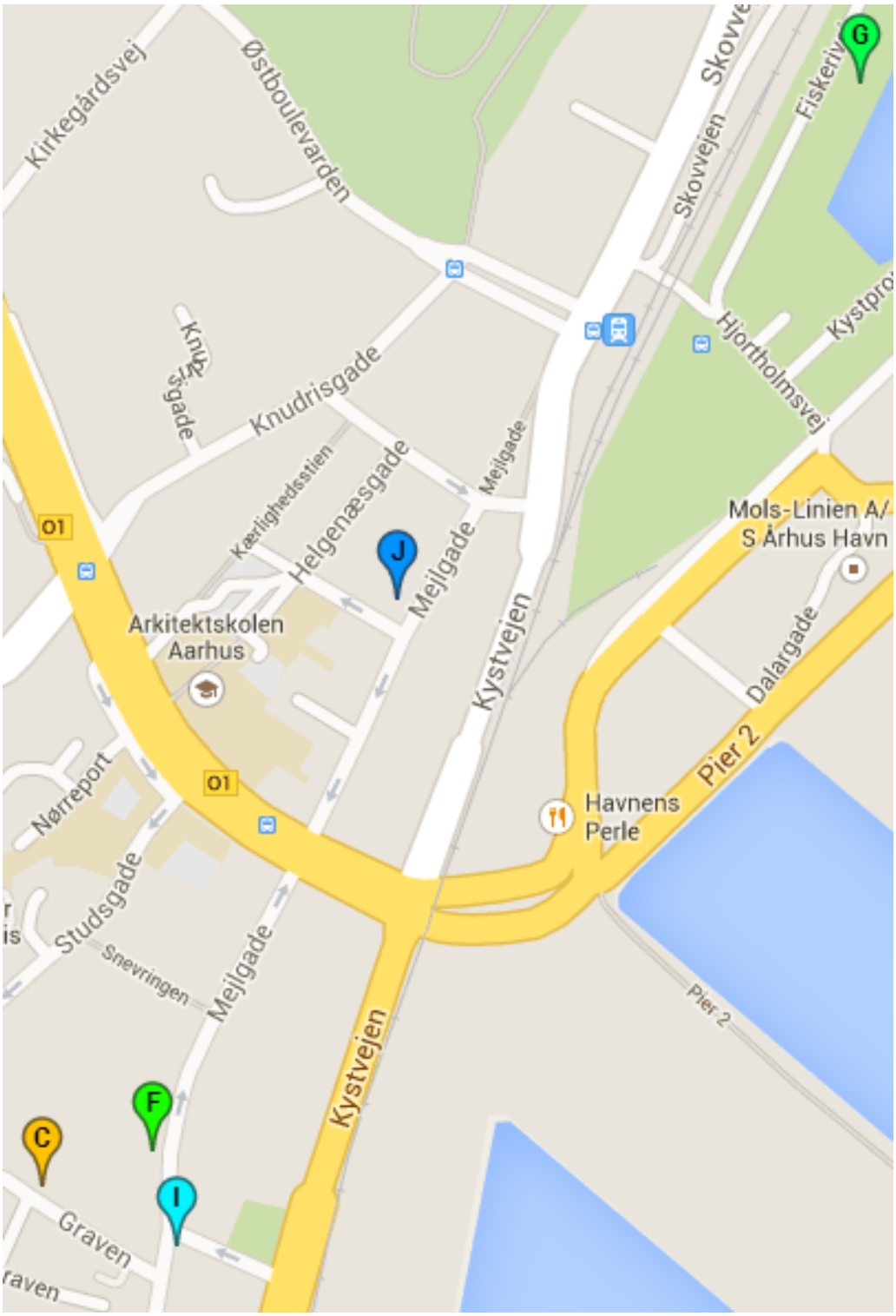
Bars
L
Tir Na Noq
Irish pub with sports, quizzes and live music
Frederiksgade 40
8000 Aarhus
Phone: +45 86 19 19 10
Web: www.tirnanog.dk/

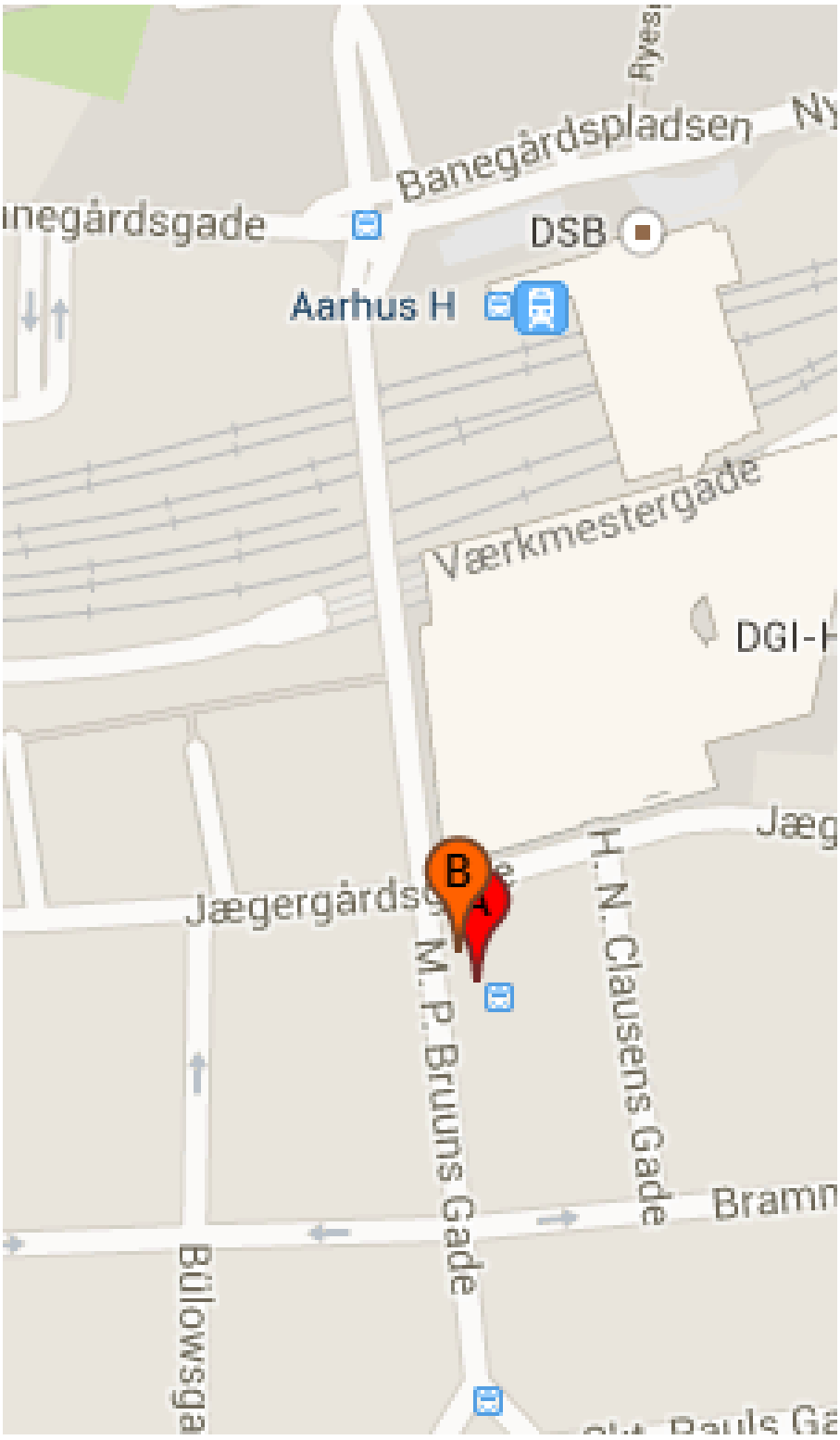
M
Herr Bartels
Cocktails in laid back bar
Åboulevarden 46
8000 Aarhus C
Phone: +45 86 18 08 33
Web: www.herrbartels.dk

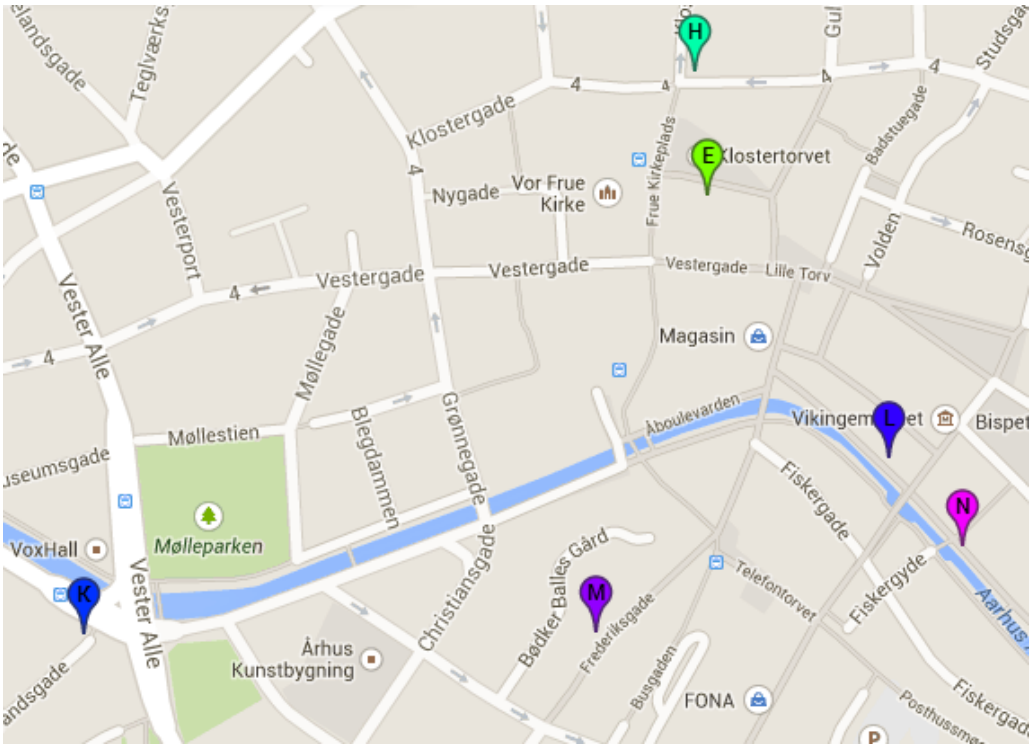
C
Café Lecoq (M)
French Bar, Restaurant & Brasserie
Graven 16
8000 Århus C
Phone: +45 86 19 50 74

E
Cafe Smagløs (L)
An old cafe/bar with good food and music
Klostertorvet 7
8000 Århus C
Phone: +45 86 13 51 33
Web: www.smagloes.dk

Map to restaurants

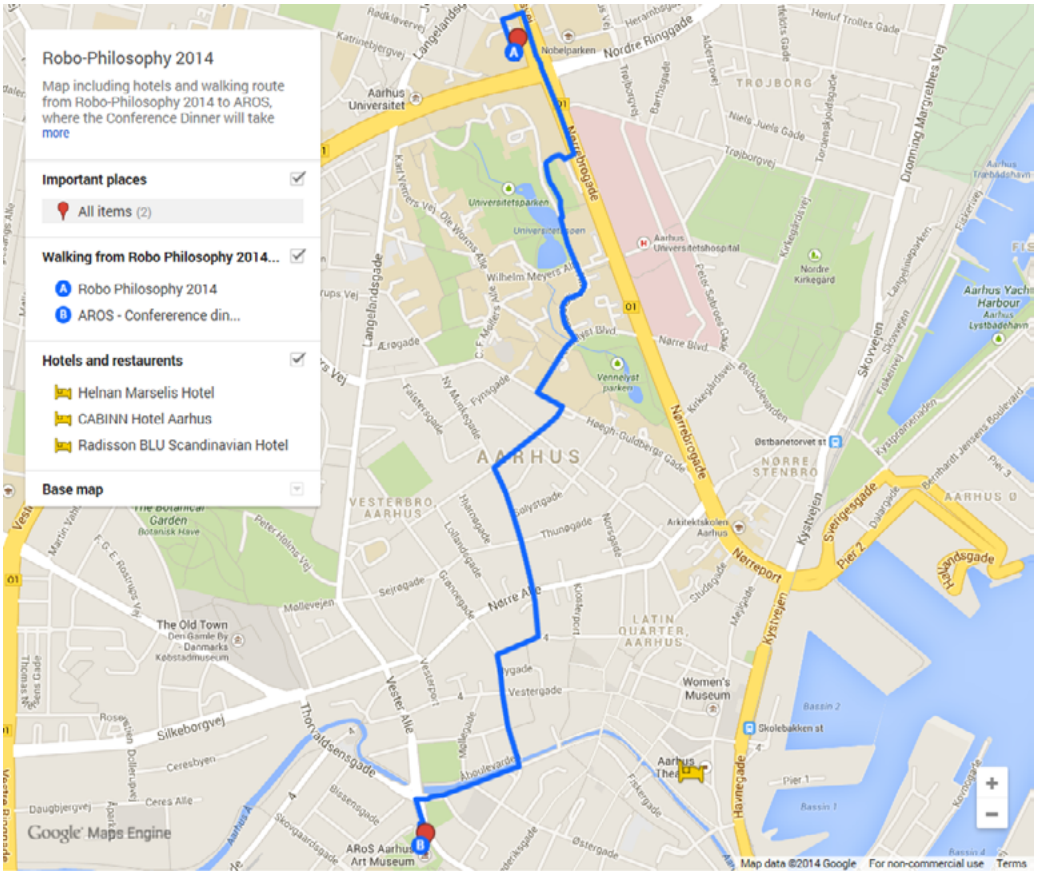

Kirkegårdsvej
Østboulevarden
Skovvejen
Fiskeriv
G
Knudrisgade
Hjortholmsvej
Kystpro
Mejlgade
Kærlighedsstien
Helgenæsgade
Mejlgade
O1
J
Mols-Linien A/
S Århus Havn
Arkitektskolen
Aarhus
Kystvejen
Dalargade
Pier 2
Nørreport
O1
Havnens
Perle
Studsgade
Snevringen
Mejlgade
Kystvejen
Pier 2
F
C
I
Graven


Banegårdspladsen
DSB
Aarhus H
Værkmestergade
Jægergårds
M.P. Bruns Gade
H.N. Clausens Gade
B
A


H
E
K
L
M
N
Klostergade
Klostertorvet
Nygade
Vor Frue Kirke
Frue Kirkeplads
Badstuegade
Vesterport
Vestergade
Vestergade
Vestergade
Lille Torv
Volden
Vester Alle
Møllegade
Magasin
Møllestien
Møllestien
Bleggammen
Grønnegade
Åboulevarden
Fiskergade
Fiskergyde
Møllestien
Møllestien
Møllestien
Mølleparken
VoxHall
Vester Alle
Christiansgade
Bødker Balles Gård
Frederiksgade
Telefontorvet
Busgaden
Århus Kunstbygning
FONA

MAP FOR WALK TO CONFERENCE DINNER AT AROS

Walk to conference dinner:



PRACTICAL INFORMATION

Banks and currency Exchange

Bank and exchange offices are located in the city centre close to the hotels. The currency of Denmark is the Danish krone. While some shops do accept euros, we recommend that you exchange to the local currency. Most shops also accept major credit cards.

Opening hours:
Monday-Friday: 10.00-16.00
Thursday: 10.00-17.30
Closed Saturdays and Sundays

Currency exchange at Forex

The exchange rates are better and you do not pay a fee when buying foreign currency at Forex. Address: Forex, Ryesgade 28, (+45) 8680 0340.

Credit card/cash points

Cash points accepting major credit cards are located all over the city; the closest cash point on campus is five minutes from the conference information desk in building 1422 at the entrance to the cafeteria 'Stakladen Kantine' (Fredrik Nielsensvej 2).

Bus

The following busses all stop at the university and in the vicinity of your hotel:

Hotel CabInn:

Take either number 13 (direction 'Vejlby Nord') or 1A (direction 'Lustrup Øst').
Location of busstop: Emil Vetts Passage
Exit bus at: busstop 'Randersvej/Nordre Ringgade' / Universitet

Hotel Raddisson:

Take either number 14 (direction 'Skejbyparken) or 18 (direction 'Elev, Høvej')
Location of busstop: H.H. Sedorffs Stræde
Exit bus at: busstop is called 'Randersvej/Nordre Ringgade' or 'Universitet'.

Most of these busses run in 10-20 minutes intervals in the morning and late afternoon; to check for schedules visit www.midttrafik.dk/in-english

Conference desk

The conference desk in the foyer in building 1441 (campus of Aarhus University, Tåsingegade 3, 8000 Aarhus C) is open for onsite registration and information:

Wednesday August 20: from 10:00—17:00

Thursday and Friday, August 21 and 22: from 8:30—17:00

Saturday August 23: from 8:30—12:00

For any emergencies call (+45) 21 18 62 07 to contact the conference desk, between August 19 and 24, from 8:00 to 20:00.

Emergency phone numbers

(+45 only when calling from outside Denmark)

Police, fire, ambulance (+45) 112
Falck rescue services (+45) 70 10 20 30
Police (+45) 87 31 14 48
Emergency room at Aarhus Hospital (+45) 87 31 50 50
Doctor, outside normal working hours (+45) 86 20 10 22
Dentist, outside normal working hours (+45) 40 51 51 62
Pharmacy, outside normal hours (+45) 86 12 00 22

Dining out in Aarhus

Most restaurants in Aarhus are open from 11:30 – 24:00. However, hot meals are not served after 22:00. Service charges are included in the price. See our restaurant guide.

Information desk

A registration and information desk is located in the conference venue, foyer of Building 1441, Aarhus University, Tåsingegade 3, 8000 Aarhus C, Denmark

Phone number: (+45) 21 18 62 07

Insurance and liability

Participants are advised to take out their own health and travel insurance.

Postal service

The nearest post office is a 20-minute walk from the venue (located at Storcenter Nord, Finlandsgade 17, DK-8200 Aarhus N). Please contact the information desk for directions.

Opening hours:
Monday – Friday: 10.00-18.00
Saturday: 10.00-14.00
Sunday: closed

Car parking

Free car parking is available outside the conference venue (Aarhus University). Downtown parking is generally metered.

Car rental

Cars can be rented from local or international companies such as Budget, Avis, Hertz and Europcar. Your hotel receptionist will assist you if you wish to rent a car.

Shopping

Shops in Aarhus are usually open from Monday to Friday, from 10.00-17.30 (Saturdays 10.00-14.00). Supermarkets and department stores are open till 19.00 on weekdays and are normally closed on Sundays. Most shops accept all major credit cards.

Smoking
Smoking is forbidden in public places, public buildings, and private businesses – including restaurants, pubs, shops, public transport, entertainment venues and workplaces – throughout the country. The only exception from the ban is for establishments with an area less than 40 sq.mtrs., which don't serve fresh food – so you can still enjoy a cigarette in some smaller pubs if you're lucky – some places have installed special smoking rooms but most refer smokers to the streets.

Taxes
The current Value Added Tax (VAT) rate is 25 %. VAT is includes in hotel and restaurant bills, entrance fees, ect. and cannot be refunded on these services. Tax Free shopping is possible in many major shops and department stores for visitors from non-EU and non-Scandinavian countries. The VAT is refunded at the airport upon presenting a completed VAT refund form. To achieve the VAT refund, a minimum purchase of DKK 300 per shop is required.

Taxis
Call: 89 48 48 48 or 70 25 25 25. (The country code is +45)
But Aarhus also has good public transportation, see https://www.midttrafik.dk/in-english.aspx for general information and http://www.rejseplanen.dk/bin/query.exe/en for a journey planner.

Time zone
Denmark follows Central European Time (CET) which is one hour ahead of Green wich Mean Time (GMT and six hours ahead of Easten Standard Time (EST)

Tipping
Gratuities are automatically included in the bills for service, meals etc. Tipping is optional.

Voltage
Electricity in Denmark is 220V AC. Plugs are European standard with two round pins

COLOPHON

Main organizers
Johanna Seibt, Raul Hakli, Marco Nørskov

Program committee
Mark Bickhard, Jens-Christian Bjerring, Charles Ess, Raul Hakli, Marco Nørskov, Ezio di Nucci, Raffaele Rodogno, Johanna Seibt

Conference Consultant
Gitte Grønning Munk

Head of Conference Staff
Thea P. Frederiksen, Rikke Mayland Olesen

Conference Staff
Anna Frida Vind Andersen, Søren Toft Høyner, Cecilie Kjær Rimdal, Louise Rognlien, Niklas Tørring

Creator of the Telenoid info booth
Stefan K. Larsen

Graphic Design
Nikolai Lander, Ib Jensen

We gratefully acknowledge the support from the AU Conference Office, AU Kommunikation, the Institute for Culture and Society at AU, and from our colleagues at the Section for Philosophy and the History of Ideas at the Institute for Culture and Society at AU.

Main financial support for this conference comes from the VELUX Foundation.
The conference is part of the activities of the research project PENSOR (Philosophical Enquiries into Social Robotics) which is funded by a grant from the VELUX Foundation.

AARHUS
UNIVERSITY

TRANSOR

An International Cross-Cultural Network for Transdisciplinary Research in Social Robotics

From healthcare to warfare, from education to entertainment, we have begun to let robots into our lives. We use them for tasks that humans cannot or do not wish to perform. Human-robot interaction challenges values and concepts at the very foundation of our cultural self-understanding. In order to use robots meaningfully and responsibly, we need to investigate Human-robot interaction from many angles, combining the art of engineering with conceptual and value research in the humanities, and empirical studies in psychology, anthropology, and sociology.

The Network for Transdisciplinary Research in Social Robotics - TRANSOR - is a novel research initiative. It aims to provide conceptual and phenomenological research, across cultures, on how we perceive certain types of interactions, and how the type of interaction partners with different capacities contribute to experience and expression of values at the individual and social level.

The network's core group consists of researchers from various disciplines such as philosophy, robotics, educational science, communication and media, linguistics, etc. from various universities and research laboratories in Denmark and Japan.

The network welcomes interested researchers and students.
To sign up, please visit:

WWW.ROBO-PHILOSOPHY.ORG