CITEC SUMMER SCHOOL
AT BIELEFELD UNIVERSITY

VERBAL AND NON-VERBAL INTERACTION
FROM EXPERIMENTS TO IMPLEMENTATION

27th – 31st of August 2012
CITEC Center of Excellence Cognitive Interaction Technology
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Welcome to CITEC Summer School

The Center of Excellence Cognitive Interaction Technology was founded at Bielefeld University (in 2007) as part of the Excellence Initiative by the German Research Foundation (DFG), which is the most prestigious German acknowledgement for research quality. At CITEC researchers work with and create interactive devices ranging from everyday tools to autonomous robots. Guided by the observation that the technology of the future should adapt itself to its human users, rather than forcing humans to learn about the details of new equipment, we are trying to move part of the cognitive load from the user to the system. Just as every human being communicates efficiently with his/her partners, technological systems should be able to detect and interpret the communicative message of the operator and adjust their response to suit his/her different needs and intentions. Such high-level capabilities call for collaboration between cognitive, natural and social sciences, in order to study the fundamental architectural principles of cognitive interaction – be it between humans or in human-machine interaction. This necessary and pioneering scientific effort builds incrementally on an understanding of perception and action, language and memory and on their functional modelling for artificial systems. The multiplicity and diversity of communicative mechanisms is a theme that combines basic research with technological applications in order to significantly advance our understanding of cognition itself through intense interdisciplinary cooperation. Ideally, this involves drawing on the experience and expertise of researchers from many different backgrounds and cultures, so we hope the CITEC Summer School Series will offer the opportunity to foster cooperative ventures, promoting exchange and collaboration between researchers from all over the world. This year’s CITEC Summer School focuses on the mechanisms behind communicative behaviour, and offers a great opportunity to graduate students and early career researchers from around the globe to learn about and discuss the latest research on verbal and non verbal communication from the perspective of experimental psychology, computational modelling, gestures studies, animal communication and human-machine interaction. On behalf of the organising committee we welcome you to Bielefeld and hope you are going to have a productive and exciting stay. We would like to express our thanks to the European Network for the Advancement of Artificial Cognitive Systems, Interaction and Robotics. EUCog sponsored some grants for the participation in this year’s CITEC Summer School.
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Research Group: Neuroinformatics

Prof. Dr. Thomas Schack  
Head of the Graduate School  
Research Group: Neurocognition and Action

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## Summer School Schedule

<table>
<thead>
<tr>
<th>Day</th>
<th>Plenary Lecture</th>
<th>Coffee Break</th>
<th>Discussion Session</th>
<th>Lunch</th>
<th>Module</th>
<th>Coffee Break</th>
<th>Module</th>
<th>Coffee Break</th>
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<th>Coffee Break</th>
<th>Module</th>
<th>Dinner (Foyer Q0)</th>
<th>Farewell Party</th>
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<tr>
<td>Friday</td>
<td>Ivan Toni</td>
<td>Coffee break</td>
<td>Discussion session</td>
<td>Lunch</td>
<td>Module 7</td>
<td>Coffee break</td>
<td>Module 8</td>
<td>Dinner (Foyer Q0)</td>
<td>Farewell party</td>
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<td>Thursday</td>
<td>Martha Alibali</td>
<td>Coffee break</td>
<td>Discussion session</td>
<td>Lunch</td>
<td>Module 5</td>
<td>Coffee break</td>
<td>Module 6</td>
<td>Dinner (Foyer Q0)</td>
<td>Evening lecture: Herbert Clark (H 15)</td>
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<td>Wednesday</td>
<td>Kerstin Dautenhahn</td>
<td>Coffee break</td>
<td>Discussion session</td>
<td>Lunch</td>
<td>Lab demos Free afternoon</td>
<td>Dinner (Foyer Q0)</td>
<td>Evening activity</td>
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<td>Tuesday</td>
<td>Hiroshi Ishiguro</td>
<td>Coffee break</td>
<td>Discussion session</td>
<td>Lunch</td>
<td>Module 3</td>
<td>Coffee break</td>
<td>Module 4</td>
<td>Official dinner at Bültmannshof (at 19:30)</td>
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<td>Monday</td>
<td>Katja Liebal</td>
<td>Coffee break</td>
<td>Discussion session</td>
<td>Lunch</td>
<td>Module 1</td>
<td>Coffee break</td>
<td>Module 2</td>
<td>Welcome &amp; Poster session</td>
<td>Dinner (Foyer Q0)</td>
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<tr>
<th>Time</th>
<th>9:00-10:30</th>
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<th>12:30-13:30</th>
<th>13:30-16:00</th>
<th>16:00-18:00</th>
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Bielefeld University: Center of Excellence Cognitive Interaction Technology
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<tr>
<th>Stream 1: Development of Joint Action</th>
<th>Monday</th>
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<tr>
<td>Q2-138 Cooperative Actions</td>
<td>16:00-18:00</td>
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<th>Stream 2: Gesture in Communication</th>
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<td>Q0-119 JAMES - Practical Insights on an EU Project</td>
<td>16:00-18:00</td>
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<th>Stream 3: Multi-Modal Data Recording and Analysis</th>
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<tr>
<td>C01-209 Motion tracking and measurement of physiological activity</td>
<td>16:00-18:00</td>
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<td>C01-209 Head, eye and gaze tracking</td>
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<td>C01-277 Multi-modal data processing</td>
<td>16:00-18:00</td>
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<th>Stream 4: Verbal and Non-Verbal Interaction in Social Neuroscience</th>
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<td>S2-142 Brain activity evoked by socio-emotional stimuli as evident in EEG</td>
<td>16:00-18:00</td>
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<th>Stream 5: Distributed Cognition and Coordination in Interaction</th>
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<td>N2-120 Interaction Strategies in the Peripersonal Space</td>
<td>16:00-18:00</td>
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<td>W01-180 Multimodal representation of movements, body and space</td>
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<td>W01-195 Interaction between Humans and Mobile Robots</td>
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Stream 1: Development of Joint Action

Abstract:
This stream is about cooperative actions and joint attention as a building block of joint action. This part of the summer school module starts with investigating real-life cooperative actions. Many everyday-life situations require two or more individuals to execute actions together, whether lifting a heavy object, folding a large blanket, or setting a dinner table with a partner. One focus in this module will be the theoretical assumptions on the temporal and spatial coordination of complex movements between individuals. Here, it has been suggested.

Modules 1–4: Cooperative Actions
(Johanna Egetemeir, Angela Grimminger, Katja Liebal, Katharina J. Rohlfing & Prisca Stenneken)
This part of the summer school module will focus on investigating real-life cooperative actions. Many everyday-life situations require two or more individuals to execute actions together, whether lifting a heavy object, folding a large blanket, or setting a dinner table with a partner. One focus in this module will be the theoretical assumptions on the temporal and spatial coordination of complex movements between individuals. Here, it has been suggested that motor simulations of each other’s actions play a crucial role in the success of action coordination between individuals. It has also been suggested that these simulation processes take place in an execution/observation matching (EOM) system comprised of areas that are activated during both action execution and action observation. We will discuss these insights not only in symmetric but also asymmetric interactions in which one participant is cognitively and linguistically less advanced. In these interactions, of particular interest is how action might change to communication in order to scaffold the other’s behavior. For this, we identified a specific type of gestures called “manipulative gestures” in mothers interacting with their children. We discuss the function of this gesture as an attentional on the one hand, since it directs the child’s attention to the objects; on the other hand, however, it displays characteristics of social information by showing how to handle and manipulate the objects. This way, social knowledge about objects is transported. We view this gestural type thus as glue between attentional device and communicative gestures.
A second focus will be methodological challenges of exploring the involvement of such relevant processes in real-life situations as they take place. Constraints posed by common imaging modalities have made it difficult, if not impossible, to
assess brain activation during naturalistic, interactive tasks. We will present and discuss the principles of exploring neural correlates of cooperative tasks. Furthermore, we will present the methods and results of our own recent studies in which we used functional near-infrared spectroscopy (fNIRS) to measure brain activation during cooperative tasks in experimental settings comparable to real-life. With respect to the asymmetric interactions, we will provide data on task-oriented discourse with children, and analyze it pursuing the question of whether the category of manipulative gesture is a gesture at all and if so whether it should be regarded along the same lines as deixic and iconic gestures.

Modules 5–6: Experimental Typology and Verbal Interaction
(Stavros Skopeteas)
This workshop introduces the basic concepts and methods of experimental typology, i.e., the reasoning behind the design of a cross-linguistic experiment. Module 7 addresses the issue what type of knowledge we expect to obtain in investigating more than a single language. After a revision of several studies in this field, it will be demonstrated that the answer to this question lies in the discovery of an interaction effect between factors of cross-linguistic variation and phenomena observed in human communication. Module 8 is the experimental part of this unit: this will demonstrate the impact of particular properties of the grammar, in particular syntactic and prosodic differences between languages, on alignment in verbal communication. These modules relate to experimental psycholinguistics, syntactic/prosodic research, and language typology. The related background will be introduced within the modules, so that the crucial issues will be also comprehensible for participants from different disciplines.

Modules 7–8:
Joint Attention as a Building Block of Joint Action: A Practical Course using a Mobile Eye-Tracking System
(Thies Pfeiffer & Ipke Wachsmuth)
Besides voice and gesture, the eye plays an important role in joint action. In a practical course, we will use a mobile eye-tracking system to record and analyze a short interaction sequence to demonstrate how to operate the eye-tracking system, what tools to use for the analysis and what eye movements can tell us about the interaction and the underlying cognitive processes. A special methodology followed in our research at the CITEC is the empirical-simulative loop: we observe human–human interactions to derive models that can be
operationalized in artificial agents (robots or virtual humans), these agents – and by this the models – are in turn evaluated in human–robot interactions. This again provides us insights which may lead to modifications of our theory, new studies on human–human interaction and thus the cycle continues.

In this module, we will see, how complex models of interaction, here the establishing of joint attention via gaze, can be implemented in our virtual agent Max. These models can then be tested in an immersive virtual reality environment, where the human participants can be engaged in an interaction with a human-sized Max.

The module will be split into two parts, in the first we will present the general idea of the empirical-simulative loop and show how an operational model of joint attention can be realized with a virtual human. In the second part, we will visit the CAVE, the virtual reality environment, meet Max in person and give the implemented model a try-out. This scenario also includes real-time analysis of eye gaze by combining eye-tracking with motion capturing and a monitoring of all context objects.

Stream 2: Gesture in Communication

Abstract:
Analysis and modeling of speech and gesture communication will be the focus of this stream. We will discuss, in the form of an informal workshop, different approaches to explain human speech and gesturing, and to model it with artificial humanoid agents and the effects this has. Bielefeld researchers will present their work, participants are invited to report own work or opinions. Invited speaker Martha Alibali, a renowned speech and gesture researcher, will participate in the workshop and join the discussions.

Module 1, 2, 7 & 8: JAMES – Practical Insights on an EU Project
(Sebastian Loth & Andre Gaschler)
In this tutorial, the students will learn to program a robot hand to produce hand gestures. For that, we are using a Meka robot hand (http://mekabot.com) that can be programmed in a simulation environment. The Meka robot is compliant which makes it ideal for human–robot interaction. At the end of the tutorial, the students will execute their programs on the real robot hand.
Module 3, 4, 5 & 6: Understanding and Modeling of Gesture in Communication
(Martha Alibali, Stefan Kopp & Jan de Ruiter)

The second part of this stream will cover the modeling of speech and gesture communication. It is well acknowledged that natural communicative behavior comprises finely coordinated verbal and nonverbal parts, the latter of which encompass hand gestures. Hand gestures represent a privileged form of co-verbal behavior as they exhibit a rich semiotic structure and thus stand in complex relationships with concomitant speech. These relations pertain to temporal, semantic and pragmatic aspects. It is still debated why and how the brain produces and coordinates these two modalities into composite signals, how one can transfer this production process into computational models that afford multimodal behavior to artificial systems, and how humans perceive and react if robots talk not only with their synthetic voices but also with their hands. We will discuss, in the form of an informal workshop, different approaches to explain human speech and gesturing, and to model it with artificial humanoid agents and the effects this has. Bielefeld researchers will present their work, participants are invited to report own work or opinions. Invited speaker Martha Alibali, a renowned speech and gesture researcher, will participate in the workshop and join the discussions. If possible and helpful, the workshop can be accompanied with joint data sessions or hands-on sessions with the Bielefeld speech and gesture simulator.

Stream 3: Multi-Modal Data Recording and Analysis

Abstract:
The extended title of this stream roughly covers the total of the theoretical and practical insights which will be given: Multimodal and multisensory data collection, annotation and analysis for the study of verbal and non-verbal human behaviour.
Module 1 & 2: Motion Tracking and Measurement of physiological activity
These modules introduce two different technologies of motion tracking: tracker-less (Kinect) and tracker-based (OptiTrack) as well as breathing and heart rate monitoring devices (PowerLab). The focus will be on practical aspects of setting up and using the sensors in our Interaction Lab, as well as working with the data streams using the accompanying software.

Module 3 & 4: Head, Eye and Gaze Tracking
Similarly to the first pair of modules, we will focus on setting up and using state-of-the-art head, eye and gaze tracking equipment and software (FaceLab). Again, this is a hands-on practical workshop where participants will calibrate and use the equipment to collect actual data.

Module 5 & 6: Multi-Modal Data Processing
The focus of this module lies on post-processing of multi-modal data. In particular, we concentrate on data streams that researchers in linguistics and speech science are less acquainted with - such as those acquired via motion-tracking technologies and physiological activity sensors. We will first familiarise ourselves with the software provided with the devices to process and visualise the data. Next we will consider data integration options depending on diverse research goals.

Module 7 & 8:
Multi-Modal Discourse Data Visualization, Annotation, and Analysis
This part of the stream provides a “good taste” of multimodal conversational analysis by exploiting diverse data sources in order to extract meaningful conclusions about the process of dialogue. We will tackle real problems such as fusion of different information channels, automating annotation procedures and evaluating results. The research topics that will be addressed include dialogue analysis, feedback signals and multimodal alignment.

(All Modules by: Spyros Kousidis, Zofia Malisz, Marcin Wlodarczak, David Schlangen & Petra Wagner)
Stream 4: Verbal and Non-Verbal Interaction in Social Neuroscience

Abstract:
The idea of this stream is to introduce to common social neuroscience approaches to the study of human interaction – from individual-centered stimulus–brain response approaches to the introduction of methods that allow for analysis of real-time inter-brain coupling in naturalistic interaction.

Module 1 & 2: Brain Activity evoked by Socio-Emotional Stimuli as Evident in EEG
(Johanna Kißler, Inga Steppacher, Sebastian Schindler & Martin Wegrzyn)
Basic approaches, findings and methods

Module 3 & 4:
Cross-Participant Synchronization in Social Neuroscience Experiments
(Inga Steppache &, Sebastian Schindler)
EEG methods and approaches

Module 5 & 6:
Brain Activity Evoked by Socio-Emotional Stimuli as Evident in fMRI
(Martin Wegrzyn)
Basic approaches, findings and methods

Module 7 & 8: Cross Participant Coupling in Social Neuroscience Experiments
(Silke Anders & Johanna Kißler)
Stream 5: Distributed Cognition and Coordination in Interaction

Abstract:
This stream is about the coordination of different humans and intelligent agents in interaction. Using various technologies (EEG; Motion Capture Systems), this stream will illuminate settings such as soccer, dance, tutoring situations and human–robot interaction. Additionally, we will discuss the underlying mental representations of these coordinated interactions.

Module 1: Tactics in Soccer
(Heiko Lex)
Team performance in sport games (e.g. soccer) is made up by a combination of various technical–tactical as well as physical–coordinative parameters. A central question is, why players are unable to make the right decision in the right moment, and have problems choosing an adequate tactic. It is suggested that higher order cognitive parameters of movement organization play a fundamental role in identifying the stipulated tactics during competition. But how can such cognitive parameters be measured in tactical decisions? The aim of this module (lab demonstration) is to introduce studies that have focused on cognitive measurements of tactics in Soccer in order to get a better understanding of the underlying cognitive mechanisms.

Module 2: Interaction Strategies in the Peripersonal Space
(Patrick Holthaus)
In this module, we are going to investigate gestural interaction between a human and a robotic partner in the peripersonal space. In order to do so, we will use simple cues from an RGB-D camera to control the iCub robot. Participants are encouraged to develop and test their own strategies in dealing with human presence, social signals, and gestures in the robot working area.

Module 3: Language in action: Neurocognitive investigations
(Dirk Köster)
In this module, you will learn what brain processes underlie humans' unique capability to speak. That is, neurophysiological correlates of action and language processing will be discussed. Up-to-date methods of investigation will be introduced briefly and presumably complemented by a hands-on session (EEG).
Module 4: Adaptive Embodied Action Tutoring – Interaction between Humans and Virtual Agents (Ludwig Vogel)

In this workshop a closed loop interaction scenario between virtual agents and humans will be presented. The methodological approach combines methods from cognitive psychology with artificial intelligence. More specifically the mutual information exchange is based on human’s mental representation structure and on individual instruction routines of the virtual agent. Within an experimental part of the module we will practically demonstrate how humans can learn movements from a virtual agent.

Module 5 & 6: Multimodal Representation of Movements, Body and Space (Bettina Bläsing & Marcella de Castro Campos)

In this course we explore how visual, auditory and proprioceptive information contribute to our perception and representation of bodily movements in space. On the basis of dance-like movement improvisation, we investigate the role of verbal and nonverbal communication in orientation and locomotion.

Module 7 & 8: Interaction Between Humans and Mobile Robots (Sascha Griffiths, Billy Land, Christina Lichtenthäler & Annika Peters)

In this workshop we will look at humans and mobile robots crossing paths. On the one hand we will look at different patterns of movement using a motion tracking system. On the other hand we will look at which information a robot receives during interaction. For this purpose we will employ a Wizard-of-Oz scenario to fulfill a given task with the robot in interaction. No programming expertise is needed for this workshop.
Since 2009 Dr. Katja Liebal has been a junior professor for Evolutionary Psychology in the Cluster initiative Languages of Emotion, Free University Berlin. Katja Liebal studied Biology at the University of Leipzig she made her Diploma in 2001. For her PhD she worked on gestural communication of apes in the department of Developmental and Comparative Psychology at the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany. From 2005 - 2008 she worked as a lecturer in the Psychology department at Portsmouth University before starting a research position at the MPI for Evolutionary Anthropology in Leipzig. Her main interest concerns the multimodal communication of primates and the underlying socio-cognitive skills. Projects include research on empathy in captive and semi-wild great apes (with Amrisha Vaish and Michael Tomasello), the development of a GibbonFACS (with Bridget Waller and Anne Burrows), and cross-cultural studies to investigate the comprehension and expression of emotions (with Daniel Haun, Juliane Kaminski, and Isabell Wartenburger).

**Selected References:**
Talk on Monday


Communicating without Words: a Closer Look at Our Primate Cousins

Abstract:
Humans – unlike any other species – have language. The search for the evolutionary origins and developmental trajectories of this uniquely human ability directed the attention also to our closest relatives, the nonhuman primates. Our shared phylogenetic history suggests that particularly great apes possess some cognitive and communicative skills that might represent potential precursors to human language. In my talk, I will focus on the gestures and facial expressions of nonhuman great apes and how they use these communicative means to interact with each other in their complex social groups as well as with humans. Based on this I will discuss if and to what extent this knowledge sheds lights on possible scenarios of language evolution and will also highlight potential problems and open questions of the comparative approach to human communication.
Hiroshi Ishiguro

Hiroshi Ishiguro
Department of Adaptive Machine Systems
Group Leader of ATR Hiroshi Ishiguro Laboratory
Osaka University, Japan

Hiroshi Ishiguro received a D.Eng. in systems engineering from the Osaka University, Japan in 1991. He is currently a Professor of Department of Systems Innovation in the Graduate School of Engineering Science at Osaka University (2009–) and Group Leader (2011–) of Hiroshi Ishiguro Laboratory at the Advanced Telecommunications Research Institute (ATR).

He has published more than 300 papers in major journals and conferences, such as Robotics Research and IEEE PAMI. His research interests include distributed sensor systems, interactive robotics, and android science. In the last several years, he has focused mainly on the development of humanoids and androids. They are named Robovie, Repliee, Geminoid, Telenoid, and Elfoid. His robots have been featured repeatedly in major media, such as Discovery channel, NHK, and BBC. He received the best humanoid award four times in RoboCup. Synectics Survey of Contemporary Genius 2007 selected him as one of the top 100 geniuses alive in the world today. For developing robots, he is getting over 2 million dollars every year as research grants from the Japanese government and private companies.

Ishiguro has been invited to conferences and workshops at home and abroad dozens of times a year. The related publications in the last five years are 58 journal papers, such as Proceedings of the IEEE, IEEE Trans. PAMI, and 86 reviewed conference papers, such as Int. Joint Conf. on Artificial Intelligence, and more than 60 patent submissions.
Humans, Androids, and Media

Abstract:
What is a human? This is the most important question for me. In order to answer to the question, I have developed a series of humanoids and androids. This talk gives you new ideas on robotics. Actually, robotics is not just for building humanlike machines but it is also a way to understand humans.

What is the human likeness? I have developed an android that has an identical appearance to the existing person to answer to the question. What is the humanlike presence? I have developed a geminoid that is a tele-operated android of myself. We can transmit our presence to the distant place by using the geminoid. Further, through these development, we have studied key factors for human–robot interactions and developed a tele-operated robot that has a minimum appearance and function as a human. It is called Telenoid. This talk introduce these robots and discuss how we can understand humans through these robots.
Kerstin Dautenhahn
Adaptive Systems Research Group
University of Hertfordshire, United Kingdom

Prof. Dr. 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 that consists of about 40 researchers. She received her Ph.D. degree from the Biological Cybernetics Department of the University of Bielefeld, Bielefeld, Germany, in 1993. She has published more than 300 research articles on social robotics, human–robot interaction, assistive technology and Artificial Life. Prof. Dautenhahn has edited several books and frequently gives invited keynote lectures at international meetings. She regularly organizes conferences, for example, she was general Chair of IEEE RO-MAN 2006 with the theme of “Getting to Know Socially Intelligent Robots” and co– general chair of the ACM/IEEE conference HRI’08. She has been Principal Investigator of her research team in several European projects on developmental robotics (Robotcub), robot companions (Cogniron and LIREC), educational virtual environments (eCircus), and robotics and assistive technology (IROME, RoboSkin, ACCOMPANY). 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) and the “IEEE Transactions on Autonomous Mental Development".
Learning and Playing with KASPAR: Robot-Assisted Therapy for Children with Autism

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. Two application areas are of particular interest, namely assistance for elderly users in a home context, and robot-assisted therapy for children with autism. The latter is an area that I have been studying since 1998. 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 this domain, and lessons learnt from this research with implications for the field of Human–Robot Interaction in general and robot-assisted therapy in particular.
Martha Alibali

Martha Alibali
Department of Psychology
University of Wisconsin - Madison, USA

Martha Alibali is an Associate Professor in the Department of Psychology. Her research investigates children's mathematical reasoning and how it changes over time. She focuses on the change processes that take place when children learn new concepts and problem-solving strategies, and when they express and communicate their knowledge in gestures and in speech. Current projects examine the transition from arithmetic to algebraic reasoning, the function of spontaneous gesture in thinking and speaking, and the nature of mathematical reasoning in children with language impairments. Her goal is to contribute to a deeper understanding of the mechanisms of knowledge change in children's cognitive development.
Selected References:


Martha Alibali will give a talk on:
"Gestures in Interaction: What, Why and How"
The abstract will be published on https://www.cit-ec.de/node/9428.
Herbert H. Clark

Herbert H. Clark
Department of Psychology
Stanford University, CA, USA

Short Biography:
Herbert H. Clark is Albert Ray Lang Professor of Psychology at Stanford University. He is author of several books on language use, including Psychology and Language, Arenas of Language Use, and Using Language. He is also Author of over a hundred journal articles and chapters in both psychology and linguistics. His research has focused on speaking and understanding in everyday conversation. Early on he worked on negation (The semantic component Not(x)), spatial and temporal expressions, word innovations, and given and new information (Given information is information that speaker’s audience already knows, it has an antecedent in memory; New information is information that speaker’s audience does not know). Then he took up the notion of common ground (Two people’s common ground is, in effect, the sum of their mutual, common, or joint knowledge, beliefs, and suppositions) and how it was used in definite reference, demonstrative reference, and vocabulary. With colleagues he developed the notion of “grounding” – the process by which people establish common ground in conversation. He has also studied indirect speech acts, quotation, pointing at and placing things, and speech disfluencies such as “uh” and “um” and repeated words. He is also author of a well-known critique of statistics in research on language.

Clark was a John Simon Guggenheim Fellow and a Fellow at the Center for Advanced Study in the Behavioral Sciences. He was elected to the American Academy of Arts and Sciences and to the Royal Dutch Academy of Arts and Sciences. And he received a life-time achievement award from the Society for Text and Discourse.
Spontaneous Depictions in Everyday Discourse

Abstract:
In everyday discourse, people rely on three basic methods of communicating. They can describe things, placing them into categories. They can indicate things, locating them for their addressees. And they can depict things, creating physical analogues of the appearance of those things. People ordinarily use these methods in combinations. When I produce, “He [pointing at a photo of Frankenstein] is disgusting [grimacing],” I am combining a description (with “He is disgusting”), an indication (by pointing), and a depiction (by grimacing). All three methods can be both verbal and non-verbal. But how do people combine these forms in everyday discourse? And how do they integrate information of such disparate types as categories, locations, and appearances? I will focus on spontaneous depictions and how they combine with descriptions.
Ivan Toni is Professor at the Faculty of Social Sciences at Radboud University Nijmegen. His research has been focused on the cerebral mechanisms supporting the integration of rules and perceptual processes into the sensorimotor machinery. He has addressed this issue by studying both healthy and pathological human brains, using non-invasive neurophysiological techniques (fMRI, Magneto-Encephalography, Transcranial Magnetic Stimulation). During the last five years he has structured this interest along two main lines of research, targeting instrumental (movement) and communicative actions. Concerning instrumental actions, he has studied the cognitive and cerebral structures supporting goal-directed movements in individual agents, given their crucial role in fundamental human behaviors like object prehension, tool use, and organizing complex action plans. A second line of research has been concerned with understanding how actions can be used to modify mental states in other people. This issue is closely linked to the first research line in so far that communicative actions, even more than instrumental actions, are organized according to abstract conceptual knowledge, e.g. the inferred desires and beliefs of the addressee.

Selected References:

Mind-Oriented Movements

Abstract:
As with many other core human abilities, intentional communication appears a fairly straightforward phenomenon, at least until we interact with other humans having communication deficits, or until we try to build artificial cognitive agents that can effectively deal with the pervasive ambiguity of human communicative signals. Traditional accounts of these communicative abilities have often implicitly assumed that our ability to communicate and interact with others is dependent upon language. More recent accounts have suggested that communicative actions are an instance of instrumental actions, i.e. actions designed to alter a physical state of the environment.
In this talk I will explore the possibility that our communicative abilities are distinct from both sensorimotor and linguistic processes. I will provide empirical evidence showing that communicative, linguistic, and sensorimotor abilities rely on different set of constraints, and on cerebrally distinct mechanisms. I will describe how the selection of communicative actions is independent from the operations of the language system, strongly dependent on social constructs, and constrained by predictions of the consequences of the action on the collaborators' minds, rather than on the environment. I will conclude by illustrating recent theoretical work designed to provide a principled identification of putative model parameters that control cognitive processes supporting intentional communication.
Participating Students

Ai Leen Choo
Ajung Moon
Amir Aly
Anara Sandygulova
Anne-Katharina Harr
Casey Kennington
Catharine Oertel
Christina Lichtenthäler
Cord Wiljes
Daphne Eleonora Karreman
Diako Mardanbegi
Dorota Jaworska
Eduard Porta
Eileen Oberwelland
Flora Vanlangendonck
François Rocca
Huiyuan Cao
Igor Bogoslavskyi
Janina Künecke
Johanna van Schaik
Jorge Gallego Perez
Juliane Burmester

Julien Leroy
Katharina Isabel Schmidt
Konrad Juszczyk
Marian Pohling
Markus Häring
Mattias Heldner
Mirjam Ghassemi Tabrizi
Nicola Plant
Ninghang Hu
Ramona Kaiser
Sao Mai Nguyen
Sara Isabel Azevedo da Silva
Sebastian Kahl
Si On Yoon
Simon Erik Alexanderson
Stéphane Michelet
Tobias Baur
Trevor Dodds
Umar Shoaib
Verena Nitsch
Vincent Barbaresi
Biographical information and Scientific Interests:
My research interests are mainly focused on developmental stuttering, a disorder that affects about 1% of the population. Stuttering which plays out in social situations, manifests as sound/word repetitions, prolongations and blocks which occur in varying degrees across disparate social situations and individuals. Currently, my research efforts are focused on the impact of stuttering on social communication and learning by reorienting our attention from the narrower scope of speech disfluencies to dynamic and emerging interactions, verbal and non-verbal discourse resources, and the development of joint effort and alignment between people who stutter and their communication partners. I am interested in pursuing theoretical and practical frameworks to investigate stuttering that lends a new perspective to an established disorder.
Over the past few years, I have also taken a neurological approach to investigating stuttering. Using neuroimaging techniques, these studies are designed to examine neural activity and development that is associated with stuttering. The goal of my research is to shed light on a disorder that has defied a single explanation, and to develop a framework that operates as a functional and implementable tool to focus and direct research on complex interactions, and simulate and predict responses to treatments in stuttering.
Presently, I am a Ph.D. candidate at the University of Illinois at Urbana-Champaign in the Speech and Hearing Science Department. I have a M.Sc. in Psychology from the University of Canterbury in New Zealand and a B.Sc. in Marine Biology with a minor in Mathematics from Hawaii Pacific University.
Ajung Moon

Biographical Note:
Ajung Moon is a PhD student in Mechanical Engineering at the University of British Columbia (UBC), Vancouver, Canada, and a member of the Collaborative Advanced Robotics and Intelligent Systems (CARIS) lab. She received her Master of Applied Science degree in Mechanical Engineering at UBC. She has an Honours Mechatronics Engineering (B.A.Sc.) degree along with a minor in Philosophy from the University of Waterloo, Canada.

Her master’s research was inspired by the way humans communicatively respond to resource conflicts. In particular, humans tend to use hesitation gestures with their hands when two people reach for the same thing at the same time. In an effort to increase transparent communication between humans and robots in human–robot collaboration, she investigated whether robots could respond to unexpected resource conflicts using humanlike hesitation gestures. She devised a real–time trajectory generation method a robot can use to convey its state of hesitation to its user.

In addition to her work in human–robot nonverbal communication, she has been interested in the topic of Roboethics and its intersection with the field of HRI. She teaches a graduate level course on Roboethics with Dr. Machiel Van der Loos at UBC in the summer, and blogs about Roboethics issues all year round (www.RoboethicsDB.com).
Amir Aly
Cognitive Robotics Laboratory
ENSTA ParisTech, France
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Education:
2010: M.Sc. Specialization Image and sound processing, UPMC, (Université Pierre et Marie Curie), Paris, France.
2009: B.S.c. Specialization Automatic systems and signal processing, ENSISA (École Nationale Supérieure d’ingénieurs sud Alsace), Mulhouse, France.
2006: B.S.c. Specialization Command and measurements, Benha University, Egypt.

Selected publications:

Principal research interests:
Human robot interaction HRI; Verbal, Non Verbal and Para Verbal Communication; Vision based systems; Sound analysis; Signal processing; Artificial Intelligence.
Anara Sandygulova
School of Computer Science and Informatics
University College, Dublin, Ireland
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Short Biography:
Anara Sandygulova is a first year PhD student at the School of Computer Science and Informatics in University College Dublin (UCD). She works on a personally proposed project called “Effective Interactions with Robotic Entities” sponsored by IRCSET (Irish Research Council for Science, Engineering and Technology) under supervision of Professor Gregory O'Hare and Dr. Mauro Dragone. Anara received a First-Class Honours in B.Sc (Hons.) Computer Science degree having come to UCD from Kazakhstan. Also, Anara completed her undergraduate third year at University of California Irvine through Education Abroad Program.

Research interest:
Anara is interested in human–robot interaction, social interaction, ubiquitous robotics, human–computer interaction, ubiquitous computing, and multi-agent systems, distributed artificial intelligence, ambient intelligence, augmented mixed and virtual realities, and topics in cognitive science. The primary aim of her research is to develop a methodology and related software framework to enable natural human–robot interaction with ubiquitous robotic systems.
Anne-Katharina Harr
Institut für Deutsche Philologie,
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Education and Current Position:
Ph.D.: Psycholinguistics, Co-tutelle Ludwig–Maximilians-Universität Munich & Université de Paris VIII, 2010
Title: The impact of language-specific factors in first language acquisition: The expression of motion in French and German.
M.A.: German and French Linguistics and Literature, Ludwig–Maximilians-Universität Munich, 2007
Licence Linguistics, Université de Paris V, 2004
Current position: Scientific employee at the Institute for German Philology (Linguistics and Speech Therapy), Ludwig–Maximilians-Universität Munich

Research Interest:
My principal research interests lie in the interdisciplinary and cross-linguistic approach to the relation between language and cognition. I am particularly interested in comparing language acquisition across languages, including first and second language acquisition, bilingualism, as well as typical and atypical learning situations. My doctoral dissertation examined typological constraints in the development of spatial language in German and French adults and children. I have received training in linguistics, psycholinguistics, and developmental psychology.
During my Post-Doc I would like to compare early language acquisition in sighted vs. blind children from a cross-linguistic perspective with particular attention to the relationships between perception, cognition, and language, as well as to the role of joint attention in adult–child interactions.
In the context of my scholarship within the research and study program Frühkindliche Bildung funded by the Robert-Bosh-Foundation, I am also concerned with the professionalization of educators in German day care centres and Kindergartens.
Short Bio:
Casey Kennington is a first-year PhD candidate at the University of Bielefeld, Germany, advised by Professor David Schlangen. He graduated Brigham Young University, U.S.A., in computer science, then went onto masters work in the Erasmus Mundus LCT program at Saarland University, Germany, and Lorraine University, France. He enjoys reading, running, and studying languages (now Japanese, German, and French). He and his wife, Katie, have three daughters.

Research Interests:
My research mainly involves natural language understanding (NLU) in spoken dialogue systems. In my most recent work (Kennington and Schlangen, 2012), we showed that jointly using information from a situated context, discourse context, an utterance, and linguistic structure of that utterance were fundamental information sources when inferring a semantic frame. We are currently extending this using various machine learning techniques and different domains. My work also focuses in incremental dialogue processing which means always trying to understand an utterance as it unfolds, word for word, instead of waiting for the end of the utterance. We will extend this research to incorporate information from multi-modal sources like gesture and gaze, as well as on-line and long-term learning.
Short Biography and Research Interest:
I am a PhD student at the Department of Speech, Music and Hearing at KTH in Stockholm and am just about to finish the second year of my PhD studies. I have a background in linguistics and phonetics.
In my PhD, I am concerned with the multimodal analysis of dialogue. In the last two years I have been mainly working on the statistical modelling of conversational involvement by using multimodal cues, the analysis of gaze in dialogue and the prosodic and body-movement analysis of discourse phenomena such as overlap. Moreover, I have been involved in the design and recording of a multimodal, multiparty corpus.
Biographical Information:
Since November 2010 I have worked as PhD student in the Human-Centered Artificial Intelligence Group at TU München under the supervision of Alexandra Kirsch. This group is part of the cluster of excellence Cognition for Technical Systems CoTeSys. During my master program I was working as research assistant at the Information Systems and Machine Learning Lab at the University of Hildesheim under the supervision of Prof. Dr. Dr. Schmidt-Thieme. I was participating in the EU project X-Media and the EFRE project LEFOS. I studied Information Management and Information Technology at the University of Hildesheim focusing on machine learning and marketing research.
In my current projects I am investigating how the legibility of the robot behavior influences the perceived value and the perceived safety of a robot. The objectives of my research are to find criteria and develop methods for evaluation robot behavior. In the future I want to analyze if full body motions and gaze behavior can be used as evaluation criteria for human robot interaction. I am interested in evaluation measures as well as evaluation methods in human robot interaction and in analyzing human motions.

Scientific Interests:
Human Robot Interaction; Legibility of robot behavior; Evaluation measures in human robot interaction; Evaluations methods in human robot interaction; Analyzing Human Motions; Machine Learning in Robotics; Human friendly robot navigation
Biographical Info
I studied Chemistry and Philosophy at Bielefeld University (Germany) from 1990–1997. In my master’s thesis in Physical Chemistry I worked on the analysis of chemical reactions in flames using laser spectroscopy. That was back in 1997 when a new thing called the "World Wide Web" started to pick up steam. I had been fascinated by the Internet for some time and therefore began working in the field at the company Bertelsmann, first as developer for an online content management system and later as editor and project manager for their online bookshop. Since 2001 I have been working as a freelance IT-consultant, creating websites and web-applications.

In 2001 I read an article by Tim Berners-Lee about his vision of a Semantic Web, which immediately caught my attention: The Semantic Web aims to put meaning into web-content, so it can be understood and processed by machines. In 2011 I started preparing a doctoral dissertation about the management of scientific research data using Semantic Web technologies in the Semantic Computing Group at CITEC.

Research Interests
My research is in the area of knowledge management and focuses on the application of Semantic Web and Linked Data technologies for scientific research data management. The goal of my work is to contribute to the creation of an ecosystem that allows the free and open exchange of scientific research data from all disciplines of science. The Semantic Web stands at a crossroads of computer science, linguistics and philosophy. My interests include formal logic, ontologies and knowledge engineering. A project I am currently working on involves the semantic publication of movement data of stick insects measured by motion capture filming. I am especially interested in interdisciplinary exchange.
I’m doing a PhD at Human Media Interaction, University of Twente. My research is part of the FROG-project, a 7th Framework project. We work together with partners from universities in London, Amsterdam, Seville and companies from Lisbon. FROG stands for Fun Robotic Outdoor Guide, and together we aim to develop a guide robot. The robot will have a winning personality and behaviors and will engage tourists in a fun exploration of outdoor attractions. The work involves innovation in the areas of vision-based detection, robot design and navigation, human–robot interaction, affective computing, intelligent agent architecture and dependable autonomous outdoor robot operation. In the project my focus is on human–robot interaction (HRI). To be specific, I will determine the robot guide behaviors and personalities.

We argue that using anthropomorphic appearance and anthropomorphic communication cues will help visitors to understand the intentions of the robot intuitively. To determine effective robot behavior, we studied the visitor experiences and effective human tour guide behavior in the two test places for the future robot guide, namely Lisbon City Zoo (Lisbon, Portugal) and the Royal Alcazar (Seville, Spain). Based on the result of these studies we will develop a test-robot and run some controlled experiments to determine effective robot guide behavior.

Now I’m interested in the non-verbal behavior that can be translated from effective human communication cues and the rare to which this behavior can be abstracted and applied to the robot. Following controlled lab-experiments with a robot and small groups of participants will give insight in the functionality of gaze, gestures and proximity.

Before I started my PhD I studied Industrial Design Engineering and graduated in “Integrated Product Design” and “Design for Interaction.” My main interest is in what way the user responds to a product and vice versa. The user responses to a robot and the responses of an autonomous robot are therefore a perfect research topic for me. The final aim of the FROG-robot is to improve the visitor experiences in the touristic sites.

Next to studying robot behavior and personalities, I like playing cello, playing hockey and sailing.
Short CV:
I have a bachelor in Mechanical engineering from Amirkabir University of Tehran, and my master in biomechanical engineering from Iran University of Science and Technology. During my master, I became very interested in eye movement study, thus I develop an low cost eye tracker (Dias eye tracker) as my master project as a tool for studying the eye movements and for helping the quadriplegic patients to communicate with the computer. After finishing my master project, I was very keen to continue my research in the field of eye tracking. I received an offer from the IT University of Copenhagen and I started my PhD at Innovative communication group.

My current project: Mobile Gaze-Based Environment Control
Today, gaze interaction is only done through fixed remote eye trackers and mostly used for help and assistance the disabled peoples sitting in front of a single screen. In contrast to the remote eye trackers, mobile eye trackers are another type of eye trackers that are mounted on the user's head and allow for a higher degree of mobility. However, mobile eye trackers are not so far used for gaze interaction.

The main goal of my PhD project is do research in algorithms for head mounted eye tracking and to investigate how mobile eye trackers can be used for interaction with the environment. I have proposed the eye-based head gestures as a new method for gaze-based interaction instead of gaze gestures.

As a part of my project I have made an open source software for mobile eye tracking called "Haytham". In addition to gaze estimation, this software enables the user to interact with different computer displays in the mobile situations.
I started off in clinical psycholinguistics, with a case study of figurative language comprehension in an aphasic patient. One of the types of figurative language that I looked at was irony, which I found tremendously interesting, as it seemed to be a much more complex trope than others. My next step was to investigate irony comprehension in schizophrenia, the reason being that schizophrenia has been repeatedly likened to sensory aphasia in the literature. The study, which was the core of my M.A. paper, yielded interesting results and got me wondering as early as at the pretest stage. It seemed that there exist huge differences in how naïve healthy speakers of Polish perceive and understand ironic statements. To get more insight into the process, I’ve decided to decompose it into smaller and more basic sub-processes, and to test children. I believe that at early stages of child development, when the brain structures critical for language are not entirely mature, we can see which cognitive processes are more basic, emerging at earlier stages, and which are more complex – posing difficulty and taking time to be fully operative. Testing bilingual children would enable me to analyse the process as it unfolds in time across two different languages. Apart from looking at irony, I’ve recently become interested in gesture as I began to appreciate the potential that it has for learning about human cognition. For that reason, for almost a year I’ve been involved in a research team project financed by the Polish National Science Centre which investigates the cognitive role of gesture in the language of congenitally blind and visually-impaired children. We’ve just completed the first, observational, phase of the study, and it has already yielded promising results. Along with doing research on irony and gesture, I organise Young Linguists’ Meetings in Poznan (YLMP) – international student symposia on interdisciplinary linguistics. When I’m not doing that, I’m most likely singing or learning to play my ukulele.
Eduard Porta
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Short Biography and Research Interest:
Born in Barbastro (Spain) in 1987, Eduard Porta received his higher degree in Computer Engineering from the University of Zaragoza, Spain, in 2011 and he will be receiving a M. Sc. Degree in Automation and Robotics from the University of Alicante, Spain, this year (2012). In 2011 he did his Engineering Final Year Project as part of the FCAT project for the European Comission at the Institute of Geodesy and Navigation in the University of Federal Armed Forces, Munich. His research interests include robotics, artificial intelligence, computer vision and human-machine interaction. He is currently working on his Master’s Thesis on the topic of collaborative robot coordination.
After completing my Bachelor of Science in Biological Psychology at Maastricht University, the Netherlands, I decided to do a 2-year Research Master in Developmental Psychology at Leiden University, the Netherlands. During this time I was able to gain first experiences in scientific research in the field of developmental psychology.

I got the opportunity to be an exchange scholar in Prof. D. Messinger’s Infant lab at the University of Miami, USA. There, I worked on various research projects with infants (at risk for autism) using different techniques such as eye tracking, EEG, motion capture and behavioral studies. Together with my colleagues W. Mattson, N. Ekas and D. Messinger at the University of Miami, I published the chapter “Facial Expression Learning” in N. Seel (Ed.), Encyclopedia of the Sciences of Learning. New York, NY: Springer (in press). Back in the Netherlands, I finished my Master thesis “The influence of empathy on social functioning in children with autism spectrum disorder” under supervision of Prof. C. Rieffe, which is currently in preparation for publication. This work was presented at a couple of national conferences in the Netherlands.

Since February 2012, I am a PhD student (stipend holder) of the International Research and Training Group “Brain–behavior relationship of emotion and social cognition in schizophrenia and autism” (IRTG 1328) at the University Hospital Aachen, Germany. In my current PhD project under supervision of Prof. Herpertz-Dahlmann and Prof. Konrad, we are aiming to establish a joint attention situation as realistic as possible in a scanning environment in order to investigate the development of (a)typical neural and behavioral correlates of nonverbal social interactions.

Based on my continuous and already extensive work on the (a)typical development of social functioning in children with autism spectrum disorders, it is probably self-evident that I am especially interested in the (a)typical development of social cognition. In general, though, I am interested in affective developmental neuroscience. I would like to use new techniques and combination of methods to investigate yet unknown neural and behavioral mechanisms in my field of interest.
Flora Vanlangendonck
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Short Bio:
Flora Vanlangendonck is a PhD student working at the Donders Institute for Brain, Cognition and Behaviour in Nijmegen, The Netherlands. She received B.A. and M.A. degrees in Linguistics and Literature at the Vrije Universiteit Brussel and an M.Sc. degree in Cognitive Neuroscience at Radboud University Nijmegen. In September 2011, she started a PhD project at the Donders Institute for Brain, Cognition and Behaviour under the supervision of Dr. Laura Menenti and Prof. Dr. Peter Hagoort. She investigates the cognitive and neural mechanisms underlying audience design in interactive language use, i.e. how speakers adapt their language use to their addressee’s characteristics, perspective and feedback. Her research interests include the relation between audience design in language production and perspective-taking in language comprehension and the role of individual differences in the use of audience design. She is currently conducting a series of eye-tracking experiments using an interactive set-up, and she plans to use fMRI in future experiments.
François Rocca holds an Electrical Engineering degree from the Faculté Polytechnique (University of Mons, Belgium) since June 2011. He did his master thesis in the field of emotional speech analysis, and more specifically on laughter frequencies estimation. His research interests focus on image and signal processing and their applications to the biomedical domain. He is currently pursuing a PhD thesis on facial animation by motion capture using audio-visual fusion.

He is part of the “créactifs” courses teaching team from the Numediart Institute (University of Mons). These extra scholar courses are given to bachelor students to learn about digital arts technologies through electronics, image and signal processing.
In spite of the fact that the means of transportation nowadays is more and more developed is true, people prefer to have remote communication on the Internet in respect that it can not only make full use of time but also excuse us from toil. Besides, the requirement of teamwork makes the development of multi-user synchronous remote communication inevitable.

[...] We put the element of tactile in multi-user synchronous remote communication, and based on the predetermined talking system the participants can act on his or her own to adjust manner of speaking to achieve a better communication by sending tactile signals. Because tactile gives people a "feeling at one's elbow" that the participants can feel other's feelings and thoughts more, to achieve a more efficient results.

We aim at enhancing the remote, synchronous, multi-users, verbal communication by using tactile which may also support the blind people and vision handicapped people. An experiment is designed as follows: 3 separated agents are demanded to reach an agreement in task of sorting a sequence out of order by verbal communication on Skype. In their conversation, they use Tactos to send the tactile signal for expressing the listeners' desire of speaking toward speaker who inform his/her speaking and choose the next speaker with Tactos as well. Under the premise of successfully checking its learnability, we try to confirm that the additive tactile would promote the agreement and equalize the occasion of speaking therefore increase participation in the official experiment. It benefits from their instant tactile communication and deeper feeling of being listened and focused on. In other words, It can be helpful to the performance of the conversation. Thus, we could find the new possibility for organizing and spatializing the remote communication in digital media.
Igor Bogoslavskyi

Igor Bogoslavskyi comes from Kyiv, Ukraine, has been living in Freiburg im Breisgau, Germany, since 2011. He finished his Bachelor of Science in Ukraine at National Taras Shevchenko University in Applied Math of the faculty of Cybernetics. While studying he has been working in a software development company, where his main task was developing programs for the Android platform. Last year he came to Freiburg to do his Master's studies in Applied Computer Science at Albert Ludwigs University. His main interests lie in Robotics and Computer Vision fields, particularly in mobile robot localization and mapping, gesture recognition as well as image segmentation. He currently works in two robotics labs as a student assistant: AIS (Autonomous Intelligent Systems) led by Wolfram Burgard and Humanoid Robots Lab led by Maren Bennewitz. His current work involves working with kinect camera sensors both separate, for RGBD segmentation tasks, and mounted onto a NAO robot platform for gesture recognition and navigation.
Biographical information:
Diploma of Psychology at Humboldt-University of Berlin. Main Area: Cognitive Psychology and Neuropsychology (prospective end in September 2012)
Student assistant at the Institute of quality management of Education in Berlin (IQB) (2008–2010)
Scientific internship at the Psychiatric University Clinic of Bern (1.11.2009 – 31.3.2010)
Student assistant at the Institute of Psychology – department of Biological Psychology – at Humboldt-University of Berlin (2010–2012)
Internship at the Interdisciplinary Center of Sleep Medicine at the Charité in Berlin (16.7.2012– 24.8.2012)

Publications:

Scientific interests:
Facial Mimicry; Individual differences in interpersonal behavior, associated psychophysiological correlates and mutual relationships; Adequate parameterization of neurophysiological data for testing individual differences; Embodied Cognition Theories; language processing and production
I have just concluded my master's degree in cognitive neuroscience at the Donders Graduate School of the Radboud University Nijmegen, the Netherlands. Before starting this master, I received my Bachelors of Science from University College Utrecht, the Netherlands. Starting in October, I will continue my master’s thesis research as a PhD student at the Donders Institute. My research investigates the development of mimicry, the unintentional copying of another’s actions during a social interaction. Mimicry is thought to be a form of covert communication as it has been shown in adults to affect the rapport between interaction partners. During the course of my PhD project, I aim to study the neural underpinnings of mimicry and identify how social and cognitive factors influence the development of mimicry. Feel free to contact me.
Education and training
Since 15/01/2012: PhD candidate. Member of FP7 ACCOMPANY, Human-Robot Interaction, Robot Acceptance, Robot Roles and Personalities. University of Twente (Under supervision of V. Evers and R. op den Akker), Enschede (The Netherlands)
22/04-25/04/2012: Spring School. "Human-Technology Interaction". Netherlands Institute for Research on ICT (NIRICT) and School for Information and Knowledge Systems (SIKS), Groesbeek (The Netherlands)
01/10/2005–15/07/2006: Erasmus Scholarship: Continuation of my degree in Psychology, Improvement of my language skills (German). Justus-Liebig Universität, Giessen (Germany).
I studied Patholinguistics at the University of Potsdam which is a combination of Neurolinguistics, Psycholinguistics, Theoretical Linguistics and Speech Therapy. As part of my degree, I worked in a socio-paediatric centre and different neuro-rehabilitation clinics where I attained experience in the treatment of developmental and acquired language disorders. As a Research Intern at the Macquarie Centre for Cognitive Science in Sydney I was collaborating with Prof. L. Nickels in a project concerning the linguistic parameters influencing naming performance in individuals with aphasia. For my diploma thesis I investigated the safety and efficacy of transcranial direct current stimulation (tDCS) in the treatment of aphasic naming disorders (Supervisors: Prof. I. Wartenburger, Dr. A. Schröder).

In addition to my studies I worked as a Research Assistant in different projects in the Research Group Neurocognition of Language of Prof. I. Wartenburger at the University of Potsdam. I conducted experiments using electroencephalography (EEG) and functional Near-Infrared-Spectroscopy (fNIRS). During my course of studies and research assistance I could thus combine my interest in impaired and normal language processing investigating the neural and hemodynamic correlates of language processing in babies, students, seniors and individuals with aphasia.

Since October 2011 I am a PhD student and Research Assistant in the Collaborative Research center 632 information structure working together with Prof. K. Spalek and Prof. I. Wartenburger. Together, we want to investigate the effect of verbal and visual context information on language processing. In order to better understand how information structure can be explained by underlying cognitive mechanisms (e.g., selective attention) we are addressing the question by what means visually or verbally presented context information modulates the neural correlates of sentence processing.
Julien Leroy holds an Electrical Engineering degree from the University of Mons, Engineering Faculty (since June 2010). His master thesis was conducted in partnership with Infrabel, manager of Belgian rail network, on the automatic detection of defects in the catenary. His main research interests are: social signal processing, modeling of human behavior, point clouds processing and 3D animation. His PhD thesis focuses on modelisation of proxemic behavior based on computer vision techniques. One of his goals is to develop a new methodology to measure and model proxemics behaviors that is: accurate, ecological and less time consuming. This work is conducted in partnership with psychologists and psychiatrists. The goal is to develop new tools for the therapy of social anxiety disorder. Indeed, patients with such a social phobia often show abnormal spatial behavior that can be observed with computer vision techniques.
I am a student of the subject Biology, a quarter of a century old. I come from the multicultural city of Cologne and study at the University of Bielefeld. I am interested in every living form. To me it is important to understand how life is enabled on this planet and how species are related to each other through time. Hitherto I performed research assistance for doctoral students in evolutionary Biology and Neurobiology. Furthermore I spent one academic year at Trinity College in Dublin to deepen knowledge in scientific fields as Microbiology, Botany and Physics.

Research interest:
Biomedical purpose of Angiosperms
Plant, bacterial and viral genomics and metabolomics
phylogeny systematics
sensual and neuronal perception

Study strategies:
Field studies, laboratory work, computational simulations
I have been collecting puns and blends found in newspaper titles or ads for some years. Being intrigued by interaction of phonological form, semantical content and surrounding context of each wordplay I have approached, I started to study psycholinguistics and cognitive linguistics. This resulted in M.A. thesis on cognitive theory of wordplay and some conference presentations and posters. Next I’ve analysed child–computer communication in joint attention paradigm for my PhD dissertation and now I teach language acquisition and cognitive linguistics. As a member of DIAGEST research group, I’ve been involved in three projects on multimodal communication.

At present I am the project leader of the new research project funded by National Centre of Science in Poland entitled Multimodal expressions of conceptual metaphors in relation to synchrony of communicative behaviors in dialogue. The aim of the project is to describe the relationship between metaphoricity and reciprocity in dialogues. Researchers of multimodal communication within accommodation theory, claim that reciprocity is reflected by synchrony which in turn may be observed as complex co–occurring multimodal patterns of action. As a research group we are going to record a hundred of coaching conversations where coaches will use two sets of questions (metaphorical vs literal), parallel gesturing and paraphrasing. Following procedures will be applied: clean coaching questions as a metaphor elicitation method, structural and functional gesture annotation, THEME software for detecting repetitive sequences of behavior, Metaphor Identification Procedure for metaphorical expressions in text and gesture.

There are 9 people involved in the project within 3 years. We hope to develop a plausible description of interaction between metaphoricity and reciprocity in coaching.

My believe is that interpersonal communication should be conceived as a multimodal meaning making. As a researcher I know that there are technological and theoretical tools to conduct a research on communication.
Marian Pohling

Career objective
I am an Information Technology student with keen interest in intelligent agent and robot systems. I am especially interested in human robot interaction and appropriate feedback.

Education
2001–2013: MSc course in Cognitive Computer Science, University of Bielefeld, Germany, Faculty of Technology
2009: Academic degree: Bachelor of Science. Thesis: Extending the reactive behavior framework of a humanoid robot by using behavior modules. The intention was to improve the communication process between human and robot by getting feedback through the application of the aforementioned modules. The project includes an evaluation of the ensemble system.
2005–2009: BSc course in Intelligent Systems, University of Bielefeld

Work Experience:
2010–2012: Student assistant, Mentor Patrick Holthaus, Applied Informatics, Bielefeld University: Development of a facial expression recognition system to enhance the capability of a robot to mimic humans.
2007–2009: Student assistant, Mentor Julia Peltason, Applied Informatics, Bielefeld University: Design and implementation of a software tool intended to simulate arbitrary modules and events within the overall robot system and thus facilitating testing and debugging.
2006–2007: Student assistant, Mentor Shuyin Li, Applied Informatics, Bielefeld University: Development of a virtual avatar for a mobile robot displaying the robot’s current state and giving feedback to the user. The work included both technical and conceptual involvement in a user study.

Interests:
Composing Music, Camping, Catamaran sailing, Volleyball, Voluntary work: organize courses in a church computer club., Development of an intelligent domotic system
Starting in April 2010, after I finished my Bachelor and Masters degree in Computer Science and Multimedia at Augsburg University, I decided to stay with the lab for Human Centered Multimedia and do my PhD. In my research I’m focusing on two major topics in the field of social robotics. One is the design and evaluation of emotion expressions for humanoid robots. Another one is non-verbal communication in collaborative human–robot interaction. My main research platform is the humanoid robot Nao from Aldebaran Robotics. Nao is a small (about 60cm) humanoid robot without any facial expressions except colored LEDs in its eyes. So Nao has to rely on body language, speech and sounds to communicate with others. Our emotion expressions for example use only body movement and sound, which works quite well. In regard to conversation we are especially interested in grounding and dialog management (e.g. Turn-Taking) using gaze and pointing gestures. In our applications the robot is supposed to play a peer-like role in the interaction with his human counterpart and for that we need a natural and believable conversation behavior, so the human knows what the robots wants from him.
Matthias Heldner

Mattias Heldner
Department of Linguistics: Phonetics Lab
Stockholm University, Sweden
Email: heldner@ling.su.se

Short CV:
I am currently (since 2011) Professor in Phonetics and Director of the Phonetics Laboratory at the Department of Linguistics, Stockholm University, Sweden. Previously, I was a senior researcher in the Speech group at the Department of Speech, Music and Hearing at KTH in Stockholm. I received my Ph.D. in Phonetics from Umeå University (2002), and I spent one year as a postdoc researcher at the Swedish telecom operator TeliaSonera (2005).

Research Interest:
My main research interest is interactional aspects of spoken face-to-face communication. In recent work together with various colleagues, I have focused on prosodic patterns with an interactional function. For example, I have looked at distributions of pause, gap and overlap durations in conversations; detection thresholds for pauses, gaps and overlaps; pitch patterns in turn-taking; synchrony and convergence with respect to silence duration; pitch similarity in backchannels, and such topics. Very recently, I have also started exploring situated interaction—interactive aspects of face-to-face communication related to the fact that such communication is ‘situated’ in space. This line of work include exploring gaze patterns in conversations in light and darkness; auditory perception of speaker’s facing direction as a turn-taking cue; and third-party observer gaze patterns as a means to annotate conversational events such as speaker changes and backchannels.
I am the principal investigator in two research projects: Samtalets prosodi (Prosody in conversation) funded by Riksbankens Jubileumsfond (RJ), and Samtalets rytm (The rhythm of conversation) funded by the Swedish Research Council (VR).
My name is Mirjam, I’m 26, and I originally come from Munich. When I was five, my family and I moved to Stuttgart, where I spent my whole schooldays. After finishing school, I applied for studying psychology and got a place at LMU Munich, which made me move back to my old hometown. I greatly enjoyed my five years of studies, focused on Clinical Psychology and Work and Organisational Psychology as majors, and spent a semester as an exchange student at Université de Nantes, France. As I am especially interested in the psychology of emotion and motivation, I decided to investigate two emotion regulation strategies and their impact on confirmatory information search and processing in decision making in my thesis, supervised by PD Rudolf Kerschreiter, Chair of Social Psychology. After receiving my Diplom in Psychology (German equivalent to Master’s), I worked half a year in Strategic Personnel Development at BMW AG as an intern. There, I gained some practical experience and interesting insights into life and work at a global company. In May 2012, I moved to Zurich, starting my very interesting current position as a teaching and research associate and doctoral student of Professor Veronika Brandstätter-Morawietz, University of Zurich. As part of my work at her Chair of Psychology of Motivation, Volition and Emotion, I am involved in the SNF study „Impact of Stress on Relationship Development of Couples and Children: A Longitudinal Approach on Dyadic Development Across the Lifespan“ (Prof. Bodenmann, Prof. Brandstätter-Morawietz, Prof. Martin, Dr. Nussbeck). In this project, we are planning to investigate how implicit motives get expressed in couples’ interactions (couples were videotaped during the study). Besides, my research interests include interpersonal processes in goal-striving and goal disengagement as well as emotion regulation and emotion transfer. I am convinced CITEC Summer School will provide me with knowledge and skills which are very relevant for the implementation of our research plan. I am very much looking forward to the interdisciplinary perspective on social interaction, the interesting lectures, as well as practical modules.
I am a researcher and artist currently undertaking a PhD at Queen Mary University. Situated within the fields of phenomenology, embodied cognition and cognitive science, my research investigates the significance of embodiment in relation to empathy and intersubjectivity. I focus on non-verbal interaction, particularly gesture, in the expression of felt experience and emotion with a view to reveal the nature of the embodied mechanisms behind empathy and intersubjectivity. Particularly looking at descriptive gesture, in their execution, form, function and listener comprehension, looking at how this can be applied to an understanding of what they embody and what they convey. Future work is expected to explore responses to avatars embodying the nonverbal expression of these descriptions and analysing the effect of this embodiment in relation to a sense of agency and empathy felt toward the avatar.

Previously I have studied Digital Arts in Performance and Music Technology at the Birmingham Conservatoire specialising in motion capture technologies, sensor electronics and programming for interactive installation. Complimentary to my research I also have an artistic practice where I make interaction motion-based installations to explore and demonstrate the more phenomenological realms of my research.
Hi there. I am a Ph.D. student from the University of Amsterdam, supervised by Professor Ben Kröse. My research is about using different cameras and ambient sensors to recognize human activities in the context of robot home-care. I am very interested in the data fusion techniques which can combine the sensors and cameras in a nice way, so that the resulting system is robust enough to be used in our daily life. So far I have been focusing on localize humans with computer vision techniques, which is a very fundamental aspect for recognizing human activities in the future.

Before I started my Ph.D. in November 2011, I received my M.Sc. degree in Artificial Intelligence, at the University of Amsterdam as well. My master thesis is finished in the Netherlands Organisation for Applied Scientific Research (TNO), and it is about tracking human in a highly crowded scene using a single camera.
Biographical/Scientific information

I am a PhD student (Psychology) at the University of Montreal/Canada and I am affiliated with the Max Planck Institute for Human Cognitive and Brain Science (MPI CBS) in Leipzig/Germany and the International Max Planck Research Network on Aging (MaxNet Aging). During my studies (Psychology) at the University of Potsdam/Germany I got the opportunity to work in different research projects and areas. I conducted experiments with toddlers, school children, young and older adults and worked in different labs in Leipzig/Germany and Berlin/Germany. For three years I worked as well as project coordinator for the German Multiple Sclerosis Association in Potsdam/Germany.

I am interested in social non-verbal communication and in auditory and audio-visual perception. With my current project I investigate the behaviour and body movements of interacting persons and the ability of observers to decode those cues of social non-verbal communication in body movements. In another research project I focus on age-related differences in the ability to adapt to altered audio-visual information.
Interested in robotics, artificial intelligence and cognitive science, I try to bridge these 3 aspects in my work, and started working in cognitive developmental robotics. I have special interest in linking research of machine learning, robotic embodiment, child development psychology and neurology. I also explore possibilities to make robots adapt to their physical and social environments. This is why I strive to answer the questions: Can a robot be as clever as a child? How do children learn? How do human beings or other species learn? Can a robot learn through social interaction with humans?

That is why I did a masters degree in Asada Laboratory of Osaka university, where I studied problematics of self-consciousness, self-recognition, and autism. I currently am a PhD student (hopefully graduating next year!!!) at INRIA, in the FLOWERS team. I build learning agents that are capable of interacting with teachers and of exploring by intrinsic motivation. I designed the Socially Guided Intrinsic Motivation by Demonstration (SGIM–D) algorithm that outperforms a learner who uses only imitation learning and a learner who uses only intrinsic motivation. Its upgrade, the Socially Guided Intrinsic Motivation with Active Choice of Task and Strategy (SGIM–ACTS) algorithm, learns several tasks with several learning strategies, by actively deciding both which task to solve and which strategy to adopt between intrinsically motivated learning and imitation learning from each of the available teachers. I am now very much interested in planning methods to perform complex tasks by scaffolding. I would also like to improve my current system by exploring the mechanisms that shape communicative behaviour to enable natural communication between the robot and the non-expert user.
I am a student of the 5th year of Biomedical Engineering (specialized in Medical Electronics) at the University of Minho and I will conclude the master degree next September. During my course, I learned some programming languages such as: Java, Python, Matlab, C, LabView and Simulink. The main subjects were Human Physiology; Electronics; Signal Processing; Medical Instrumentation; Medical Robotics; Bioinstrumentation advanced and Image processing.

At the moment, I am developing my dissertation. The objective of the work is to study the effect that a robotic platform (in this case Lego robot) may have in the intervention in children with autism spectrum disorder (ASD).

At the moment, I am developing my dissertation. The objective of the work is to study the effect that a robotic platform (in this case Lego robot) may have in the intervention in children with autism spectrum disorder (ASD). Children with ASD present many difficulties in multiple areas as social interaction and communication; their academic skills may be also poor; most cannot play with peers. In this context, the robot configuration and the experiments are designed taking into account children characteristics. The experiments take place in special education units (in a triadic configuration: the child, the robot and I), after protocol formalization and parents’ consent. All sessions are recorded on video for further analysis in terms of pre-defined indicators. During the experiments some skills were taught to the children, as quantity concept, color awareness and gesture to place an order. The results as well as parent’s feedback have been very positive and encouraging; the children successfully executed some activities that they have never done before. The robot may motivate this learning and it can be an important tool in the intervention with these children. Due to its low price, modularity and resistance to children handling, Lego robot may be considered a suitable instrument for this study.

In the future, I would like to use and improve my knowledge and experience on the use of robotics in promoting social issues in disabled people.
Bio:
My name is Sebastian Kahl, I was born in Germany in 1985, I have a Bachelor of Science in Cognitive Science from the University of Osnabrück and I am currently working on my Master’s thesis for my Master of Science in Intelligent Systems from the University of Bielefeld.
For my Bachelor’s thesis I worked on creating a stimulating environment for an artificial agent which was equipped with a system which simulated a primate visual cortex through an artificial neural network. The simulated environment should train the neural network in order to produce structures that can be found in primate visual cortices.
While doing an internship at the Human Media Interaction Lab at the University of Twente (Netherlands) I was introduced to EEG recordings and Brain–Computer Interfaces for the first time and helped in preparing experiments and analyzing the recorded data.
In my Master studies in Bielefeld my main interests are Information Retrieval, Eye tracking, Semantic Web and Android Smartphone programming. For my Master’s thesis I am currently working at the Sociable Agents Group in Bielefeld on evaluating a Low-Cost EEG device on the basis of well established paradigms, like the N400 EEG component.
I am also interested in Philosophy of Cognition, Cognitive Psychology, Artificial Intelligence and Computational Neuroscience.
I majored in Linguistics and Psychology in college and received Master's degree in psychology at Seoul National University (Seoul, Korea). My research interests focus on the mechanisms and processes of interactive conversation and long-term goal is to fully understand the mechanisms of joint language use. I am especially interested in what factors are relevant to the success of the communication. One of my lines of research (Yoon, Koh, & Brown-Schmidt, 2012) examined whether utterance goals (e.g., to request vs. inform) modulate the extent to which speakers take into consideration the addressee’s perspective in language production. The results suggest that when a speaker makes a request, the addressee’s perspective has a stronger influence than when the speaker informs the addressee. In on-going work, I am exploring additional factors, such as familiarity of information, that shape language use.

An additional research interest of mine concerns what constitutes the context that interlocutors jointly consider and how conceptual pacts are affected by contextual change. Interlocutors jointly establish conceptual pacts, such as shared referential labels, which improve conversational efficiency. In one project, my research shows that interlocutors are highly sensitive to joint knowledge and contextual change. For example, interlocutors develop partner-specific “entrained” object names, and listeners expect familiar speakers to use entrained names. However, speakers tend to adjust names if an unknowledgeable third-party enters the conversation who would be confused by these entrained terms. In summary, my research program focuses on the mechanisms of joint verbal interaction and the factors that influence it.

Most of my research uses the visual world eye-tracking method in which participants’ eye movements are monitored during an interactive communication task. Eye-tracking is a good method to examine online language process in everyday conversation. I have acquired skills to use a remote eye tracker and set up experiments using MATLAB. Also, I have acquired skills how to statistically analyze data using R.
Simon is a PhD student at KTH Speech, Music and Hearing. His main interest is the communicative powers of the human body, especially as mediated through animated characters. Currently, Simon is focusing on modeling non-vocal behaviors in spontaneous dialog from a large-scale multimodal database recorded at KTH. He is also involved in an avatar- and sign language project, working on new ways of capturing hand signs. Simon has strong skills in motion capture technology and has developed robust algorithms for automated processing of optical motion capture data, suitable for large amounts of data and custom marker configurations. His work builds from a long professional experience in software development, 3D animation and simulation.

Parallel with his academic interests, Simon is the driving force in a small creative team of professional stage artists and CG specialists exploring the use of real-time motion capture and digital puppetry in the performing arts. The team is currently involved in a project in collaboration with the Royal Dramatic Theater in Stockholm and Stockholm Academy of Dramatic Arts.
I just ended my second year of Master's degree in engineering by a five month internship, in which I have been working on unsupervised characterization of human actions. This subject led me to work on my favorite fields, which are machine learning, social interaction and signal processing. Indeed, the dynamic of an interaction is part of the challenge of social signal processing and social robotics. Our goal was to characterize an interaction between two humans, through imitation and synchrony analysis. In order to do that, we had to set up a protocol, realized in collaboration with psychologists, process the videos, and use machine learning techniques to do an unsupervised learning of an imitation measurement. Thanks to this internship, I have acquired good knowledge of techniques like Non-negative Matrix Factorization and basics in social signal processing. I developed complementary skills in the machine learning field through my studies, and a two-month internship in a KTH laboratories (CVAP) on neural networks which has permitted me to acquire the fundamentals, both theoretical and practical. Moreover, through my different internships, I have been led to work with biologists and psychologists, which were great experiences, as I am really interested in the relationship between these fields with the one I am directly involved in.

All these reasons have led me to apply for a PhD titled “Unsupervised modeling of social signals : application to psycho-pathologies and robotics”, which I will start in September. With my eight month practical experience, and my two years of study within the field, this PhD will suit my current topic interest. Indeed, the modeling I am going to work on is composed of various types of signals, like gaze, posture, gestures and speech.
Hello, my name is Tobias Baur. I’m 26 years old and I finished my master thesis in the end of july. On August 1st 2012 i started as a PhD Candidate at the Human Centered Multimedia Lab of the University of Augsburg. My master thesis is about automated analysis of nonverbal signals in social interactions. Therefore i developed a tool for analyzing body language with a depth camera. The tool also creates statistics and gives feedback on the user’s behavior. For my PhD i work within the TARDIS Project which aims to create a virtual coach that helps youngsters acquire appropriate non-verbal behaviors in job interviews. Therefore my research interests are social signal processing, behavioral analysis, emotion detection, human computer interaction and virtual agents. For my work i try to combine psychological aspects with computer science to enable software to interpret human behavior in a natural way. In July 2012 I also took part at the eNTERFACE’12 Workshop in Metz where a laugh machine was developed. Therefore a virtual agent was implemented that detects laughter of a user. In psychological studies the possible benefits of laughter was measured to improve natural person–machine interaction.
My research focuses on collaborative interaction in virtual environments. Multiple users can occupy a shared three-dimensional environment, either collocated or across a network (e.g. the Internet). Such an environment enables people to use shared data, to see the actions of others and communicate. Virtual environments have applications such as design, training and urban planning. Virtual environments also enable people to interact in ways that are not possible in the 'real world'.

My previous work developed techniques known as mobile group dynamics, that improved teamwork in collaborative virtual environments (see publications). Further, I developed a concept called virtual time, that allowed multiple users to interact asynchronously, i.e. they were not simultaneously present in the environment.

My most recent projects focus on how people communicate in virtual environments using sophisticated motion tracking technology. Motions of users are mapped onto self-avatars in real time. This can be used for (a) investigating nonverbal communication (gestures, body language, eye gaze) by systematically manipulating the avatar; and (b) to compare differences between face-to-face and avatar-mediated communication. Researching the former can help answer fundamental questions regarding interpersonal communication. The latter can help us understand what is important about face-to-face conversation, and we question whether it is possible to implement this using virtual reality technology, or if we can increase the effectiveness of technology mediated collaboration using other (non-naturalistic) methods.
Research Activities and interests:

Projects (Selected):
Signing Robot: The aim of the Robot will be design an interactive communication system for deaf blind. The mobile Robot will be able to communicate with deaf and deaf blind. This will also be a guiding mobile robot with gesture recognition and navigation functionalities. The arm of the robot is capable of performing different sign and touch sensor is attached with the hand to sense the any touch or movement.
Platform independent Sign language Dictionary: LIS Dictionary is developed under ATLAS (Automatic Translation into Sign Languages) which aims at text to sign language conversion. The signs are performed by an Avatar, which is trained and programmed to perform different signs.
E-Business Management System Web and Desktop Application: Application was developed for DL P who manufacture leather products on customer orders and sale the products abroad. This project provides employees daily activities management and supports recording of manufacture process and stock.
iCub gaze Co-ordination and movement: Test hand point with real iCub and also integration blob finder. The main focus was doing actually something useful with attention control of the humanoid. The goal was to develop coordination methods of a robot’s oculomotor system with the rest of its body motor systems. The main issue was to decide which physical actions to perform next and where the robot’s gaze should be directed in order to gain information that is relevant to the success of its physical actions.
Verena Nitsch

Verena Nitsch
Human Factors Institute/ LRT11
Faculty of Aerospace Technologies
Universität der Bundeswehr München, Germany
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Verena Nitsch received her B.Sc. (hons) degree in Applied Psychology from the University of Central Lancashire, UK, in 2006 and graduated with a M.Sc. degree in Organisational Psychology from the University of Manchester, UK, in 2007. Since 2008, she has pursued an academic career at the Human Factors Institute of the Universität der Bundeswehr München in Germany, where she received her Ph.D. in 2012. For her work, she has received best paper and best project awards. Verena is a member of numerous professional bodies, including the IEEE, the British Psychological Society, the International Association of Applied Psychology and the Haptics Society.

For the past four years, Verena has researched on human-machine interface design for a wide variety of technical systems. As part of the Collaborative Research Center “High Fidelity Telepresence and Teleaction” (SFB 453), she has conducted experimental and formal evaluative research on the design and development of multi-modal human-machine interfaces in telepresent and virtual systems, working in close cooperation with interdisciplinary research teams from the Technical University Munich (TUM), the German Heart Centre Munich (DHZM) as well as the German Aerospace Center (DLR). At the present, she is teaching the subject “Human-Machine Interaction” to engineering students and concurrently conducts research in the EU-funded project “SAFROS– Patient Safety in Robotic Surgery”, which aims at identifying and reducing errors that occur during robot-assisted minimally-invasive surgery. Also of interest to her are the effects of semi-autonomous assistance systems on the human-machine interaction and user acceptance. In this context, she supervises a number of research projects which focus on the prediction of driving behaviour and the subsequent development and evaluation of driver assistance systems.
My name is Vincent Barbaresi, I'm currently an engineer student in a French top graduate engineering school, and I'll start a PhD the 1st of October 2012. I've been system administrator for the school campus' network (800 users, 20 servers). I enjoy network security and networking technologies in general. I enjoy GNU/Linux, Open source and developing in Python.

I majored in Interactive Systems and Robotics in my last engineering year where I studied signal processing, machine learning and robotics and worked with NAO robots. My final project was about the extraction of dynamic point cloud in real time from Kinect by self-organizing incremental network.

My PhD will focus on Human–Robot dialog grounded on situation and context. I'm currently in an internship at LAAS-CNRS in Toulouse, working on interaction but on a temporal perspective. I’m developing a software for temporal reasoning and chronicle recognition. The aim is to identify patterns happening over time, for instance a sequence of gestures, or modifications on the environment that can be integrated in the robot’s knowledge.
Directions

**Directions to and from Jugendgästehaus (JGH) Bielefeld**

**Contact:**
JGH Bielefeld | Hermann-Kleinewächter-Str. | 133602 Bielefeld | Germany
Tel.: (+49)-521-52205-0 | Email: jgh-bielefeld@djh-wl.de

Bielefeld train station (Hauptbahnhof) to JGH:
Leave the train station through the main entrance/exit, walk straight ahead and enter the building for the subway (Stadtbahn) behind the hotel on the left. Please use the ticket machine to buy a ticket for short distance (Kurzstrecke) by pressing the "K" button for adults. It will cost 1,50 Euro.
Take the yellow train "3 Stieghorst" and get out at August-Schröder-Straße (third stop). Cross the two lights and enter the dead end street. The hostel is located in about 100m distance.

JGH to Bielefeld University and CITEC:
A member of the Summer School organiser team will meet you at 8.15am on Monday morning and guide you to the first talk. At your check in, you will be handed out weekly tickets so you can take Bielefeld public transport for free until Saturday.
To get to the University, please take line 3 towards Babenhausen Süd, get out at Rathaus (first stop, or just walk 5 minutes) and wait for the red line 4 (Universität/Lohmanshof). Get out at Universität and follow the crowd.
Trust us, it is impossible to miss the building!

**Directions to and from Arcadia Hotel, Bielefeld**

**Contact:**
Arcadia Hotel Bielefeld | Niederwall 31-35 | 33602 Bielefeld | Germany
Tel: (+49)-521-5253-0 | Email: info.bielefeld@ahmm.de

Bielefeld train station (Hauptbahnhof) to Arcadia Hotel:
Please take any of the following lines: 1 Schiledesche; 2 Sieker; 3 Stieghorst or 4 Rathaus and get out at Rathaus (second stop). The hotel will be on the left hand side. A short distance ticket (Kurzstrecke) for 1,50 Euro is sufficient for this ride.

Arcadia Hotel to Bielefeld University and CITEC:
Please take the red line "4 Universität/Lohmanshof" and get out at Universität. Depending on the length of your stay, by single tickets (2,20 Euro) or tickets valid for 4 rides (7,60 Euro).
### Subway Schedule: Rathaus to University

**Linie 4**
Jahnplatz - Hauptbahnhof - Rudolf-Oetker-Halle - Universität - Lohmannshof

**Linie 10**
Jahnplatz - Hauptbahnhof - Rudolf-Oetker-Halle - Universität - Lohmannshof

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Das Einsatzwagenangebot können Sie unter www.mobiel.de abrufen.
Bitte beachten Sie die Sonderfahrpläne am 24.12. und 31.12.

Das Verkehrangebot ab 5.00 Uhr an Sa, So und Feiertagen entnehmen Sie bitte den NachtBus-Fahrplänen.

Nächste Verkaufsagentur:
moBiels Haus, Niederwall 9
Fahrplanauskunft rund um die Uhr in ganz NRW (0 18 00) 50 40 30 (9 Cent/Min. aus dem dt. Festnetz, Mobilfunk max. 42 Cent/Min.)
gültig ab 12.06.2011

Ohne Gewähr
### Subway Schedule: University to Rathaus

**Linie 4**  
Rudolf-Oetker-Halle - Hauptbahnhof - Jahnplatz - Rathaus

**Linie 10**  
Rudolf-Oetker-Halle - Hauptbahnhof - Jahnplatz - Krankenhaus Mitte - Sieker Mitte - Stieghorst

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A: Fährt nur bis Sieker Mitte  
B: StadtBahn-Linie 10  
C: Fährt freitags und vor Feiertagen als StadtBahn-Linie  
D: Mo, Do, und an Sonn- und Feiertagen als StadtBahn-Linie 10  
E: Fährt Mo. - Do. nur bis Sieker Mitte.

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Brückner & Gremmer: Papier-Shop, Universitätstr. 25  
Gültig ab 12.06.2011  
Fahrplananschlusskunft rund um die Uhr in ganz NRW (0 18 00) 50 40 30 (9 Cent/Min. aus dem dt. Footnetz, Mobilfunk max. 42 Cent/Min.)  
Ohne Gewähr!
Bielefeld University Campus Map