In focus of the symposion are the methodological, anthropological and ethical implications of the most recent technological advances in the field of autonomous systems, particularly the two paradigms of ambient technologies and organic computing.

Ambient technology design as well as organic computing aim at autonomous systems which are supposed to act as human agents, simulating human activities, properties or skills. And both paradigms display some remarkable similarities, insofar as they apply the very same technical solutions in order to construct autonomous systems, e.g. non-von-Neumann architectures, SOMs, neural nets. And both paradigms use the same biomorphic metaphors in order to describe the construction. the function and the usage of the resulting systems, stating adaptive and evolutionary strategies of the systems that enables them to "interpret intentions", so understand emotions and finally to act sociably.

The use of biomorphic metaphors, however, seems to indicate not only a variation of already existing technological solutions; the metaphorical connotations emphasise design of a new and unprecedented type of systems which are neither bio- nor artefacts but behavioural simulacra. As such they resemble certain cognitive features of homo sapiens and combine technical self-assembly with evolutionary efficiency. This specific combination of biological and technological designs raises some intriguing philosophical questions which constitute the focus of this symposion.

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International Symposion

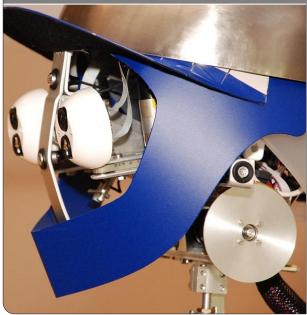
Evolutionary Robotics, Organic Computing and Adaptive Ambience: Epistemological and Ethical Implications of Technomorphic Descriptions of Technologies

October 20-22, 2011

Venue

Hector School Schlossplatz 19, 76131 Karlsruhe, Germany

Institute for Technology Assessment and Systems Analysis (ITAS)



KIT – Universität des Landes Baden-Württemberg und nationales Forschungszentrum in der Helmholtz-Gemeinschaft

Preliminary Programme		Friday, October 21, 2011		16:45-17:30	Karsten Weber:
Thursday, October 20, 2011		Section II(b):	0, 1		What Is It Like to Encounter an Autonomous System – Some
12:00-13:00	Registration		Metaphors and Models (Chair: Jorge Solis)		Scenarios
13:00-13:30	Welcome Notes (<i>Mathias Gutmann</i>)	09:00-09:45	Mathias Gutmann: Biomorphic Metaphors: Models or	17:30-18:15 18:15-19:00	Coffee Break Bernd C. Stahl:
Section I:	Setting the Stage: Biomorphic Descriptions of Technologies (Chair: <i>Michael Decker</i>)	09:45-10:30	Misunderstanding? Dieter Sturma: The Mechanical Mind. On Metaphors		Ethical Aspects of Autonomous Systems: Foresight and Govern- ance Approaches
13:30-14:15	Hartmut Schmeck: Organic Computing – Challenges	10:30-11:15	and Models Coffee Break	Saturday, October 22, 2011	
14:15-15:00	and Some Insights Peter Dittrich: The Generation of Meaningful In-	Section III:	Anthropology and Philosophy of Technique (Chair: Mathias Gutmann)	Section IV(b):	Autonomy and Agency: Normative Implications (Chair: <i>Antonio Moniz</i>)
15:00-15:30	formation in Bio-chemical Systems Coffee Break	11:15-12:00	Tanja Schultz: Bio-Signals and Intention-Interpretation	09:00-09:45	Herman Tavani & Jeff Buechner: Agency, Autonomy, and Trust in the Context of Artificial Agents
15:30-16:15	Wolfgang Reif: Controlling Software-induced Selforganizing Behaviour	12:00-12:45	Rafael Capurro: Towards a Comparative Theory of Agents	09:45-10:30	Michael Nagenborg: Information and Autonomy:
Section II(a):	Methodology and Epistemology: Metaphors and Models (Chair: Jorge Solis)	12:45-14:00	Lunch Break Antonio Moniz: Working With Autonomous Systems: 10:30-10		How Biology Was Transformed into Information-Sciences
		14:00-14:45		10:30-10:45	Coffee Break
16:15-17:00	Christian Müller-Schloer: A Paradigm-Shift in Engineering Sciences? – Some Methodological Remarks Coffee Break	14:45-15:30	Agents, Co-Workers and the Human- centred Perspective Klaus Wiegerling: Artificial Bodies and Embodiment of Autonomous Systems Coffee Break	Section V:	Technology Assessment and Technology-Reflexion
				10:45-11:30	(Chair: Guglielmo Tamburrini) Jorge Solis:
		15:30-16:00			Some Issues on Humanoid Robotics Research: Applications
Öffentlicher Abendvortrag (Public Evening Lecture): 20:00		Section IV(a):	Autonomy and Agency: Normative Implications (Chair: <i>Antonio Moniz</i>)	11:30-12:15	and Implications Michael Decker: Making Perfect Life? Technology
20.00	Können Roboter sprechen?	16:00-16:45	Guglielmo Tamburrini: Human Interactions with Intelligent Machinery and Psychoanalysis		Assessments on Autonomous Systems
				12:15-12:30	Coffee Break
				12:30-13:00	Final Discussion
				End of Symposion	