International Conference
**Philosophy of Science in the 21st century – Challenges and Tasks**
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**S8**

5$^{th}$ of December 2013 | 16h30-18h30 | Room C6.2.50

# The many faces of artificial societies: natural, artificial, and alternate reality

Organized by Porfírio Silva (Institute of Systems and Robotics, University of Lisbon, Portugal)

## Program

Three presentations will explore, from different theoretical standpoints, different dimensions (challenges and opportunities) of the scenario of "artificial societies" (where a significant number of machines are interspersed in our social interactions and they regularly are taken as intentional agents).

Patrícia Gouveia (Lisbon): "**Between Realities**"

This presentation will focus on Alternate Reality Games (ARG's) and Urban & Serious Play (USP) to inquire the way humans can play in a mediated space, half real, half digital (online and offline). Digital games and networks can help us to change reality and generate concrete changes in social environments. This presentation aims to research the application of playful techniques and spaces to address the challenges of our present world. These gaming experiences can be useful to engage players in solving real world questions. Focusing on research from Jane McGonigal (2011), Sherry Turkle (2011), Jesper Juul (2010; 2013), Mary Flanagan (2009) and Edward Castronova (2005), as well as classical authors such as Henri Bergson, Marshall McLuhan, Susan Sontag, Hal Foster, among others, this presentation will debate why digital games and playful environments can solve real world problems.

Rodrigo Ventura (Lisbon): "**Artificial Life and Synthetic Biology**"

It was in the late 1980's that the Artificial Life expression was coined by Langton (1986) and the first artifacts were proposed. If these artifacts can or cannot be called "life" is a question that I will not discuss in this presentation. Rather, I'll focus on two issues. First, on a brief overview of these realizations (software and hardware). And

second, on the advent of synthetic biology – the design and construction of biological devices from organic materials – that opened the door to the engineering of life forms made of materials indistinguishable from natural life as we know it (Andrianantoandro et al, 2006). Two relevant advances of this endeavor were Synthia, the first synthetic organism by a team led by Venter (Gibson et al, 2010), and the BioBrick initiative (Knight, 2003), opening the door for a large community of students and researchers to engineer synthetic life forms from LEGO-like standard parts.

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Porfírio Silva (Lisbon): "**Humans, Machines and Fungibility**"

The wider context of a research on "artificial societies" is the on-going "metamorphosis of objects", a scenario of natural and artificial creatures building unprecedented relations of sociability based on a huge network of "smart things" (Uckelmann et al. 2011). Some sociological and philosophical debates of recent decades are important to understand this scenario. For example, Latour erases classical distinctions between the sociality of humans and of other entities, claiming for a "symmetrical anthropology" (Latour, 2007; 2005). Based on our previous research on artificial societies, we will consider how different lines of research in robotics may contribute to such a scenario. In order to address the issue of the relationship between subjects and objects within "artificial societies" we will focus specifically on the problem of fungibility and we will propose to frame it by certain aspects of the thought of the Japanese philosopher Watsuji Tetsurō (1889-1960).

Short CVs

**Patrícia Gouveia** has a doctoral thesis in Communication Sciences, Interactive Media Studies and Digital Games, a postgraduate in Sound and Image, Digital Arts, and a degree in Fine Arts, Painting. Patricia teaches a master seminar (atelier of Digital Arts) in the School of Social Sciences and Humanities at the New University of Lisbon [Faculdade de Ciências Sociais e Humanas / Universidade Nova de Lisboa] and works in Media Arts and Design since the middle of the 90's. She was assistant professor at Universidade Lusófona de Humanidades e Tecnologias, between March 2008 till March 2013, and researcher at MOVLAB (Motion Capture Lab, 2010-13) and CICANT (Centre for Applied Research and New Technologies, 2008-13) of the same University. The main focus of her research is based on playable media, interactive fiction and digital arts as a place of convergence between cinema, music, games, arts and design. Patricia published a book, "Artes e Jogos Digitais, Estética e Design da Experiência Lúdica" ["Digital Arts and Games, Aesthetics and Design of Ludic Experience"] (ed. Universitárias Lusófonas, 2010).

**Rodrigo Ventura** is a senior researcher with the ISR/IST and Assistant Professor of IST. Formerly a visiting scholar with the Carnegie Mellon University (CMU), Pennsylvania, USA. Expertise in Artificial Intelligence, Field Robots, Human-Robot Interaction, and Cognitive Systems. Associate Editor of Biologically Inspired Cognitive Architectures journal (Elsevier) and founding member of the Biologically-Inspired Cognitive Architecture society. Currently he is coordinator of a national project on human-robot interaction with field robots and participates in several European projects in the area of cognitive robotics. He has several publications in international journals and conferences, on the topics of field robotics, emotion-based agent architectures, and humanoid cognitive architectures.

**Porfírio Silva** is a post-doctoral researcher at the Institute for Systems and Robotics (ISR), an R&D institution affiliated to the School of Engineering of the University of Lisbon. At ISR, he is part of a team of roboticists developing a concept he introduced during his PhD: Institutional Robotics, a new approach to Collective Robotics inspired by Institutional Economics. At the same time, he researches "artificial societies": the impact of recent robotics developments in human societies. He is a participating researcher to the European project "MOnarCH - Multi-Robot Cognitive Systems Operating in Hospitals" (Seventh Framework Programme, Information and Communication Technologies - ICT, Cognitive Systems and Robotics - Objective 2.1-b, FP7-ICT-2011-9-601033). Start: February 2013; Duration in months: 36. He has been Visiting Researcher at the Institut Supérieur de Philosophie (Université Catholique de Louvain), at the Facultad de Filosofia (Universidad Complutense de Madrid) and at the Graduate School of Arts and Sciences (University of Tokyo). He is the author of several papers and 4 books on Philosophy of Science.

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