

# Human-Computer Confluence Research Challenges

May 16-17, 2013  
Barcelona, Spain

12:00-13:00 Registration

# Welcome to Barcelona!



# Human-Computer Confluence Research Challenges

May 16-17, 2013  
Barcelona, Spain

13:00-13:30 Opening & Welcome



**Stephen Dunne**

Neuroscience Research Starlab  
Consulting Division



**Alois Ferscha**

Head of Department  
Institut für Pervasive Computing  
Johannes Kepler University Linz





## What is HC<sup>2</sup>?

“... Human computer confluence refers to an *invisible, implicit, embodied* or even *implanted interaction* between humans and system components. ... should provide the means to the user to interact and communicate with the surrounding environment in a transparent “*human and natural*” way *involving all sense*...”

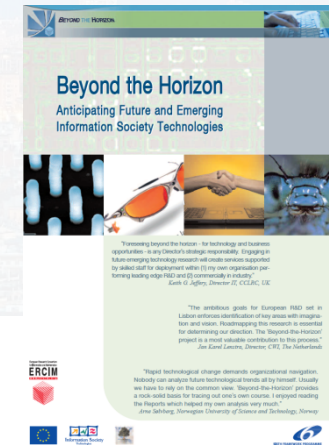
FET FP6, BEYOND-THE-HORIZON

TG 1 “Pervasive Computing and Communications”, A. Ferscha, Jan 2006.

“... Researchers strive to broker a *unified and seamless interactive framework that dynamically melds interaction across a range of modalities and devices*, from interactive rooms and large display walls to near body interaction, wearable devices, in-body implants and direct neural input and stimulation.”

Joe Paradiso in FET FP6, BEYOND-THE-HORIZON

TG 1 “Pervasive Computing and Communications”



## What is HC<sup>2</sup>?

“... propose a program of research that seeks to employ progress in human computer interaction to *create new abilities for sensing, perception, communication, interaction and understanding...*”

FET Proactive - FP7 Call 4, Human Computer Confluence Consultation Workshop, 16 November 2007.



### Explore:

#### (1) New forms of interactive media

(1 Ubiquitous display surfaces, 2 Interconnected Smart Objects, 3 Wearable computing, 4 Brain-Computer Interfaces)

#### (2) New forms of sensing and sensory perception

(1 New Sensory Channels, 2 Cognitive and Perceptual Prosthetics)

#### (3) Perception and assimilation of massive scale data

(1 Massive-Scale Implicit Data Collection, 2 Navigating in Massively Complex Information Spaces, 3 Collaborative Sensing, 4 Social Perception)

#### (4) Distributed Intelligence

(1 Collective Human Decision Making, 2 The Noosphere)

### transversal efforts:

- benchmarking and performance evaluation
- study of ethical and societal issues

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## Thursday May 16th, 2013

Registration	12:00-13:00
Opening	13:00-13:30
The Social Computer (Fausto Giunchiglia)	13:30-14:15
Position Statements - The Social Computer	14:15-14:45
Coffee	14:45-15:00
The Future of Interaction (Yvonne Rogers)	15:00-15:45
Position Statements - The Future of Interaction	15:45-16:15
Coffee	16:15-16:30
The Ethical Computer (Jeroen van den Hoven)	16:30-17:15
Position Statements - The Ethical Computer	17:15-17:45
Dinner ( <i>Balthazar</i> )	from 20:30



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## Friday May 17th, 2013

Responsive Environments (Joe Paradiso)	09:00-09:45
Position Statements - Responsive Environments	09:45-10:15
Coffee	10:15-10:45
Human Robot Confluence (Darwin Caldwell)	10:45-11:30
Position Statements - Human Robot Confluence	11:30-12:00
Lunch	13:00-14:00
TEDxBarcelona, CosmoCaixa Museum "THE FUTURE OF TECHNOLOGY AND SOCIETY"	14:00-20:00





# Human-Computer Confluence Research Challenges

May 16-17, 2013  
Barcelona, Spain

13:30-14:15 Keynote



## The Social Computer

**Fausto Giunchiglia**

University of Trento, Italy



**JKU**  
JOHANNES KEPLER  
UNIVERSITÄT LINZ

**Starlab**  
Living Science



# Human-Computer Confluence Research Challenges

May 16-17, 2013  
Barcelona, Spain

14:15-14:45 Position Statements



## The Social Computer

**Fausto Giunchiglia**

University of Trento, Italy



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**14:45-15:00 Coffee Break**

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# Human-Computer Confluence Research Challenges

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15:00-15:45 Keynote



## The Future of Interaction

**Yvonne Rogers**

University College London, GB



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# Human-Computer Confluence Research Challenges

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15:45-16:15 Position Statements



## The Future of Interaction

Yvonne Rogers

University College London, GB



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16:15-16:30 Coffee Break

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16:30-17:15 Keynote



## The Ethical Computer

Jeroen van den Hoven

Technical University of Delft, Netherlands





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17:15-17:45 Position Statements



## The Ethical Computer

Jeroen van den Hoven

Technical University of Delft, Netherlands



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# Human-Computer Confluence Research Challenges

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20:30 Dinner

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09:00-09:45 Keynote



## Responsive Environments

**Joe Paradiso**

MIT Media Lab, USA



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## Responsive Environments

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10:45-11:30 Keynote



## Human Robot Confluence

Darwin Caldwell

IIT Genoa, Italy





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10:30-12:00 Position Statements



## Human Robot Confluence

**Darwin Caldwell**

IIT Genoa, Italy



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It was great to have you here!

