



IEEE MFI 2012

University of Hamburg, Germany, September 13th-15th, 2012

Workshop

**New multi-sensor devices for remote
management of disease**

Welcome!

Hamburg, September 15, 2012

Background and objectives

- Nowadays sensor miniaturization and MEMS development allow acquiring a great quantity of data.
- Innovations at system level and at component level allow the development of new systems for **remote management of diseases**, treatment and rehabilitation, outside hospitals and care centres.
- Through artificial sensors and advanced signal **processing** human sensing and **diagnostic capabilities** can be extended.
- Indiscernible or unstructured information about the child's interaction with the environment can be translated to a form that clinicians can immediately understand and interpret. This requires new methods for **multisensory fusion**, integration, action recognition and interpretation as well as extrapolation of results.
- The workshop aims at showing some **results** in this field and also at giving an **updated view of the techniques for sensory integration** that could be used for personal health systems.

Topic areas

- Neuro-Developmental Engineering
- New technologies for assessment and diagnosis
- Inertial sensors and Sensor fusion
- Child's action recognition
- Child's behaviour classification
- Models for child's progress assessment

<i>Time</i>	<i>Speaker</i>	<i>Affiliation</i>	<i>Topic</i>
10.20-10.30	Welcome and introduction (Francesca Cecchi)		
10.30-11.10	Francesca Cecchi	The BioRobotics Institute, Scuola Superiore Sant'Anna, Pisa	<i>CareToy Project</i> multi-sensor toys for infants' rehabilitation at home
	Matjaz Mihelj	University of Ljubljana, Slovenia	
11.10-11.50	Silvio Bonfiglio	FIMI Srl, a Barco Company, Saronno, Italy	<i>MICHELANGELO project</i> an European research project exploring new, ICT- supported approaches in the assessment and treatment of autistic children
11.50-12.30	Prof. Veltink	Faculty of Electrical Engineering, Mathematics and Computer Science EEMCS Research Institute for Biomedical Engineering and Technical Medicine MIRA University of Twente	INTERACTION Sensing daily-life physical interaction with the environment after stroke
12.30-13.30	Lunch Break		
13.30-14.10	Manuel Ferre Prof. Titular	Centre for Automation and Robotics (CAR UPM-CSIC)	<i>CogWatch project</i> Hand tracking system based on Kinect for cognitive rehabilitation".
14.10-14.50	Sergio Jurado	Sensing & Control Systems, Barcelona, Spain	<i>ARMOR project</i> Advanced multi-paRametric Monitoring and analysis for diagnosis and Optimal management of epilepsy and Related brain disorders
14.50-15.00	Conclusions (Matjaz Mihelj)		

