

April 23rd, 2015

## Special Day on Healthcare Applications and Assistive Technologies

In the framework of the IEEE DTIS 2015 conference, which will be held in Naples (Italy) from April 21 to April 23, CINI AsTech lab has had the great opportunity to organize a full day special event (23 April) dedicated to **Healthcare Applications and Assistive Technologies**. As the edge between assistive and leading technologies is no longer firmly defined, people with disabilities and special needs are increasingly using innovative solutions to support their daily living.

The event aims at fostering and promoting current multi-disciplinary research experiences around the world in Healthcare and Assistive Technologies through a rich and intense Special Day program which consists of: **1 Keynote, 1 Tutorial, 2 Special Sessions, and 1 Demo Session**.

The program of the Special Day is organized as follows:

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### 09:00 - 10:00 Keynote 3: Frictionless wearable technology: the key to unleashing the power of wearable sensors for health and lifestyle

Speaker: Chris VAN HOOFF (IMEC – Belgium)

This presentation will give an overview of application cases and emerging wearable solutions in the medical and lifestyle domain, as well as highlight the technological building blocks needed to enable these applications.

### 10:00 - 11:00 Demo Session

### 11:00 - 12:30 Session 6B - Special Session on Healthcare Applications and Assistive Technologies

Organizer: Luca FANUCCI (Università di Pisa - Italy) and Tiziana MARGARIA (Lero - Ireland)

- Wearable Speech Enhancement System based on MEMS Microphone Array for Disabled People  
*Alessandro PALLA, Luca FANUCCI (University of Pisa - Italy), Roberto SANNINO (STMicroelectronics - Italy), Mattia SETTIN (Politecnico di Milano - Italy)*
- A Modular Suite to Support Human-Smartphone Interaction for People with Motor Skill Impairments  
*Massimiliano DONATI, Fabrizio IACOPETTI, Luca FANUCCI, Alessio VECCHIO (Università di Pisa - Italy)*
- Gait Analysis for Fall Prediction using EMG-triggered Movement-Related Potentials  
*Daniela DE VENUTO, Valerio Francesco ANNESE (Politecnico di Bari - Italy)*

### 14:00 - 15:30 Session 7B - Special Session on Healthcare Applications and Assistive Technologies

Organizer: Luca FANUCCI (Università di Pisa - Italy) and Tiziana MARGARIA (Lero - Ireland)

- A Novel Platform for Autonomous and Safe Navigation for Blind and Visually Impaired  
*Giuseppe AIRÒ FARULLA, Marco INDACO, Stefano ROSA, Ludovico O. RUSSO (Politecnico di Torino - Italy)*
- A Cloud Robotics System for Tele-Presence enabling Mobility-Impaired People to Enjoy the whole Museum Experience  
*Miguel Kaouk NG, Stefano PRIMATESTA, Luca GIULIANO, Maria Luce LUPETTI, Ludovico ORLANDO RUSSO, Giuseppe AIRÒ FARULLA, Marco INDACO, Stefano ROSA, Claudio GERMAK, Basilio BONA (Politecnico di Torino - Italy)*
- Bayesian Recognition of Human Identities from Continuous Visual Features using the Microsoft Kinect 2  
*Frederik GOSSEN (TU Dortmund University - Germany)*

### 16:00 - 17:10 Tutorial - "Why caring about Leading-Edge Software Engineering in Healthcare and Assistive Technology Applications?"

Presenter: Tiziana MARGARIA (Lero - Ireland)

In this tutorial we will look at a few issues that illustrate why HW/SW partition is in practice not so strict, and why the hardware design community could profit from being more aware about the needs and ways of designing those higher-level, service-oriented, model-driven applications. Examples will come from the healthcare and the assistive technology application domains.