

## Call for Papers

### 1<sup>st</sup> Workshop on Robotic walkers for All: An age inclusive approach

Part of PETRA'17 Conference ([www.petrae.org](http://www.petrae.org))

#### **Important Dates:**

Paper submission deadline: 3<sup>rd</sup> March 2017

Notification of acceptance: 17<sup>th</sup> March 2017

Final version due: 31<sup>st</sup> March 2017

#### **Background**

There is a growing demand for technological solutions for the purpose of prevention, diagnosis and rehabilitation, not only to support clinicians, but also to enable patients to self-manage their health and wellbeing. These tools predominantly focus on bodily capacities (e.g. strength and range of motion) and abilities (e.g. mobility and cognition). They follow a medical model – a practical approach to “fix” the patient and rebuild capabilities. However, this may be an inappropriate approach outside the hospital environment, without clinical support. They may fail to achieve the optimum results because the approach to design fails to consider the whole person, their values, social perspectives and motivations. A continuing focus on the social adaptation is also needed, specifically interactions not only with immediate family/intimate others but also social interaction and the accompanying decision-making skills with public structures, services, and policies which the person will encounter as s/he transitions back to the community. What if we addressed the design of walking assistants from a companion rather than a medical device (e.g. as a activity monitor for wellbeing rather than a medical device)?

One particular group of people that these solutions are designed for is older adults – finding technological ways to cost effectively support health care and independent living. However, in approaching this user group we traditionally adopt of a model of aging that portrays people in decline; as older adults being different from younger adults – needing different products, having different values. Is this really the case? All too often we see the potential of these technological solutions not being achieved because of non-usage linked to feelings of ageism and stigma. But its not just older adults that may need walking support, and desire that walking support to come without stigma – designed into a desirable product, so what if we addressed this problem from an **Age-inclusive design perspective?**

In this workshop we will focus on the role of robotic walkers in managing active lifestyles -from rehabilitation to walking companions - and seek to explore a) the technical issues and possible solutions, particularly around b) how these solutions are designed to encompass the whole person – their motivations, values and emotions c) how to design to encourage acceptance and regular use, d) whether it is possible to have an age inclusive design of robotic walkers and e) what would a robotic walking companion look like if we adopted such an age inclusive approach.

#### **Aims/Goals**

The aim of this workshop is to explore walking companions or other activity aids from an age inclusive perspective. We would like a good mix of disciplines to explore what such an approach would mean for the design of a robotic walking assistant; their requirements and functionality. We seek to create a supportive environment to discuss the strengths and weaknesses of age inclusive

design and how the technology plays into this space. The final question will be: is it possible to design age agnostic robotic walkers?

### **Topics**

Topics of interest include, but are not limited to:

- Age inclusive design
- Activity & action recognition
- Affective computing
- Behaviour analysis
- Context-awareness & semantic modelling
- Design Methods
- Fall detection and prevention
- Human behavioural analysis
- Hybrid intelligent systems
- Intelligent Living Environments
- Mobile social networks
- Motivating older adults to engage in active ageing interventions
- Methods and techniques to counteract ageism in design
- Persuasive design
- Recommendation systems
- Robotic systems – including companions and walkers
- Smart coaching systems
- Sensor networks applications for cognitive & physical health
- Social activities recommendation systems for older adults
- User mobility modelling & location tracking
- User-centric design
- Video-based human behaviour understanding
- Vision-based system

### **Organisers**

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