

# 3rd international conference on ambulatory monitoring of physical activity and movement (University of Massachusetts, Amherst, USA, June 17-19, 2013)

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## EDITORIAL

## 3rd international conference on ambulatory monitoring of physical activity and movement (University of Massachusetts, Amherst, USA, June 17–19, 2013)

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## Editorial

## 3rd international conference on ambulatory monitoring of physical activity and movement (University of Massachusetts, Amherst, USA, June 17–19, 2013)

This focus issue of *Physiological Measurement* follows the successful ‘3rd International Conference on Ambulatory Monitoring of Physical Activity and Movement (ICAMPAM2013)’, hosted by the University of Massachusetts, Amherst, USA. The conference was jointly Chaired by Patty Freedson (University of Massachusetts, Amherst) and David Bassett (University of Tennessee, Knoxville) with a focus shaped by an international scientific committee bringing together expertise from North America, Europe, Asia and Australasia.

Ambulatory monitoring of physical activity and movement has progressed significantly in recent years with improvements in devices and concurrent advances in data interpretation methods. The ICAMPAM conferences have played a key role in bringing together researchers advancing these fields, providing a forum for presentation, discussion and debate on new developments.

Over 200 abstracts were presented at ICAMPAM2013 exploring the themes of physical activity, sedentary behaviour and sleep measurement. This content highlights current interest in, not only the physical activity that people perform to maintain and enhance health and engage in functional everyday activity, but also the growing importance of sedentary behaviour and sleep as components of lifestyle that impact on our wellbeing.

This focus issue contains selected full publications developed from conference abstracts and provides an insight into the areas covered during the conference.

Innovations in population based studies have highlighted the potential of wrist mounted ambulatory monitoring devices to increase compliance. There is, however, a need for considerable further development in the analysis of the wealth of data collected from these devices, a subject that received appropriate attention during the conference (Ellis *et al* 2014, Trost *et al* 2014).

Methods of monitoring ambulatory physical activity and movement were placed under scrutiny with advances proposed and changes in methods assessed. Examples include the enhancement of wear-time characterisation (Berendsen *et al* 2014), establishing minimum wear-time (Hislop *et al* 2014) and providing guidance for minimum data collection requirements (Kang *et al* 2014). Proposals for improvements in data analysis using existing devices were put forward (e.g. Tulchin-Francis *et al* 2014) to help optimise data exploitation. Also Li and Zhang demonstrated a method of improving the performance of inertial measurement of joint angles (Li and Zhang 2014). The use of ubiquitous technologies, e.g. mobile phones, provides a platform that might be used to routinely collect data on physical activity and movement. It was appropriate, therefore, that conference presentations included examination of methods to cope with real world data quality to develop useful outcomes (Del Rosario *et al* 2014).

Whilst ICAMPAM has a history of promoting methods development there is also a strong focus on the application of methods tailored to gain insight into specific populations (e.g. Parkinson’s disease (Benka Wallén *et al* 2014), Self-propelled wheelchair users (Kooijmans *et al* 2014),

young people with cerebral palsy (O'Donoghue *et al* 2014)). Also the relationships between self-reported outcomes and objective measures of physical activity and movement have been characterised (Chastin *et al* 2014, McBrearty *et al* 2014) to enhance understanding of how people use this type of reporting to describe their physical activity and sedentary behaviour engagement.

This Focus Issue of Physiological Measurement provides insight into the scope and coverage of the ICAMPAM conference series.

Following the continued success of the ICAMPAM series the topics of physical activity and sedentary behaviour have been brought together within a new society. The International Society for the Measurement of Physical Behaviour (ISMPB) ([www.ismpb.org/](http://www.ismpb.org/)) was formed to pursue the following aim:

'To promote and facilitate the study and applications of objective measurement and quantification of free-living physical behaviour(s) and its related constructs (e.g. energy expenditure, context) using wearable devices.'

Under the auspices of the ISMPB, the fourth conference in the series, ICAMPAM2015, will take place at the University of Limerick, Ireland, hosted by Alan Donnelly ([www.ismpb.org/2015-limerick/](http://www.ismpb.org/2015-limerick/)) from 10–12 June 2015. The conference themes will be: Physical Activity, Sedentary Behaviour and Sensing & Signal Processing. Sub-topics will cover: Measurement and quantification of physical behaviours; Measuring and optimising physical behaviours in clinical populations; Engineering and device development; Data processing, statistics and computational methods.

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