4th INTERNATIONAL CONFERENCE ON AMBULATORY MONITORING OF PHYSICAL ACTIVITY AND MOVEMENT

10-12 June 2015

Bronze Sponsors
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Dear ICAMPAM participants,

We welcome you to the 4th International Conference on Ambulatory Monitoring of Physical Activity and Movement (June 10-12th 2015) in Limerick, Ireland. The University of Limerick is pleased to host this conference, and we hope that you will enjoy your time in Limerick.

We bring together leading researchers, new investigators and research students whose interests are in the measurement of physical behaviours including physical activity, sedentary behaviour and sleep. The programme includes 5 keynote speakers, 10 invited speakers, 44 slide presentations and 161 poster presentations. This is a global conference, with attendees from across Europe, North and South America, Africa, the Middle East, Asia, Australia and New Zealand. We believe that this conference will lead to valuable and stimulating discussions. We encourage you to attend the special session at 10.30-11.45 AM on Thursday 11th June where the exhibitors will have the opportunity to present their products. We also recommend that you attend the International Society for the Measurement of Physical Behaviours (ISMPB) formation meeting, to be held on Wednesday evening.

Social events include the opening reception on Tuesday evening in the University of Limerick sports Pavilion, and the banquet celebration on Thursday evening in the Strand Hotel in Limerick city centre. Lunches and coffee breaks will also provide an opportunity for you to meet colleagues and to network. For those who are staying over on Friday afternoon, we have organised a bus tour to the Cliffs of Moher and Doolin in County Clare.

Our hosting of the conference would not be possible without the help and support of a good number of people. These include the board of directors of the ISMPB, the conference Scientific Committee, and especially the members of the Local Organising Committee, whose work has brought this conference about. Thanks are due to DJ Collins from the Department of Physical Education and Sport Sciences for his work leading up to and during the conference. We would also like to thank the 25 University of Limerick students who have worked on the conference preparations and will be helping during the conference.

On behalf of the Local Organising Committee and the Scientific Committee, welcome to ICAMPAM 2015.

Alan Donnelly
ICAMPAM 2015 Chair
Editorial Board:
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Professor Jo Salmon
Professor Stewart Trost
Dr. Alex Rowlands
Dr. Genevieve Healy

Asia
Dr. Yukitoshi Aoyagi

Other
Associate Professor Pedro Hallal
Professor Jeff Hausdorff

Exhibitors:

Conference Supporters:

Bronze Sponsors:
General Information

Conference Office:
The ICAMPAM 2015 conference office will be located in the Main Exhibition Hall (Room Number EG-004). The conference office will be signposted within the Main Exhibition Hall and Main Reception Area. The conference office hours are:
- June 9th: 12:00–19:00
- June 10th: 07:00–19:00
- June 11th: 07:00–17:30
- June 12th: 08:30–13:00

The conference organisers can be contacted between 08:00–18:00. Contact numbers are available on the “Contact Us” page of the conference website. These numbers are also available in the Abstract Programme Booklet, which is available as a PDF on the conference website. These numbers will be available throughout the conference in case of an emergency. In the case that the conference office is closed for any reason, please visit the registration desk (directly above the Main Exhibition Hall). ICAMPAM representatives will be present at the registration desk and conference office during all opening hours listed above.

Name Badges:
Name badges will be provided to all delegates upon registration. Please ensure that name badges are worn at all times throughout the conference. The badge allows delegates access to all events on the scientific programme. It also allows conference staff to identify conference delegates, and will ensure that conference staff will be able to assist you at all times.

Conference Staff:
Conference staff will be on hand to assist you with any questions or issues you may have throughout the conference. All conference staff will be easy to identify as they will be wearing the official ICAMPAM 2015 conference t-shirt.

Lunch and Breaks:
All lunches and breaks will be provided as outlined in the conference schedule. Lunch will be served in the Red Robin Cafe on the first floor of the conference venue (situated between the Jonathan Swift Lecture Theatre and the Charles Parsons Lecture Theatre). Tea/coffee will be served outside in the corridor outside the Charles Parsons Lecture Theatre on Tuesday 9th June. During the conference (Wednesday 10th – Friday 12th) tea/coffee will be served in the Main Exhibition Hall (Conference Map location 13 – Room Number: EG-003). It is important that your name badge is displayed for all lunch and tea/coffee breaks.

Room Allocation:
The room names for the University of Limerick are abbreviated, and all University of Limerick staff and students are familiar with these. All rooms will be signposted, and all members of the University community will be able to provide directions. The room names and their numbers are provided below:
- Jean Monnet Lecture Theatre – DG-016
- Jonathan Swift Lecture Theatre – B1-023
- Charles Parsons Lecture Theatre – C1-063

Speaker Ready Room:
The Speaker Ready Room will be well signposted, and will be situated in the Main Exhibition Hall (Room number EG-005). All presentations must be uploaded onto the ICAMPAM laptops in the Speaker Ready Room according to the schedule that presenters have been provided with. Authors should clearly identify themselves to the ICAMPAM conference representative in the Speaker Ready Room and specify the room, date and time of their presentation. Files must be provided on a USB Memory Stick. During your visit to the Speaker Ready Room, a conference representative will help you load your presentation on the host computers, run through it, and ensure it is working properly. Your presentation will then be transferred from the Speaker Ready Room to the room where you will be presenting. Please ensure that you go to the presentation room a minimum of 15 minutes before the start of your session to run through the presentation one final time and to meet the Chair and fellow presenters of the session.

Scientific Programme:
A comprehensive scientific programme has been designed and prepared for ICAMPAM 2015. The programme is comprised of 5 Keynote Presentations, 10 Invited Speaker Sessions, 10 Oral Presentations and 4 Poster Sessions with over 150 posters to be presented. The conference is also supplemented with 5 Symposia and 4 Pre-Conference Workshops delivered by leading researchers in the field.

Conference Exhibitors:
A technical exhibition by nine international companies will take place in the Main Exhibition Hall (Conference Map location 13 – EG-010) throughout the duration of the conference. The main exhibition hall will also be where all poster presentations will take place, while daily refreshments (tea/coffee) will be served here. The Main Exhibition Hall will be open on the dates and times below:
- June 10th: 07:00–19:00
- June 11th: 07:00–17:30
- June 12th: 08:30–13:00

All sponsors and exhibitors will provide an exhibitor presentation in the Jean Monnet Lecture Theatre from 10:30 on Thursday 11th June.

Oral Presentations:
Oral presentations (excluding Keynote and Invited Speakers) are restricted to 15 minutes. You should speak for a maximum of 10 minutes allowing 3 minutes for questions and 2 minutes change over to the next speaker. The session chairperson will ensure that no presentations run over the allocated time, so please ensure that your presentation is well rehearsed and within time limits. All oral presenters will be using computers provided by the ICAMPAM 2015 Local Conference Organising Committee. No personal laptop or notebook computers will be allowed for oral presentations. The committee asks that all presenters upload their presentations onto the conference laptops in the Speaker Ready Room according to the schedule and guidelines provided by the local conference organising committee. Please ensure that your presentation is completely functional prior to leaving the Speaker Ready Room, particularly if you have pre-recorded videos or animations. Please report to the appropriate theatre at least 15 minutes prior to the beginning of the oral session, and introduce yourself to the session chairperson and fellow session speakers and run through your presentation one final time. Access to a laser pointer will be provided.

Poster Presentations:
Your poster should not be larger than A0 size (841 mm wide x 1189 mm tall). Poster boards are 1 metre wide and 2 metres high. Posters must be in portrait (tall) format. Posters should be made of paper or thin cardboard. Heavy board materials may be difficult to keep in position on the panel. Posters will be attached using Velcro, which will be provided by the conference staff at the venue.

Each poster has been allocated to one of 4 poster sessions which will be held in the Main Exhibition Hall (Conference Map location 13 – EG-010). There are 2 poster sessions on Wednesday 10th June and 2 poster sessions on Thursday 11th June. In this programme, each poster has been allocated a poster number (e.g. F51.24). This poster number corresponds to a poster session and board number (Poster Session 1, Board Number 24). Please ensure that you locate your poster at the corresponding position allocated to you. Posters should be fixed to the poster boards using Velcro strips provided by the ICAMPAM conference representative, and removed by the presenting author themselves at the time specified below. Presenting authors should ensure that they are standing by their posters during the dedicated viewing times below to be available to interact with conference delegates throughout.

<table>
<thead>
<tr>
<th>Session</th>
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<tr>
<td>Session 1 (Wed 10th)</td>
<td>7:00 and 8:15</td>
<td>10:30 - 11:45</td>
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<td>Session 2 (Wed 10th)</td>
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<td>Session 4 (Thurs 11st)</td>
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<td>Session 4 (Thurs 11st)</td>
<td>13:00 and 14:00</td>
<td>15:15-16:30</td>
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General Assembly:
A general assembly on the formation of the International Society for the Measurement of Physical Behaviours is scheduled for 18:30 on Wednesday 10th June, and will be held in the Jean Monnet Lecture Theatre (Conference Map Location 13). All members of the society and prospective members of the society are encouraged to attend and contribute to the meeting.

Internet Access:
Wireless internet access is available in the majority of buildings within the University of Limerick. This includes the Main Exhibition Hall and all lecture theatres where oral presentations are to be delivered. The wireless network connection that delegates should search for on their devices is “UL Wireless”. Ethernet internet access is available in University village accommodation. Please contact Cappavilla reception (Tel: +353 61 237500) for further information on this.

Transportation:
There is a direct bus route from the University of Limerick to Limerick City Centre (#304) from 07:00 - 22:45. The bus stop is located beside the stables bar on the main campus road (Conference Map Location 16), and will bring you to O’Connell Street in Limerick City Centre. This bus also continues to the Crescent Shopping Centre. The bus stop to get the returning bus to the University of Limerick is located near the Centra shop on William Street in the City Centre. These buses run regularly throughout the day. An adult single fare is €2.00. Another option of transport to visit the city is using one of the taxi services. A taxi from the University of Limerick to Limerick City Centre costs approximately €45 for 4 people. The ICAMPAM 2015 information table/registration table (Conference Map Location 13 – Above EG-010), or members of ICAMPAM 2015 staff will be able to assist you with taxi numbers.

Accommodation:
For delegates that are staying on campus at Cappavilla Village (Conference Map Location 38), delegates can check-in from 16:00 to 20:00 on expected day of arrival. If you are arriving after 20:00, please contact Cappavilla Reception in advance. The village manager can arrange for a member of staff to meet late arrivals at Reception for late check-in. The check-out time from the campus accommodation is 12:00 on all days. Storage facilities are available at Cappavilla Village for your luggage, in case you wish to leave your luggage until your departure time. Please enquire with Cappavilla reception to avail of this service, or with any other questions you may have. Reception can be contacted on +353/061 237500.

Parking on campus for non-staff members is restricted to the designated pink car parking location on the Conference Map. This is free parking, and car parks are monitored by campus security. Parking in other car parks on campus is unauthorised. Unauthorised parking on campus will result in clamping by campus security. The release fee for clamped vehicles is €25 (Tel: +353-61-202001). Please ensure at all times that you are parked in designated parking zones only.

Sports Facilities:
The University of Limerick is home to the University Arena Sports complex, which includes a 50 metre pool, large gymnasium and indoor running track. The Arena opening hours are 07:00 – 22:45 on Monday to Friday and 09:00 – 22:00 on Saturdays. Complimentary use of the facilities is provided to delegates throughout the conference. Delegates should simply display their conference badge to reception.

The University is situated on the banks of the river Shannon, and there are some beautiful cross-country running paths from the University along the banks of the Shannon. These areas are quiet, especially early in the morning and late at night, so please be sure to run these paths with a partner.

After Hours:
There is a wide range of after-hours activities available. There are 4 bars located on campus, the Stables and Scholars bars (Conference Map Location 16), the Arena bar (Conference Map Location 23) and the Pavilion bar and restaurant (Conference Map Location 36). The hours of these bars change from semester time to summer months, so be sure to check with Cappavilla Reception (Tel: +353 61 237500). There are also a selection of quality bars and restaurants in the surrounding areas of Castletroy, while Limerick City Centre is famous for its traditional music, bars and fine dining.

Social Events:
Opening Reception: Tuesday 9th June – 20:00–22:00
Location: The Pavilion, University of Limerick
The Pavilion has a panoramic view of Ireland's emerald green. Delegates can relax in the spiritual sound of the famous Irish harpsicord, accompanied by the complementary drinks and delicate canapes. All are included in the conference reception package.

Banquet Dinner: Thursday 11th June – 19:00–23:00
Location: Strand Hotel, Limerick City
Please remember your ticket when attending the Banquet Dinner – the ticket will be handed out during conference registration.

Buses depart to the Strand Hotel from each of the following venues at 18:30 – Main Conference Venue (Campus Map Location 1), Cappavilla Village, Castletroy Park Hotel and Kilranny Lodge Hotel. For delegates who wish to return to their conference official accommodation after the banquet, a bus service has been scheduled to depart the Strand Hotel at 23:00.

The fabulous 4* Strand Hotel is situated on the banks of the majestic River Shannon in the heart of the city. It is one of Limerick's most popular venues for business and social activity. The evening will begin with welcoming drinks in the hotel lobby, or the newly renovated outdoor Secret Garden, where delegates can ease into the mood of the night, followed by the silver-service banquet where food and wine will be served in the Shannon Suite. A cash bar will also be available. Live music and traditional Irish dancing will keep delegates entertained (and even physically active!) throughout the night. Please note that the dress code for this event is 'smart casual'.

Half-Day Tour: Friday 12th June – 14:00–21:30
Please remember your ticket when attending the half-day tour - the ticket will be handed out during conference registration.

The half-day tour departs from outside the Main Conference Venue (Campus Map Location 1) at 14:00. The bus will return to Limerick City Center and the conference official accommodation at approximately 21:30.

*Please be reminded to bring extra layers of clothing and if possible a raincoat or an umbrella.

*For the Cliffs of Moher, entry fee is included in the tour; For Gus O’Connor’s Pub, all major credit cards (except American Express) and cash are accepted for the purchase of food and drinks.

The tour will take the delegates to the majestic Cliffs of Moher and to experience Irish hospitality at the renowned traditional Irish pub, Gus O’Connor Pub, for an early evening meal/snacks accompanied with delightful live Irish music.

The Cliffs of Moher (Irish: Aillte an Mhothair) is one of Ireland's top Tourist attractions, drawing almost one million visitors in 2006. The Cliffs are 214m high at the western seaboard of County Clare. O’Brien’s Tower stands proudly on a headland of the majestic Cliffs. The Cliffs boast one of Ireland’s most spectacular views: from the Cliffs, one can see the Aran Islands, Galway Bay, as well as the Twelve Pins, the Maum Turk Mountains in Connemara and Loop Head to the South.

By the side of the cliffs, there is the cliffs of Moher Visitor Experience which blends naturally with the surrounding countryside. The centre is also environmentally sensitive in its use of renewable energy systems including geothermal heating and cooling, solar panels, and greywater recycling. Officially opened in February 2007 having been meticulously planned and built over 17 years, the visitor centre explores topics such as the origin of the Cliffs in local and global geological contexts, the bird and fish life in the area, and much more.

To finish off the tour, delegates will be taken to Gus O’Connor’s Pub located in Doolin, County Clare. Doolin is celebrated as a centre for traditional Irish music, and Gus O’Connor’s pub is the oldest and best music venue in the picturesque town, famed for its hospitality and the superb quality of food served.
The purpose of this workshop is to disseminate engineering practice for body worn monitor (BWM) design and development to those in the applied clinical sciences. Quite often BWM are chosen for clinical studies without understanding their true measurement capabilities. This workshop will strip back BWM to show exactly what they can/cannot measure with demonstrations on how all commercial/research BWM have the same underlying functionality. In addition an overview of where the engineering developments should focus for future developments will be presented.

Date and Time: Tuesday 9th June 14:00–15:30
Room Number: Jonathan Swift Lecture Theatre (B1-023)

Newcastle, UK.

Take Another Look at your Data

- The Use of Visualisation in Understanding Complex Data Sets

Presenter: David Loudon, Glasgow School of Art & PAL Technologies Ltd, Glasgow, UK.

Description: Conventional approaches in data analysis are often data-centric and fail to address the needs of the clinical subject or population. For example conventional laboratory-based gait assessment provides detailed insights into the biomechanical expression of the impairment but this information is not easily accessed or understood by the therapist or patient and so patient engagement in the therapeutic process is undermined. Similarly, in the field of physical activity assessment, existing methodologies have been largely based on the estimation of free-living energy expenditure and paid little regard to the behaviours and activities generating the energy expenditure. This workshop will address ways in which data analysis and visualisation can be made more transparent and how all commercial/research BWM have the same underlying functionality. In addition an overview of where the engineering developments should focus for future developments will be presented.

Date and Time: Tuesday 9th June 14:00–15:30
Room Number: Charles Parsons Lecture Theatre (C1-063)

Understanding the Underlying Sensor Configuration and Hardware

- Call for a gold standard method to assess occupational physical activity

Presenter: Jonathan Swift Lecture Theatre (B1-023)

Description: The classification of physical activity and sedentary behavior among older adults has not been well examined, particularly in relation to accelerometer wear locations. The Agng Research Evaluating Accelerometry (AREA) study is a methodological study designed to examine the impact of accelerometer wear location on physical activity and sedentary behavior assessment among older adults (N = 81, mean (SD) age = 78.5 (5.5) years). The AREA study consisted of two components: laboratory visits, assessing metabolic costs with Cosmed during 15 common daily activities and functional tests; and 7 days of free-living data. Participants simultaneously wore 5 monitors: an ActiGraph worn on the left and right wrist, a hip-worn ActiGraph, an ActiCal worn on the upper thigh, and a Sensewear on the upper arm. The symposium includes four presentations, including a study overview to encourage collaboration. The research findings include: 1) Using ActiCal as a reference, we tested the performance of ActiGraph wrist and hip count-based cutpoints to classify sedentary behavior in free-living; 2) Using raw accelerometer data, we developed an algorithm to detect walking and will present the algorithm and a discussion of the challenges of working in standing position and the use of dynamic chairs; and 3) Among participants we developed a method to identify walking and sitting.

Date and Time: Tuesday 9th June 14:00–15:30
Room Number: Charles Parsons Lecture Theatre (C1-063)
Symposium 4: Collecting and Processing 24-hour Waist-Worn Accelerometer Data in Children
Host: Tiago Barreira, Syracuse University, New York, USA.
Description: In recent times, researchers have begun to collect accelerometer data over the entire day (24 hours) as opposed to during waking hours only. This methodological shift serves two purposes: 1) to increase compliance to objective monitoring protocols and consequently wear time, and 2) to assess sleep time. This paradigm shift is not without problems, as the separation of sleep, non-wear, and sedentary behavior can be an arduous task complicated by the similarities exhibited in accelerometer data from these behaviors. During the International Study of Childhood Obesity, Lifestyle and the Environment (ISCOLE), our research team was faced with these problems following our implementation of a 24-hour waist-worn accelerometer protocol. Since we were one of the first research groups to implement a 24-hour waist-worn accelerometer protocol among a large sample of children (>6,000), we created an automated algorithm (publicly available) to identify different activity types (e.g., sleep, non-wear, sedentary behavior, physical activity) from minute-by-minute accelerometer data. In this workshop we will detail the development of this novel approach to accelerometer monitoring in the following progression: 1) pre-study preparation, 2) data collection, and 3) data processing and treatment. This symposium will give an overview of challenges and benefits of a 24-hour protocol with a focus in children. We will discuss a few topics starting with pre-study preparation, followed by data collection, and ending with data processing and treatment.
Date and Time: Friday 12th June 08:45–10:15
Room Number: Jonathan Swift Lecture Theatre (C1-023)

Symposium 5: Free-Living Assessment of Wearable Sensor Data Processing Methods
Host: Aiden Doherty, University of Oxford, Oxford, UK.
Description: This symposium explores methods to assess physical activity behaviours in free living scenarios. Emerging machine learning methods to detect physical activity behaviours of interest from wearable sensor data have generally not been validated in free living environments. The usual validation of these methods in laboratory scenarios is unrealistic as it usually involves a limited number of activities, poor variety within each activity, and an unrealistic relative contribution in time for each activity type. This symposium will therefore explore the advantages and challenges of using methods such as wearable cameras to generate a ground truth of free living physical activity behaviours.
Date and Time: Friday 12th June 08:45–10:15
Room Number: Charles Parsons Lecture Theatre (C1-063)

Climate:
Ireland has a temperate climate, resulting in relatively cool summer. The mean daily temperature in June is 14±18°C. It is generally quite dry in June, but it is possible to experience many climate changes in one day. Rain can occur at any time, so come prepared!

Electricity Supply:
Ireland works off a flat three-pin plug system. Electrical current is 220–240 volts, 50 cycles alternating current (AC). You are advised to purchase the appropriate adapters in advance. These are available at most airports.

Credit Cards:
Credit cards are widely used in Ireland and all leading credit cards are accepted. Please consult your own bank.

Clothing:
Ireland is generally informal about clothes. In the more expensive hotels and restaurants most people dress formally for dinner and a jacket and tie might be required. Warm sweaters, comfortable walking shoes and rainwear are advisable throughout the year.

Shopping:
Shops are generally open Monday to Saturday from 09.00am to 6.00pm with late night shopping until 8.00 or 9.00pm at many of the larger stores. On Sunday, many supermarkets and some of the bigger shops will open from midday until 6.00pm.

Driving:
A valid licence is required for driving in Ireland. Driving is on the left and seat belts must be worn at all times. The Republic of Ireland the speed limits are 50km/h in built up urban areas, 80km/h on rural Regional roads (R) and Local Roads (L), 100km/h on the National Roads (N), including dual carriageways and 120km/h on the motorways (M). The signposts denoting speed and distance are in kilometres per hour. All signposts and place names are displayed bilingually in both Irish and English.

Smoking Ban:
Since 29th March, 2004 the Irish Government has implemented a wide reaching ban on smoking. This means that smoking is forbidden in enclosed places of work in Ireland. This includes office blocks, public/state buildings (including Universities), public houses/bars, restaurants and company vehicles (cars and vans).
Bronze Sponsors

ActiGraph

ActiGraph is the leading provider of objective physical activity measurement solutions for the global scientific community. ActiGraph’s extensively validated suite of wireless activity monitors and innovative software platform deliver accurate and reliable physical activity and sleep/wake measures and provide our clients with comprehensive logistics support and access to real-time subject data.

PALtechnologies

activPAL™ is the researcher’s preferred choice for quantifying free-living sedentary, upright and ambulatory activities providing objective evidence to link physical behaviours with chronic disease risk. It uniquely evaluates active commuting by documenting cycling time and adds context to free-living sedentary activities, separating sitting from lying and travel from chair-centred activities.

GENEAActiv

Activinsights gives medical practitioners & healthcare providers the tools to measure lifestyle accurately. The GENEActiv range specialises in wrist-worn, raw data accelerometers for researchers in an open source environment. The objective measurement of Activinsights Band supports diagnosis, recovery, lifestyle management & behaviour change programmes. [www.activinsights.com]

Shimmer

Shimmer provides advanced development of wearable sensing systems. Based on award winning clinical grade sensor technology, and our open approach to innovation, we ensure that no matter what your application is our wearable sensing products and tools are designed to allow you to accelerate the development, discovery and insight that your research requires.

Exhibitors

GaitUp

Text: Gait Up designs innovative solutions for movement analysis and measurements using wearable sensors. Physical activity is represented as a bar-code, come and discover new daily activity indexes!

OPENVIVO

Text: The UK distributor for gtec medical engineering; providing the highest fidelity equipment for wireless EEG monitoring with direct API access to MATLAB and SIMULINK.

camNtech

Text: CamNtech has 20 years of experience with wearable Physical Activity monitoring. From basic accelerometry to accurate PAEE, we offer the best solutions for your study.

movisens

Text: movisens is a global leader and expert in mobile psycho-physiological measurement technologies, solutions for ambulatory assessment and sensors physical activity monitoring.
Tuesday June 9th

12:00–20:00  Registration Open:
Location: Reception Area (Jean Monnet Theatre)

14:00–15:30  Pre-Conference Workshops:

14:00–15:30  Workshop Session 1:
Location: Jonathan Swift Lecture Theatre (B1-023)
WS-1A: Body Worn Monitors: Sensor Configuration and Understanding the Underlying Hardware
Presenter: Cas Ladha, Computing Science, Newcastle University, Newcastle, UK.
Introducer: Ian Kenny, University of Limerick, Limerick, Ireland.

WS-1B: Take Another Look at your Data - The Use of Visualisation in Understanding Complex Data Sets
Presenter: David Loudon, Glasgow School of Art & PAL Technologies Ltd, Glasgow, UK.
Introducer: Fiona Ling, University of Limerick, Limerick, Ireland.

15:30–15:45  Coffee Break:
Location: Charles Parsons Lecture Theatre

15:45–17:15  Workshop Session 2:
Location: Jonathan Swift Lecture Theatre (B1-023)
WS-2A: From the Lab to the Community: Using Body Worn Monitors to Quantify Micro and Macro Levels of Gait
Presenter: Alan Godfrey, Institute of Neuroscience, Clinical Ageing Research Unit, Newcastle University, Newcastle, UK.
Introducer: Kieran Dowd, University of Limerick, Limerick, Ireland.

WS-2B: Grant Writing Workshop
Presenter: Lisa Chasan-Taber, University of Massachusetts, Amherst, Massachusetts, USA.
Introducer: Alan Donnelly, University of Limerick, Limerick, Ireland.

17:15–17:45  Coffee Break:
Location: Charles Parsons Lecture Theatre

17:45–19:15  Parallel Symposia:
Location: Jonathan Swift Lecture Theatre (B1-023)
S-1: Trialing Novel Technology to Understand the Who, What, When, Where, and Why of Physical Activity and Sedentary Behaviour
Host: Dale Eslinger, Loughborough University, Leicestershire, UK.
Participants: Paul Sanderson, Loughborough University, UK. Adam Loveday, Loughborough University, UK.
Introducer: Rhoda Sohun, University of Limerick, Limerick, Ireland.

Location: Charles Parsons Lecture Theatre (C1-063)
Host: Maria Hagströmer, Karolinska Institute, Stockholm, Sweden.
Participants: Lydia Kwak, Karolinska Institute, Sweden. David Hallman, University of Gävle, Sweden. Wim Grooten, Karolinska Institute, Sweden. Patrick Bergman, Linné University, Sweden.
Introducer: Fiona Ling, University of Limerick, Limerick, Ireland.

20:00–22:00  Opening Reception:
Location: Pavilion Restaurant
Wednesday June 10th

7:00–12:00  Registration Open:
Location: Reception Area (Jean Monnet Theatre)

08:00–08:15  Official Welcome:
Location: Jean Monnet Theatre (DG-016)
Host: Professor Don Barry, President, University of Limerick, Limerick, Ireland.

08:15–10:15  Oral Session 1:
Location: Charles Parsons Lecture Theatre (C1-063)
Chair: Jo Salmon, Deakin University, Melbourne, Victoria, Australia.

09:15–09:30  01.1 Combining global positioning systems and accelerometer to identify physical activity “hotspots” in adolescents residing in downtown Vancouver
Christine Voas¹, Nolan Lee¹, Vivian Chung¹, Heather McKay¹, Peter Whincup¹
¹University of British Columbia, Vancouver, British Columbia, Canada.

09:30–09:45  01.2 Can do vs actually does: investigating the association between sensor-based functional measures and long-term physical activity monitoring
Sabato Melone¹, Marco Cojoc², Stefania Bandinelli², Lorenzo Chiar³
¹Department of Electrical, Electronic and Information Engineering, University of Bologna, Italy.
²Azienda Sanitaria Firenze, Florence, Italy.

09:45–10:00  01.3 Classification of cycling as a subcategory of locomotion with an accelerometer on the lower back
Sietse C. Trouw¹, Rob van Lummen¹, Jaap van Dieën²
²VU University Amsterdam, Amsterdam, Netherlands.

10:00–10:15  01.4 Reliability of accelerometer-determined moderate-to-vigorous physical activity in children: A 12 country study
Tiago Barreira¹, John Schuna Jr², Jean-Philippe Chaput³, Timothy Church⁴, Mikaël Fogelholm⁵, Gang Hu¹, Rebecca Kirkyl³, Estelle Lambert³, Carol Mahef⁶, Jose Maa³, Victor Matsudo⁴, Timothy Old⁷, Vincent Onywera¹¹, Anura Kurpad¹², Olga Sammartino¹³, Martyn Standage³, Mark Tremblay⁴¹, Pei Zhao¹⁴, Peter Katsimatzakis⁵
¹Syracuse University, Syracuse, New York, USA.
²Oregon State University, Oregon, USA.
³Children’s Hospital of Eastern Ontario Research Institute, Ottawa, Ontario, Canada.
⁴Pennington Biomedical Research Center, Baton Rouge, Louisiana, USA.
⁵University of Helsinki, Helsinki, Finland.
⁶St. John’s Research Institute, Bangaluru, Karnataka, India.
⁷University of Cape Town, Cape Town, South Africa.
⁸University of South Australia, Adelaide, South Australia, Australia.
⁹Faculdade de Desporto, University of Porto, Porto, Portugal.
¹⁰Centro de Estudos do Laboratório de Aptidão Física de São Caetano do Sul (CEALAFCS), São Paulo, Brazil.
¹¹University of Nairobi, Nairobi, Kenya.
¹²Universidad de los Andes, Bogota, Colombia.
¹³University of Bath, Bath, North East Somerset, UK.
¹⁴Tianjin Women’s and Children’s Health Center, Heping, Tianjin, China.

10:15–10:30  Coffee Break:
Location: Main Exhibition Hall (E0-10)

10:30–11:15  Poster Session 1:
Location: Main Exhibition Hall (E0-10)
11:45–13:15 Single Track Symposium:
Location: Jonathan Swift Lecture Theatre (B1-023)
S-3: The Impact of Accelerometer Wear Location in Studies of Older Adults
Host: Charles Matthews, National Cancer Institute, Maryland, USA.
Participants: Tamara Harris, National Institute on Aging, USA.
Nancy Glynn, University of Pittsburgh, USA.
Annemarie Koster, Maastricht University, Netherlands.
Paola Caserotti, University of Southern Denmark, Denmark.
Jacek Urbanek, Johns Hopkins University, USA.
Jaroslav Hlavata, Indiana University, USA.
Eric Shiroma, National Institute on Aging, USA.
Kong Chen, National Institute of Diabetes and Digestive and Kidney Disease, USA.

Introducer: Mark Lyons, University of Limerick, Limerick, Ireland.

13:15–14:15 Lunch:
Location: Red Raisin Café

14:30–16:00 Invited Speakers:
Location: Jean Monnet Theatre (DG-016)
IS-3: Jo Salmon and Nicky Rodgers, School of Exercise and Nutrition Sciences, Deakin University, Melbourne, Victoria, Australia.
Title: Using Objective Monitoring to Examine Patterns and Changes in Children's Sedentary Behaviour
IS-4: Stewart Test, School of Exercise and Nutrition Sciences, Queensland University of Technology, Australia.
Title: Predictive Analytics for Human Movement Behaviour: Lack of innovation or Diffusion Failure?
Chair: Neville Owen, Baker IDI Heart & Diabetes Institute, Melbourne, Victoria, Australia.

Oral Session 3:
Location: Jonathan Swift Lecture Theatre (B1-023)
Chair: Robert Matt, University of Illinois, Illinois, USA.

14:45–15:00 03.1 Comparing physical activity levels based on self-report and accelerometry in those with and those without knee joint pathology
Sean Hurley1, Sarah Kozey Reader1, William Stanish1, Cheryl Hulbey-Kozey1
1Dalhousie University, Halifax, Nova Scotia, Canada.

14:55–15:00 03.2 Older people who feel fatigue have restricted ability to accumulate physical activity
Thoreene Ersing1, Dortehe Stensvold1, Ulfrik Wise2², Joarunn Helbostad1, Sebastien Chastin1
1Norwegian University of Science and Technology, Trondheim, Norway.

15:00–15:15 03.3 The detection and isolation of tremor in people with multiple sclerosis (MS) using a wrist worn sensor
Stefan Teufl1, Jenny Preston1, Frederike van Wijck1, Ben Stansfield1
1University College London Department of Primary Care & Population Health, London, UK.

15:15–15:30 03.4 A behavior intervention focusing on an active lifestyle is effective in persons with recent SCI: a randomized controlled trial
Carla Hoefnagel1, Henrik Starm1, Michael Bergen2, Rita van den Berg-Emons1, Act-Active Research group3
1Vlaamse ICF, University Medical Center, Rotterdam, Netherlands.

15:30–15:45 03.5 The effects of activity and glucose on fatigue in type 2 diabetes: Elucidating relationships by time aggregate and gender
Cynthia Entwistle1, Chang Park1, Laurne Quinln
1University of Illinois at Chicago, Chicago, Illinois, USA

15:45–16:00 03.6 Objective measures of physical performance normalize following surgery for lumbar spinal stenosis,
Matthew P Buman1, Matthew Smuck2, Ming-Chin Kao3, Christy Tomkins-Lane2, Aignes Ma1, William Haskell2
1Arizona State University, Phoenix, Arizona, USA.
2Stanford University, Stanford, California, USA.

16:00–16:15 Coffee Break:
Location: Main Exhibition Hall (EG0-10)

16:15–17:30 Poster Session 2:
Location: Main Exhibition Hall (EG0-10)
Thursday June 11th

7:00–12:00  Registration Open  Location: Reception Area (Jean Monnet Theatre)

08:00–09:00  Invited Speakers  Location: Jean Monnet Theatre (DG-016)
IS-5:  Carol Torjan, Kinetics Consulting, Bethesda, Maryland, USA.
Title:  The Future of Activity Monitoring: Innovating Beyond Steps, Sleep, and Speed.
IS-6:  Katrien Wijndaele, MRC Epidemiology Unit, Cambridge, UK.
Title:  Sedentary Time Characterisation: How does it Impact on Health Associations?
Chair:  Alan Donnelly, University of Limerick, Limerick, Ireland.

Oral Session 5:  Sleep  Location: Jonathan Swift Lecture Theatre (B1-023)
Chair:  Rebecca Spencer, University of Massachusetts, Amherst, Massachusetts, USA.
08:00–08:15  05.1 Does the composition of the day matter for health? A compositional data analysis paradigm for physical activity, sedentary behaviour and sleep research
Sebastien F Chastin1, Javier Palarea-Albaladejo2
1Glasgow Caledonian University, Glasgow, Scotland, UK, 2Biomathematics and Statistics Scotland, Edinburgh, Scotland, UK.
08:15–08:30  05.2 The stability of actigraphic measures of sleep from 3 to 7 years of age
Rachel Taylor1, Sheila Williams1, Victoria Farmer1, Barry Taylor1
1University of Otago, North Dunedin, Dunedin, New Zealand.
08:30–08:45  05.3 Comparing an automated accelerometer algorithm against expert visual detection of children’s overnight sleep
Kim Meredith-Jones1, Sheila Williams1, Barbara Galland1, Gavin Kennedy1, Rachael Taylor1
1University of Otago, North Dunedin, Dunedin, New Zealand.
08:45–09:00  05.4 Activity Monitoring in The Irish Longitudinal Study on Ageing: Data Processing Methods
Hugh Nolan1, Rose Anne Kenny1
1Trinity College Dublin, Dublin, Ireland.

Oral Session 6:  Balance and Falls  Location: Charles Parsons Lecture Theatre (C1-063)
Chair:  Claudia Mazzù, University of Sheffield, South Yorkshire, England, UK.
08:00–08:15  06.1 Quality of mobility during daily life is compromised in elderly fallers
Martina Mancini1, Mahmoud El-Gohary2, Jeffrey Kaye1, Fay Horak1
1Oregon Health & Science University, Portland, Oregon, USA, 2APDM Inc, Portland, Oregon, USA.
08:15–08:30  06.2 Smartphone-based Fall Detection Algorithm and Validation
Joana Silva1, Bruno Aguilar1, Tiago Rocha1, Hipol Souza1, Ines Souza1
1Associação Fraunhofer Portugal Research, Porto, Portugal.
08:30–08:45  06.3 From gait labs to the real world - a new generation of outcome measures based on mobile accelerometer in ageing research: results from an international symposium
Martin Daumer2
1SLC - The Human Motion Institute / Thum / TUM, Munich, Germany, 2 wipe
08:45–09:00
**06.4 WIISEL: Wireless Insole for Independent and Safe Elderly Living**
Richard Howe¹, Monica Casey¹, Patrick Hayes¹, Gearoid O’Laughlin¹, Elsienda Reixach², Carlos Carenas³, Cristina Rusu¹, John Roseval¹, Stefan Burkard², Jordi Chamague³, Liam Glynn¹
National Centre for Biomedical Engineering and Science, National University of Ireland, Galway, Ireland, ¹CETT/TEAMSA, Av d’Ernest Lluch 36 - Parc Científic de la Innovació Technocampus, 08302, Matadepera, Barcelona, Spain, ²CETT/TEAMSA, Av d’Ernest Lluch 36 - Parc Científic de la Innovació Technocampus, 08302, Matadepera, Barcelona, Spain, ³CETT/TEAMSA, Av d’Ernest Lluch 36 - Parc Científic de la Innovació Technocampus, 08302, Matadepera, Barcelona, Spain.

09:00–10:00
**Keynote Speaker:**
Location: Jean Monnet Theatre (DG-016)
**KS-3:** James Levine, Mayo Clinic, Arizona State University, Arizona, USA
**Title:** Sick or Sitting - How Chairs Kill
**Chair:** Genevieve Healy, University of Queensland, Queensland, Australia.

10:00–10:30
**Coffee Break:**
Location: Main Exhibition Hall (EG0-10)

10:30–11:45
**Exhibitor Talks:**
ActiGraph | PAL Technologies | ACTIVINSIGHTS | Shimmer | McRobert's
**Gait Up | OpenVivo | CamNTech | movisens**
**Location:** Jean Monnet Theatre (DG-016)

11:45–13:00
**Poster Session 3:**
**Location:** Main Exhibition Hall (EG0-10)

13:00–14:00
**Lunch:**
Location: Red Raisin Cafe

14:00–15:00
**Invited Speakers**
**Location:** Jean Monnet Theatre (DG-016)
**IS-7:** Claudia Mazzà, Department of Mechanical Engineering, University of Sheffield, UK
**Title:** Gait Balance Control: Watch Your Step from Head to Toe
**IS-8:** James McLaughlin, Engineering Research Institute, University of Ulster, Northern Ireland
**Title:** Engineering and Device Development: Modern Diagnostics Calls on Smart and Robust Integrated Sensor Systems in order to Transform our Healthcare
**Chair:** John Nelson, University of Limerick, Limerick, Ireland

14:00–14:45
**Oral Session 7:**
**Title:** Physical Activity: Measurement & General Issues 2
**Location:** Jonathan Swift Lecture Theatre (BS-023)
**Chair:** Saren Brage, University of Cambridge School of Clinical Medicine, Cambridge, UK

14:15–14:30
**07.2 Video Direct Observation to Assess Children’s Free-Play Physical Activity during School Recess**
Cheryl Howle¹, Kimberly Clevenger¹, Joann Benigno¹
¹Ohio University, Athens, Ohio, USA

14:30–14:45
**07.3 Smartphone Based Physical Activity Recognition with Geospatial Awareness**
John J Gury¹, Benjin van de Velde¹, John Nelson¹
¹Department of Electronic and Computer Engineering, University of Limerick, Limerick, Ireland.

14:45–15:00
**07.4 Development of wrist-independent energy expenditure prediction models from raw accelerometer data**
Alexander Mertineit¹, James Pivikn², Lars Madsen³, Subir Biswas², Karin Pfeiffer²
¹Ball State University, Muncie, Indiana, USA, ²Michigan State University, Michigan, USA.

15:15–16:30
**Oral Session 8:**
**Title:** Measuring and Optimising Physical Behaviours in Clinical Populations 2
**Location:** Charles Parsons Lecture Theatre (C1-065)
**Chair:** Amanda Clifford, University of Limerick, Limerick, Ireland.

08.1 Further development of the instrumented Bath Ankylosing Spondylitis Functional Index (BASFI) in axial spondyloarthritits: the added value of complex accelerometer-derived movement features for activity capacity assessment
Leven Elian¹, Thijs Swinnen², Misica Milesevic³, Wim Dankaerts¹, Sabine Van Hulft¹, René Westhoven¹², Kurt de Vlam³
¹KU Leuven, Leuven, Vlaams-Brabant, Belgium, ²Bel-Air Sourasky Medical Center, Tel Aviv, Israel.

08.2 Treating gait impairments of patients with Parkinson’s disease by means of real-time biofeedback in a daily life environment: The Cupid System
Lorenzo Chua1, Pieter Giusi1, Moran Dorfman1, Anat Moshef1, Alice Nieuwboer1, Alberto Ferrara2
1University of Bologna, Bologna, Italy, 2Bel-Air Sourasky Medical Center, Tel Aviv, Israel.

08.3 Measurement of physical activity by accelerometer and doubly labeled water predicts growth in preschool-aged children
Nancy Butte1, Maurice Puyau1, Yan Liu1, William Wong1, Theresa Wilson1, Anne Adolph1, Roman Shyyabila, Ista Zaken1
1Baylor College of Medicine, Houston, Texas, USA, 2Drexel University, Philadelphia, USA

08.4 Relationship between Changes in MVPA Time and peak 30-min Cadence
Catrine Tudor-Locke1, John Schuna, Jr², Damon Swift2, Sandra Larivée1, Corby Martin1, William Johnson1, Timothy Church1
1Pennington Biomedical Research Center, Baton Rouge, Louisiana, USA, ²Oregon State University, Oregon, USA.

16:30–17:30
**Keynote Speaker:**
**Location:** Jean Monnet Theatre (DG-016)
**KS-4:** Lynn Rochester, Institute of Neuroscience, Newcastle University, Newcastle, UK.
**Title:** Ambulatory Activity in Parkinson’s–Pushing the Boundaries of Measurement.
**Chair:** Johannes Bussmann, Erasmus Medical Centre, Rotterdam, Netherlands.

19:00–23:00
**Conference Banquet:**
Location: Strand Hotel, Limerick City Centre.
Friday June 12th

08:45–10:15 Parallel Symposia:

Location: Jonathan Swift Lecture Theatre (B1-023)

S-4: Collecting and Processing 24-hour Waist-Worn Accelerometer Data in Children.

Host: Tiago Barreira, Syracuse University, New York, USA.

Participants: John Schuma Jr., Oregon State University, Oregon, USA.

Introducer: Brian Carson, University of Limerick, Limerick, Ireland.


Host: Aiden Doherty, University of Oxford, Oxford, UK.

Participants: Johanna Hanggi, University of Applied Sciences, Northwestern Switzerland. Katherine Ellis, University of California, San Diego.

Introducer: Kieran O’Sullivan, University of Limerick, Limerick, Ireland.

10:15–10:45 Coffee Break:

Location: Main Exhibition Hall (EG0-10)

10:45–11:45 Invited Speakers:

Location: Jean Monnet Theatre (DG-016)

IS-9: Objective Physical Activity Monitoring: New Directions and New Opportunities.

Title: Bio-Behavioural Feedback: Integrating Continuous, Non-Invasive Measures to Achieve Better Health.

Introducer: John Schuma Jr., Oregon State University, Oregon, USA.

Participants: Jean Monnet Theatre (DG-016)

11:15–11:30 09.3 Associations between sedentary behaviour, moderate to vigorous physical activity and cortical bone size in children

Rebecca Meinrad¹, Lisa Micklesfield², Andrew Green³, Joanne McVeigh⁴

¹Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, Gauteng, South Africa, ²MRC/Wits Developmental Pathways for Health Research Unit, University of the Witwatersrand.

11:30–11:45 09.4 Validity of objectively measured sedentary behaviour against waist circumference

Paulina Kuusela¹, Jaana Suni¹, Kan Takahisa¹, Henri Vaha-Vesalainen¹, Hani Selvam², Tommi Vassarinen¹

¹The University of Queensland for Health Promotion Research, Tampere, Finland.

Oral Session 10: Data Processing, Analysis and Statistics

Location: Charles Parsons Lecture Theatre (C1-063)

Chair: Sebastion Chassain, Glasgow Caledonian University, Glasgow, Scotland.

10:45–11:00 10.1 Actigraphy features for predicting mobility function in older adults

Toddy Marks¹, Catherine Tudor-Locke², Robert Atwell³, Matthew Buman³, Roger Fielding³, Nancy Glynn⁴, Ben Hire⁵, Jack Guralnik⁵, Abby King⁵, Dan White⁵, Michael Miller⁵, Juned Siddique⁵, Peter Brubaker⁶, W. Jack Rejeski⁷, Stephen Ransdouls⁷, Martin Rhee⁷, Marco Pahor⁸, Sanjay Rana⁸

¹University of Florida, Gainesville, Florida, USA, ²Pennington Biomedical Research Center, Baton Rouge, Louisiana, USA, ³Southern Connecticut State University, New Haven, Connecticut, USA, ⁴Arizona State University, Phoenix, Arizona, USA, ⁵Tufts University, Massachusetts, USA, ⁶Wake Forest School of Medicine, North Carolina, USA, ⁷University of Maryland, Maryland, USA, ⁸Stanford University School of Medicine, Stanford, California, USA, ⁹Boston University, Massachusetts, USA, ¹⁰Northwestern University, Illinois, USA.

11:00–11:15 10.2 Open Platforms to Sustain and Reuse Component Contributions

Jon Meegan¹, Jared Selig², Erik Ivenson³

¹MIT Research, Edina, Minneapolis, USA.

11:15–11:30 10.3 Validation of an automated STATA algorithm developed for isolating waking wear data in activPAL data

Charlotte Edwards¹, Kishan Bakrania¹, Danielle Bodicott¹, Tom Yates¹, Genevieve Healy¹, Elisabeth Warner¹

¹Diabetes Research Centre, University of Leicester, Leicester General, Leicester, Leicestershire, ²The University of Queensland, Brisbane, Queensland, Australia.

11:30–11:45 10.4 Trajectory patterns for Australian adults? Sedentary behaviour and moderate- to vigorous-intensity physical activity over 12 years

Paul Gardiner¹, Libby Holdan¹, Bridy Lynch¹, Genevieve Healy¹, Natasha Reid¹, Bronwyn Clark¹, David Dunstan¹, Neville Owen¹, ²The University of Queensland, Brisbane, Queensland, Australia, ³Cancer Council Victoria, Melbourne, Victoria, Australia, ⁴Baker ID Heart and Diabetes Institute, Melbourne, Victoria, Australia.

Keynote Speaker:

Location: Jean Monnet Theatre (DG-016)

KS-5: Objective Physical Activity Monitoring: New Directions and New Opportunities.

Title: Objective Physical Activity Monitoring: New Directions and New Opportunities.

Chair: David Bassett, University of Tennessee, Knoxville, Tennessee, USA.

Closing Ceremony & Prize Presentation:

Location: Jean Monnet Theatre (DG-016)

Host: Alan Donnelly, Conference Chair, University of Limerick, Limerick, Ireland

Optional Tour:

Location: Cliffs of Moher and Doolin Village.
Poster Session 1:

**PS1.1** Association between physical activity and affective reactions in everyday life: Ambulatory Assessment with activity-triggered e-diary

Martina Kanning¹, Ulrich Ebner-Priemer², Wolfgang Schlicht¹

¹University of Stuttgart, Stuttgart, Germany, ²Central Institute of Mental Health, University of Heidelberg, Heidelberg, Baden-Württemberg, Germany.

**PS1.2** A comparison of wrist and hip accelerometer counts to measured total daily physical activity energy expenditure

Whitney Weinreb¹, Scott Strath², David Bassett², Nora Miller³, Ann Swartz³

¹University of Wisconsin-Madison, Madison, Wisconsin, USA, ²University of Tennessee, Knoxville, Tennessee, USA.

**PS1.3** Real Time Physical Activity Detection using a Single Waist Mounted Tri-Axial Accelerometer Sensor

Alan Beukle, Gearoid Ó Laighin³, John Nelson¹, EAF Ihlen¹, Jorunn Helbo-Kristensen³

¹Norwegian University of Science and Technology, Trondheim, Norway, ²National University of Ireland Galway, Galway, Ireland, ³University of Limerick, Limerick, Ireland.

**PS1.4** Step detection accuracy in multiple sclerosis: patient-specific error propagation in long-term monitoring of physical activity

Fabio Storm¹, Sivaraman Nair², Alison Clarke³, Jill Van der Meulen⁴, Claudia Mazzà⁵

¹University of Bologna, Bologna, Italy, ²Azienda Sanitaria Firenze, Florence, Italy.

**PS1.5** Posture sensor as feedback when lifting weights

Benedikt Fasel¹, Farzin Dadashi¹, Kamiar Aminian¹

¹University of Bath, Bath, England, UK.

**PS1.6** When they do and when they don’t: Daily patterns of physical activity in adolescent youth.

Sarahele Bollag¹, Johann Issartel¹, Bronagh McGarvey¹, Danielle Powell¹, Wesley O’Brien¹

¹University of Limerick, Limerick, Ireland.

**PS1.7** Association between Smartphone-based Long-term Monitoring Outcomes and Traditional Clinical Assessment Tools in Community-Dwelling Older People

Sabato Mellone¹, Marco Colpo¹, Stefania Bandinelli², Lorenzo Chiari¹

¹University of Bologna, Bologna, Italy, ²Azienda Sanitaria Firenze, Florence, Italy.

**PS1.8** Thirteen years secular trend reveals a dramatic drop in recommended daily physical activity in Male Adolescents

Susahmedal, Lena Zimmo¹, Abdulaizy Farooq³, Izzeldin Ibrahim¹, Mohamed Alikuwan¹

¹ASPFAR, Orthopedic and Sports Medicine Hospital, Doha, Qatar.

**PS1.9** Physical activity and sedentary behaviour of ethnically diverse young adults (DASH)

Philippa Dall¹, Ben Starling¹, Darbiee Molasofe², Seemranjie Harding¹

¹Glasgow Caledonian University, Glasgow, Scotland, UK, ²Glasgow University, Glasgow, Scotland, UK.

**PS1.10** Effect of physical education class on moderate-to-vigorous physical activity in elementary schools in Qatar

Juned Siddique¹

¹ASPETAR- Orthopaedic and Sports Medicine Hospital, Doha, Qatar.

**PS1.11** Association of Objectively Measured Physical Activity with Vascular Endothelial Function in Male Adolescents

Sinead Sheridan¹, Niall Mayna²

¹Dublin City University, Dublin, Ireland.

**PS1.12** Physical activity and sedentary behaviour of ethnically diverse young adults (DASH)

Philippa Dall¹, Ben Starling¹, Darbiee Molasofe², Seemranjie Harding¹

¹Glasgow Caledonian University, Glasgow, Scotland, UK, ²Glasgow University, Glasgow, Scotland, UK.

**PS1.13** Posture sensor as feedback when lifting weights

Per Helbo-Kristensen¹, Anna Abernethy, Mia Fölke¹

¹Mälardalen University (MDH), Västerås, Sweden.

**PS1.14** Comparison of accelerometer cut-points for determining MVPA in adolescent girls

Ilanne Munoz¹, Angelica Carlin², Marie Murphy³, Alison Gallagher²

¹Mary Immaculate College, University of Limerick, Limerick, Ireland, ²University of Ulster, Jordanstown, Antrim, Northern Ireland.

**PS1.15** Sources of measurement error in a longitudinal lifestyle intervention trial

Juned Siddique¹

¹Northwestern University, Illinois, USA.

**PS1.16** Dance for people with Parkinson’s disease: what is the evidence telling us?

Amanda Cronin¹, Joanne Shanahan¹, Meg Morris², Orfhlaith Ni Bhriain³, Jean Saunders²

¹Department of Physiotherapy, University of Limerick, Limerick, Ireland, ²La Trobe University, Melbourne, Victoria, Australia.

**PS1.17** Steps measured in relation to different amount of physical activity

Anna Åkerbom¹, Mia Fölke¹, Maria Linden¹

¹Mälardalen University, Västerås, Sweden.

**PS1.18** QR-codes as a tool to increase physical activity level among school children during class hours

Jeanette Christensen¹, Allan Kristensen³, Thomas Bredahl¹

¹University of Southern Denmark, Odense, Denmark.

**PS1.19** Monitoring of physical activity of the participants in a sports extension course

Masahiro Miyazaki¹, Takeshi Sato¹, Eiji Watanabe¹, Kazuyoshi Sekiz¹, Takeshi Kawanabe¹

¹Kansai University, Shirakawa, Osaka, Japan, ²Osaka Women’s University, Hirai, Tokyo, Japan, ³Hokkaido University School of Commerce, Chiyoda, Tokyo, Japan.

**PS1.20** Objective and subjective measures of physical activity: A comparison between Ecological Momentary Assessment and Accelerometer measures

Lars Pedersen¹, John Verla², Jana Hoyer¹, Catharina Voss¹, Katja Beesdo-Baum³

¹University of Southern Denmark, Odense, Denmark, ²Central Institute of Mental Health, University of Heidelberg, Heidelberg, Baden-Württemberg, Germany.

**PS1.21** The merit of an individual calibration: estimating physical activity energy expenditure in wheelchair users

Tom Nagybarat¹, Jean-Philippe Wahlin¹, Dylan Thompson³, James Bilzon³

¹University of Bath, Bath, England, UK.

**PS1.22** Instantaneous walking speed estimation for daily life activity monitoring based on wrist acceleration

Benedikt Fasel¹, Farzin Dadashi¹, Kamiar Aminian¹

¹Technische Universität Dresden, Dresden, Germany.

**PS1.1** Association between physical activity and affective reactions in everyday life: Ambulatory Assessment with activity-triggered e-diary

Martina Kanning¹, Ulrich Ebner-Priemer², Wolfgang Schlicht¹

¹University of Stuttgart, Stuttgart, Germany, ²Central Institute of Mental Health, University of Heidelberg, Heidelberg, Baden-Württemberg, Germany.

**PS1.2** A comparison of wrist and hip accelerometer counts to measured total daily physical activity energy expenditure

Whitney Weinreb¹, Scott Strath², David Bassett², Nora Miller³, Ann Swartz³

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**PS1.3** Real Time Physical Activity Detection using a Single Waist Mounted Tri-Axial Accelerometer Sensor

Alan Beukle, Gearoid Ó Laighin³, John Nelson¹, EAF Ihlen¹, Jorunn Helbo-Kristensen³

¹Norwegian University of Science and Technology, Trondheim, Norway, ²National University of Ireland Galway, Galway, Ireland, ³University of Limerick, Limerick, Ireland.

**PS1.4** Step detection accuracy in multiple sclerosis: patient-specific error propagation in long-term monitoring of physical activity

Fabio Storm¹, Sivaraman Nair², Alison Clarke³, Jill Van der Meulen⁴, Claudia Mazzà⁵

¹University of Bologna, Bologna, Italy, ²Azienda Sanitaria Firenze, Florence, Italy.

**PS1.5** Posture sensor as feedback when lifting weights

Benedikt Fasel¹, Farzin Dadashi¹, Kamiar Aminian¹

¹University of Bath, Bath, England, UK.
PS1.23 Postural recognition in stroke and healthy using a trunk-worn inertial and barometric pressure sensor
Rebekka Andrej, Ruth Turk, Claire Ingham, Jane Burridge, Kamiar Aminian
1Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland, 2University of Southampton, Southampton, England, UK.

PS1.24 Concurrent Validity of Wrist-Worn Accelerometers in Preschool Children
Jane Hogg, Nicole Palmer, Priya Anand, Tara Aldin, Jacky Clark
1Queen Margaret University, Edinburgh, Scotland, UK, 2NHS Lothian, Edinburgh, Scotland, UK.

PS1.25 Validation of Health Examinees Cohort Study Physical Activity Questionnaire in Korea: a pilot study
Ilneos Cho, Miyoung Lee, Hya-Joo Lee, Jung-Min Lee, Yeon Jung Kim, Daehye Kang, Jong-Joo Lee
1Seoul National University, Seoul, South Korea, 2Korea University, Seoul, South Korea, 3University of Nebraska Omaha, Nebraska, USA 4Korea Centers for Disease Control & Prevention, South Korea.

PS1.26 Validation of the activity monitor Acti6: energy expenditure during walking and running
Joost Oomen, Dennis Arts, Steven Vos
1Fontys University of Applied Sciences, Eindhoven, Netherlands.

PS1.27 Calibration of Accelerometer and Self-Reported Measures of Physical Activity Using Biomarker data in the Hispanic Community Health Study/Study of Latinos (HCHS/SOL)
Pamela Guevara, Robert McMurray, Nancy Butte, Daniela Sotres-Alvarez, Honggui Sun, Mark Stoutenberg, Kelly Evenson, Ashley Marciretti, Lisa Sanchez-Johnson, Mercedes Carnethon, Elva Arredondo, Charles Matthews, Yasmin Massaver-Rahmani
1University of Pennsylvania, Philadelphia, USA, 2University of North Carolina at Chapel Hill, North Carolina, USA, 3Baylor College of Medicine, Houston, Texas, USA, 4University of Miami Miller School of Medicine, Miami, Florida, USA, 5University of Miami, Miami, Florida, USA, 6University of Illinois at Chicago, Chicago, Illinois, USA, 7Northwestern University Feinberg School of Medicine, Chicago, Illinois, USA, 8San Diego State University, San Diego, California, USA, 9University of Nebraska Medical Center, Omaha, Nebraska, USA, 10National Cancer Institute, Maryland, USA 11Albert Einstein College of Medicine, New York, USA.

PS1.28 Differential actigraphy for monitoring asymmetry in motor behavior: accuracy and test-retest reliability
Marco Battistelli, Paolo Meriggi, Chiara Pagliar, Paola Bartolomeo, Maurizia Ferrari
1Fondazione Don Carlo Gnocchi Onlus, 2ICCS Don Carlo Gnocchi Foundation, 3Catholic University, 4NSERM, France & Catholic University, Italy.

PS1.29 Equivalence of the activPAL3 and activPAL in measuring physical activity
Ben Stansfield, Cen Sellers, Margaret Grant
1Glasgow Caledonian University, Glasgow, Scotland, UK.

PS1.30 Comparison of Raw Accelerometry Output from Commercial Devices; Importance of Body Position and Gait Velocity.
Michelle Norris, Kieran Dowd, Ian Kenny, Alan Darnell, Ross Anderson
1Department of Physical Education and Sport Sciences, University of Limerick, Limerick, Ireland

PS1.31 Criterion validity and calibration of the GENEA activ accelerometer in adults.
Christina Dilson, Cormac Pawell, Kieran Dowd, Brian Carson, Alan Darnell
1University College Cork, Cork, Ireland, 2University of Limerick, Limerick, Ireland.

PS1.32 Validity of a New Motion Sensor Under Free-Living Conditions
Fernando Pana, Paula Amaro
1Santa Catarina State University, Florianopolis, Santa Catarina, Brazil, 2Federal University of Vicosa, Vicosa, Minas Gerais, Brazil.

PS1.33 Free-living validation of consumer-based activity trackers as measures of physical activity and sedentary behaviour: Jawbone UP and Fitbit One
Siwan Gomersall, Norman Ng, Toby Pavly, Wendy Brown
1University of Queensland, Queensland, Australia
2University of Southern Denmark, Odense, Denmark.

PS1.34 Body acceleration as indicator for walking economy in an ageing population
Gianluca Veneri, Alberto Bonomi, Klaas Westerbergen
1Maastricht University, Maastricht, Limburg, Netherlands, 2Philips Research Laboratories, Eindhoven, Netherlands.

PS1.35 Ecological Validity of a Random Forest Activity Classifier for Wrist-Mounted Accelerometer Data
Stewart Troop, Toby Pavly, Siwan Gomersall, Bronwyn Clark
1Queensland University of Technology, Queensland, Australia 2University of Queensland, Queensland, Australia.

PS1.36 Calibration of the ActiGraph GT3X+ accelerometer for the estimation of physical activity intensity in children with intellectual disabilities
Atiene Magny, Victoria Perezpresa, Craig Melville
1University of South Australia, South Australia, Australia.

PS1.37 Comparison of hip and low back worn Arityx AX3 and GT3X+ activity monitors
Jan Brand, Niels Mailer, Daniel Anvidsson
1University of Southern Denmark, Odense, Denmark.

PS1.38 An Evaluation of the Clock Drift Phenomenon with the ActiGraph Accelerometer
John Schrader, Tiago Barreira, Catrine Tudor-Locke
1Oregon State University, Portland, Oregon, USA 2Tufts University, New York, USA 3Pennington Biomedical Research Center, Baton Rouge, Louisiana, USA.

PS1.39 Factors associated with consent and withdrawal in an accelerometer-based study conducted among breast cancer survivors
Terry Brey, Jef Vaillancet, Emily Ransmire, Brigid Lynch
1BC Cancer Agency, Vancouver, British Columbia, Canada, 2Athabasca University, Athabasca, Alberta, Canada, 3University of Western Australia, Crawley, Western Australia, Australia 4Cancer Council Victoria, Melbourne, Victoria, Australia

PS1.40 Physical activity levels and patterns in Chinese one-year-old children, an Early STOPP China study.
Maia Hattonman, Hon Mei, Elin Johansson, Yuelin Xiong, Lanlan Zhang, Jianjuan Zhang, Claude Marcis, Karolina Institutet, Solna, Sweden, 2Huazhong University of Science and Technology, Tongji Medical College, Wuhan, Hubei, China.

PS1.41 Accelerometer Based School Aged Children’s Physical Activity Variability Patterns: a Longitudinal Analysis during Schooldays
Xia Li, Patricia Kearney, Eimear Kearney, Janas Harrington, Tony Fitzgerald
1University College Cork, Cork, Ireland

PS1.42 Bike-train measurement study: Measuring physical activity in children with accelerometers, GPS and machine-learned classifiers
Katharine Ellis, Jacqueline Kerr, Sueeta Godbole, Eileen Johnson, Gert Lanckriet
1University of Southern Denmark, Odense, Denmark.

PS1.43 Activity monitoring as an outcome measure in total knee arthroplasty: Reference data and comparison with healthy controls.
BPL Grimm, Sonia Ahmadinezhad, Mathijss Lipperts, Rachel Siden, Ide Heyligers
1ARHORS Foundation, Aami-Orbis Medical Center, Heerlen, Netherlands, 2Zuyd University of Applied Science, Heerlen, Netherlands, 3St. Anna Hospital, Herne, Germany.

PS1.44 Body acceleration as indicator for walking economy in an ageing population
Gianluca Veneri, Alberto Bonomi, Klaas Westerbergen
1Maastricht University, Maastricht, Limburg, Netherlands, 2Philips Research Laboratories, Eindhoven, Netherlands.

PS1.45 Ecological Validity of a Random Forest Activity Classifier for Wrist-Mounted Accelerometer Data
Stewart Troop, Toby Pavly, Siwan Gomersall, Bronwyn Clark
1Queensland University of Technology, Queensland, Australia 2University of Queensland, Queensland, Australia.

PS1.46 Calibration of the ActiGraph GT3X+ accelerometer for the estimation of physical activity intensity in children with intellectual disabilities
Atiene Magny, Victoria Perezpresa, Craig Melville
1University of South Australia, South Australia, Australia.

PS1.47 Comparison of hip and low back worn Arityx AX3 and GT3X+ activity monitors
Jan Brand, Niels Mailer, Daniel Anvidsson
1University of Southern Denmark, Odense, Denmark.

PS1.48 An Evaluation of the Clock Drift Phenomenon with the ActiGraph Accelerometer
John Schrader, Tiago Barreira, Catrine Tudor-Locke
1Oregon State University, Portland, Oregon, USA 2Tufts University, New York, USA 3Pennington Biomedical Research Center, Baton Rouge, Louisiana, USA.

PS1.49 Factors associated with consent and withdrawal in an accelerometer-based study conducted among breast cancer survivors
Terry Brey, Jef Vaillancet, Emily Ransmire, Brigid Lynch
1BC Cancer Agency, Vancouver, British Columbia, Canada, 2Athabasca University, Athabasca, Alberta, Canada, 3University of Western Australia, Crawley, Western Australia, Australia 4Cancer Council Victoria, Melbourne, Victoria, Australia

PS1.50 Physical activity levels and patterns in Chinese one-year-old children, an Early STOPP China study.
Maia Hattonman, Hon Mei, Elin Johansson, Yuelin Xiong, Lanlan Zhang, Jianjuan Zhang, Claude Marcis, Karolina Institutet, Solna, Sweden, 2Huazhong University of Science and Technology, Tongji Medical College, Wuhan, Hubei, China.

PS1.51 Accelerometer Based School Aged Children’s Physical Activity Variability Patterns: a Longitudinal Analysis during Schooldays
Xia Li, Patricia Kearney, Eimear Kearney, Janas Harrington, Tony Fitzgerald
1University College Cork, Cork, Ireland

PS1.52 Bike-train measurement study: Measuring physical activity in children with accelerometers, GPS and machine-learned classifiers
Katharine Ellis, Jacqueline Kerr, Sueeta Godbole, Eileen Johnson, Gert Lanckriet
1University of Southern Denmark, Odense, Denmark.

PS1.53 Activity monitoring as an outcome measure in total knee arthroplasty: Reference data and comparison with healthy controls.
BPL Grimm, Sonia Ahmadinezhad, Mathijss Lipperts, Rachel Siden, Ide Heyligers
1ARHORS Foundation, Aami-Orbis Medical Center, Heerlen, Netherlands, 2Zuyd University of Applied Science, Heerlen, Netherlands, 3St. Anna Hospital, Herne, Germany.
Wednesday June 10th

16:15–17:30  Poster Session 2:
  
  **PS2.1** A comparison of the activPAL and ActiGraph thigh and waist inclinometer functions for identifying lying, sitting and upright postures
  Charlotte Edwardson¹, Sarah Bunnewill², James Sanders³, Tom Yates¹
  Leicester Diabetes Centre, University of Leicester, Leicester, UK; ²Loughborough University, Leicestershire, England, UK.
  
  **PS2.2** Feature selection vs. Principal Component Analysis in multi-sensor estimation of energy expenditure
  Edward Fearon⁴, Kate Lyden⁵, Edward Melanson⁶
  ¹The University of Alabama, Tuscaloosa, Alabama, USA; ²The University of Colorado, Boulder, Colorado, USA.
  
  **PS2.3** Automated identification of waking wear time from continuously worn activPAL3 data: a SAS tool
  Elizabeth Winkler⁷, Gervieve Heal⁷, Sebastien Chastin⁸, Bodicat Danielle⁹, Edwardson Charlotte⁵
  ¹Universidad de Guanajuato, División de Ciencias e Ingenierías, Leon, Mexico, ²Universidad Nacional Autonoma de Mexico, Mexico City, Mexico.
  
  **PS2.4** Associations of Daily Weather Conditions with Accelerometer-Measured Physical Activity during School Days among Children
  Xia Li¹, Patricia Kearney¹, Eimear Kearney¹, Janas Harrington¹, Tony Fitzgerald¹
  ¹University College Cork, Cork, Ireland.
  
  **PS2.5** An interactive MATLAB GUI tool for graphical exploration of raw accelerometer data
  Jaroslaw Haretrak⁴, Marcin Straczewicz⁵, Jacek Urbanek⁴
  ¹Indiana University, Bloomington, Bloomington, Indiana, USA; ²Johns Hopkins Bloomberg School of Public Health, Maryland, USA.
  
  **PS2.6** Sampling frequency of accelerometer data collection affects the activity counts generated from the ActiLife Data Analysis Software
  Jan Brezniak⁴, Daniel Arvidsson⁴
  ¹University of Southern Denmark, Odense, Denmark.
  
  **PS2.7** Assessing velocity ranges using global positioning system data analysis in children: a new definition of sprinting in children
  Georges Bâsquet⁵, Abd-Elbasset Abaida⁶, Gregory Dupont⁵
  ¹Université de Lille, Lille, France; ²Université de Lille and Lille Olympique Sporting Club, Lille, France; ³Lille Olympique Sporting Club, Lille, France.
  
  **PS2.8** Effect of Wavelet and Scale on Accelerometer-Based Postural Transition Detection
  Aodhan Hickey¹, Brock Gainey¹, John Mathers¹, Lynn Rochester¹, Alan Godfrey¹
  ¹University College, Newcastle, England, UK.
  
  **PS2.9** Method for Accelerometry-Based Detection and Identification of Walking in Observational Studies
  Jacek Urbanek⁴, Vladim Zipurski⁴, Tamara Harris⁴, Nancy Glynn⁴, Jaroslaw Haretrak³, Ciprian Cioara⁴
  ¹Indiana University, Bloomington, Bloomington, Indiana, USA; ²Indiana University, Bloomington, Bloomington, Indiana, USA; ³University of Pittsburgh, Pittsburgh, Pennsylvania, USA; ⁴Indiana University Fairbanks School of Public Health, Indianapolis, USA; ⁵Indiana University Fairbanks School of Public Health, Indianapolis, USA.
  
  **PS2.10** Automatic Pattern Recognition of Functional Upper-Limb Activities Using Hidden Markov Models
  Adriana Vega-Gonzalez¹, Sergio Parra-Sanchez¹, Juan Manuel Gomez-Gonzalez¹, Irais Quintero-Ortega¹, Ebrizhast Mendez-Novelo¹, Mayra Cuellar-Cruz¹, Jorge Detgad-Garcia¹
  ¹Universidad de Guanajuato, División de Ciencias e Ingenierías, Leon, México; ²Universidad Nacional Autonoma de Mexico, Mexico City, Mexico.

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**PS2.11** Developing and validating generalizable intensity-based thresholds on raw accelerometer data for sedentary behaviour and light activity discrimination - a MAD approach
  Kishan Bakrania¹, Thomas Yates¹, Charlotte Edwardson¹
  ¹University of Leicester, Leicester, Leicestershire, England, UK.
  
  **PS2.12** Variability of Estimating Physical Activity Levels Employing Different Prediction Equations and Epoch Lengths Utilizing Actigraph GT3X in Children
  Mayumi Lee¹, Jung-Hwan Cho², Muncheong Choi³, Juye Min³, Kwanghee Lee⁴, Jaemyung Kim⁴
  ¹Kookmin University, Seoul, South Korea; ²Seoul Women’s University, Seoul, South Korea.
  
  **PS2.13** Functional Statistical Approaches for Actigraphy Data
  Vadim Zipurnik²
  ²Johns Hopkins Bloomberg School of Public Health, Maryland, USA.
  
  **PS2.14** Continuous monitoring of turning and its relation to Parkinson’s disease
  Martina Marcinić¹, Aner Weiss², Talia Herman², Fay Harali³, Jeffrey Hausdorff³
  ¹Oregon Health & Science University, Portland, Oregon, USA; ²Tel Aviv Sourasky Medical Center, Tel Aviv, Israel.
  
  **PS2.15** Knee Joint Angles and Spatio-Temporal Parameters Estimated via Wearable Inertial Sensors
  Sebastian Tesedo², Andrea Uml², Michael Walsh², Brendan O’Flynn², Danilo Demarchi²
  ¹Yerasma National Institute, University College Cork, Cork, Ireland; ²Politecnico of Torino, Torino, Italy.
  
  **PS2.16** Cross-sectional analysis of weekly levels and patterns of objectively measured physical behaviour with cardiometabolic health in middle-aged adults
  Christina Dillon¹, Catherine Phillips¹, Darren Daly¹, Alan Donnelly¹, Patricia Kearney¹, Ivan Perry⁴, Xia Li⁴, Kirsten Reinke⁴
  ¹University College Cork, Cork, Ireland; ²University of Limerick, Limerick, Ireland; ³University of Hertfordshire, Hatfield, Hertfordshire, England, United Kingdom.
  
  **PS2.17** Simulation of accelerometer data reduction choices on sample size and select physical activity and sedentary outcomes in older adults
  Scott Strath¹, Young Cho¹, Hotaka Maeda¹, Taylor Raviley¹, Nora Miller¹, Jeremy Steeves¹, Ann Leves⁵
  ¹University of Wisconsin-Milwaukee, Milwaukee, Wisconsin, USA.
  
  **PS2.18** A taxonomy of physical behaviour data for monitoring technology
  Sebastian Chastin¹, Alan Bourke², Eamonn Newman², Alan Smeaton², Dana Epstein³
  ¹Glasgow Caledonian University, Glasgow, Scotland, UK; ²Norwegian University of Science and Technology, Trondheim, Norway.
  
  **PS2.19** Behavioral periodicity detection from 24h waveform wrist accelerometry
  Simona Boerema¹, Mirka Evers¹, Miriam Cabrita¹, Miriam Vollenbroek¹, Hermie Hermens²
  ¹Glasgow Caledonian University, Glasgow, Scotland, UK; ²Norwegian University of Science and Technology, Trondheim, Norway.
  
  **PS2.20** Experience sampling and physical activity measurements to improve workday satisfaction
  Trondheim, Norway.

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**ICAMPAM2015**

University of Limerick, Limerick Ireland

10 –12 June 2015
PS2.24 Adherence to a 6-month multicomponent physical activation intervention in young men
Nicola Kajantie¹, Miakat Konttinen¹, Lauren Tudden¹, Petkia Simola¹, Riitta Pyka¹, Anna-Maja Jawo‰, Jaakko Tonteri¹, Matti Mantysaari¹, Juhana Röning¹, Timo Jämsä¹, Raju Korpeleinen¹
¹University of Oulu, Oulu, Finland, ²Oulu Deaconess Institute, Oulu, Finland, ³Center for Military Medicine, Finnish Defense Forces, Helsinki, Finland.

PS2.25 Effects of different ActiLife software Wear Time Validation settings on data scoring in an intervention study of children with spastic cerebral palsy wearing Actigraphs
Emiel Sneekes¹, Fábiénne Schasfoort¹, Hervin Horemans¹, Johannes Bußmann²
¹Erasmus MC University Medical Centre, Rotterdam, Netherlands.

PS2.26 Bag of Words Model for Accelerometer Activity Classification
Scott Crouter¹, Kevin Amaro², Ping Chen², Wei Ding²
¹The University of Tennessee Knoxville, Knoxville, Tennessee, USA, ²University of Massachusetts Boston, Massachusetts, USA.

PS2.27 Measuring sedentary behaviour in people with back pain
Ciara Campbell¹, Damien Kerr¹, Suzanne McCrory¹, Marie Murphy¹, Mark Tully²
¹Ulster University, Jordanstown, Jordanstown, Northern Ireland, ²Northern Ireland.

PS2.28 Validity in young adults of automated detection of waking wear from hip-worn accelerometer data with a continuous wear protocol
Joanne McNeilly¹, Élisabeth Winkler¹, Genevieve Healy², James Slater³, Peter Eastwood³, Leon Straker³
¹Curtin University, Bentley, Western Australia, Australia, ²The University of Queensland, Queensland, Australia, ³University of Western Australia, Western Australia, Australia.

PS2.29 An Objective Actigraphy Data Analysis Algorithm to Identify Novel Endpoints
Rebecca Spencer¹, Arnaud Moreau², Barry Peterson²
¹University of Massachusetts, Amherst, Massachusetts, USA, ²Philips Respironics.

PS2.30 Comparison of the Heart Rate Readings between a Photoplethysmography device and Electrocardiography
Lay Khoon Lau¹, Alex Ong¹, Joseph Hamilz², Hock Soon Seah¹, Yiong Huak Chan⁴, Mallya Jagadish Ullal¹, Denis Martin², John Dixon³
¹Republic Polytechnic, Singapore, ²University of Massachusetts, Amherst, Massachusetts, USA, ³Nanyang Technological University, Singapore, ⁴National University of Singapore, Singapore, ⁵Thohk Tech Pait Hospital, Singapore, ⁶Teeside University, Newcastle, England, UK.

PS2.31 SenseWheel: Development of a device to measure everyday push styles of wheelchair users
Catherine Holloway¹, Andrew Symonds¹, Stephen Taylor¹, Michael Mentink¹, Peter Smitham¹, Tatsuto Suzuki¹
¹University College London, London, England, UK.

PS2.32 A survey of the technical capabilities of currently available commercial physical activity monitors
Iren Kedder²
¹Sheffield Hallam University, Sheffield, South Yorkshire, England, UK.

PS2.33 Interactive ambulatory assessment of physical activity in daily life
Jürgen Stumpp¹, Jörg Ottenbacher¹, Ulrich Großmann¹, Stefan Hey¹
¹Movisens GmbH, Karlsruhe, Germany.

PS2.34 (Indirect) observation methods for physical activity behavior
Pedro Silva¹, Sergio Soares¹, Jorge Mota¹, Paula Viana², Pedro Carvalho²
¹Communications, University of Porto, Porto, Portugal, ²Polytechnic of Porto, School of Engineering, Porto, Portugal.

PS2.35 The Assessment of Stride Frequency in Running using a Single Accelerometer
Robin Heavy¹, Niamh Wheaton¹, Ian Kenny¹, Andrew Harrison¹
¹Department of Physical Education and Sport Sciences, University of Limerick, Limerick, Ireland.
**Thursday June 11th**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session 3: PS3</th>
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<tr>
<td>11:45–13:00</td>
<td>Characterizing physical activity and sedentary behavior change in response to a step goal&lt;br&gt;Ann Swartz¹, Michael Widlansky², Chi Cho¹, Nora Miller¹, Whitney Welch³, Scott Strath¹&lt;br&gt;¹University of Wisconsin-Milwaukee, Milwaukee, Wisconsin, USA, ²Medical College of Wisconsin Milwaukee, Wisconsin, USA.</td>
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<td>Determinants of Prolonged Length of Stay and Functional Decline of Older Hospitalised Patients&lt;br&gt;Ruth McCullogh¹, Christina Dillon¹, N. Frances Horgan¹, Suzanne Timmins¹&lt;br&gt;¹University College Cork, Cork, Ireland, ²Royal College of Surgeons in Ireland, Dublin, Ireland.</td>
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<td>Surgical procedure effect on short and long term post-surgery activity levels of total hip arthroplasty patients&lt;br&gt;Vassilios Vantzis¹, Laura Covillº, John Nettour¹, Graig Mahoney¹&lt;br&gt;¹Des Moines University, Iowa, USA, ²Iowa Ortho, Iowa, USA.</td>
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<td>Reallocation of sleep, sedentary, and active behaviors on waist circumference in breast cancer survivors: An isometabolic substitution analysis&lt;br&gt;Terry Boyle¹, Jeff Valiance², Matthew Burman², Brigid Lynch³&lt;br&gt;¹BC Cancer Agency, Vancouver, British Columbia, Canada, ²Athabasca University, Athabasca, Alberta, USA, ³Athabasca Cancer Agency, British Columbia, Canada.</td>
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<td>Sedentary behavior in chronic post stroke patients&lt;br&gt;Johannes Bussmann¹, Malou Fanchamps¹, Rita van den Berg-Emo¹&lt;br&gt;¹Erasmus MC University Medical Center, Rotterdam, Netherlands.</td>
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<td>Changes in accelerometer measurements following surgery for lumbar spinal stenosis related more to self-report outcomes than laboratory measures&lt;br&gt;Christy Tomkins-Lane¹, Matthew Smude¹, Ming-Chih Kao¹, William Haskell¹, Matthew Burman², Agnes Ma³&lt;br&gt;¹Stanford University, Stanford, California, USA, ²Arizona State University, Tempe, Arizona, USA.</td>
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<td>Non-Hodgkin’s lymphoma survivors’ health-related quality of life and time spent in sleep, sedentary, and active behaviors: An application of the isometabolic substitution paradigm&lt;br&gt;Jeff Valiance¹, Brigid Lynch¹, Matthew Burman², Terry Boyle²&lt;br&gt;¹Athabasca University, Alberta, Canada, ²Cancer Council Victoria, Melbourne, Victoria, Australia, ³Athabasca Cancer Agency, British Columbia, Canada.</td>
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<td>A pedometer based motivational intervention to increase PA following total hip replacement&lt;br&gt;Bern Standfield¹, Artaban Jeldi¹, David Allen², Angela Deakin³, Margaret Grant¹, Malcolm Granat², David McDonald³&lt;br&gt;¹Glasgow Caledonian University, Glasgow, Scotland, UK, ²Golden Jubilee National Hospital, Clydebank, Dunbartonshire, UK, ³University of Salford, Manchester, England, UK.</td>
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<td>Does the accelerometer improve compliance with recommended physical activity in obese children?&lt;br&gt;Marian Steimach¹, Piotr Pratas¹, Edyta Tenderer-Banasik¹, Marta Piszczekowska¹, Elżbieta Kuczyńska-Sarutycz², Anna Wasilewska²&lt;br&gt;¹Poznań John Paul II State School of Higher Education in Biała Podlaska, Poland, ²Medical University of Białystok, Białystok, Poland.</td>
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<td>Feasibility and pre-operative activity patterns in pancreatic and hepatobiliary cancer survivors undergoing surgical treatment&lt;br&gt;David Connolly¹, Andrea Murray³, Nita Gusani³&lt;br&gt;¹Northwestern University, Illinois, USA, ²Penn State Hershey Cancer Institute, Pennsylvania, USA.</td>
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**Poster Session 3: PS3**

**PS3.11** How can commercially available physical activity monitors be used in therapy? Study design for the development of a decision aid<br>Kim Van Wyk¹, Suey Braun¹, Melanie Keyn¹, Emmylou Beeckman¹, Albine Moser¹, Raymond Swirekes¹, Anna Beurskens¹<br>¹Zuyd University of Applied Sciences, Heerlen, Netherlands.

**PS3.12** An 8 week Targeted Functional Rehabilitation Intervention for the Treatment of Chronic Neck Pain: A Pilot Study<br>Claire O’Riordan¹, John Nelson¹, Pepijn Van De Ven¹, Amanda Clifford¹<br>¹University of Limerick, Limerick, Ireland.

**PS3.13** Head and trunk accelerations during gait as a measure of walking stability in Parkinson’s disease?<br>Christopher Buckley¹, Lynn Rochester¹, Brook Gains¹, Claudia Mazz¹<br>¹University of Sheffield, Sheffield, South Yorkshire, England, UK, ²Newcastle University, Newcastle, England, UK.

**PS3.14** Using Smart Phone Data to detect fall risk<br>Laura Combe¹, Aléth Hanning¹, Christopher McCuaig², Damien Meene¹, Pepijn Van de Ven¹, Susan Cooke¹<br>¹University of Limerick, Limerick, Ireland, ²St Vincents University Hospital, Dublin, Ireland.

**PS3.15** Choosing a criterion for a valid day of accelerometer monitoring in adults with mental illness<br>Justin Chapman¹, Wendy Brown¹, Nicola Burton¹<br>¹The University of Queensland, Queensland, Australia.

**PS3.16** Exploring the relationship between motor and functional recovery in the first six months following right hemisphere stroke using a multilevel approach to data analysis<br>Gaelar Steen¹<br>¹Brunel University, Middlessex, England, UK.

**PS3.17** Accelerometer vector magnitude cut-points for older adults with osteoporosis<br>Ing-Mari Dohrn¹, Agneta Ståhle¹, Maria Hagströmer¹<br>¹Karolinska Institutet, Solna, Sweden.

**PS3.18** Accelerometer Cut Points for Physical Activity Assessment of Older Adults with Parkinson’s Disease<br>Håkan Neder¹, Martin Benka Wallen¹, Erika Franzén¹, Agneta Ståhle¹, Maria Hagströmer¹<br>¹Karolinska Institutet, Solna, Sweden.

**PS3.19** Validation of the ActiPAL Activity Monitor for Sedentary and Physical Activity Behavior in the Rheumatoid Arthritis population<br>Louise Larkin¹, Joanne Shanahan¹, Birgitta Nordin², Charles Brand¹, Alexander Fraser¹, Nicolet Kennedy¹<br>¹University of Limerick, Limerick, Ireland, ²Karolinska Institutet, Solna, Sweden.

**PS3.20** Hesitation between sit to stand and walking is a measurable characteristic of free living mobility: A comparison of healthy and stroke populations<br>Daniel Rafferty¹, Malcolm Granat², Kristin Holland³, Andrew Kerr¹<br>¹Glasgow Caledonian University, Glasgow, Scotland, UK, ²University of Salford, Manchester, England, UK, ³University of Strathclyde, Glasgow, Scotland, UK.

**PS3.21** Physical behavior among geriatric inpatients in relation to functional level<br>Kristin Taelarinen¹, Sigurd Evensen¹, Perrielle Thingstad¹, Jorunn Helbostad¹, Ingrid Saltvedt¹, Helga Helseth¹, Randi Grung¹, Olav Stetvold¹<br>¹Norwegian University of Science and Technology, Trondheim, Norway, ²Norwegian University of Science and Technology, Trondheim, Norway, ³St.Olavs Hospital, Trondheim, Norway, ⁴St.Olavs Hospital, Trondheim, Norway.
PS3.22 A new effective model of exercise referral scheme in primary care to promote physical activity among inactive patients presenting with chronic conditions

Carme Martin-Borrallo¹, Anna Puig-Ribera¹, Angela Mª Beltran Hernández², Elena Martinez Ramos³, Jordi Real Catus³, Merce Solà Gonzàlez¹, Eva Castillo Ramos¹, Ana María Guevara Bèrtola¹, Sandra Corta Sánchez⁴, Mª Jesus Valderrame Sánchez⁴, Marta Prats Guardiola⁵, Arantxa Iribarne Zugarro¹, Jordi Martí Carbó³, Marta Villanueva Pérez⁶, SEDEACTIV Group⁷³·

¹FPCEE-Blanquerna-Ufl, Barcelona, Spain, ²Universitat de Vic - Universitat Central de Catalunya, Barcelona, Spain, ³Lifestyles Study Group, RedCapP. Institut d’Investigació en Atenció Primària Jordi Gol, Barcelona, Spain, ⁴Primary Healthcare Research Unit of Barcelona and Lleida, Primary Healthcare Research Institute IDIP, Jordi Gol, Barcelona, Spain, ⁵Primary Healthcare Centre Les Planes, Barcelona, Spain, ⁶Primary Healthcare Centre Santa Coloma de Cervelló, Barcelona, Spain, ⁷Primary Healthcare Centre Lluís Millet, ⁸Primary Healthcare Centre Carles Ribat, ⁹Primary Healthcare Research Social ¹ Primary Healthcare Research Unit of Barcelona, Primary Healthcare Research Institute IDIP, Jordi Gol.

PS3.23 Development of tailored feedback strategies to improve effectiveness of mobile activity coaches

Renée Achterkamp³, Mirjam M. R. Vollenbroek-Hutten², Hermie Hermens²

²Roessingh Research and Development, Enschede, Netherlands

PS3.24 Directly measured physical activity and heart rate variability among workers with and without musculoskeletal disorders.

Eugene Vynograd¹, David Hallman¹, Svend Erik Mathiassen²

¹University of Gävle, Gävle, Sweden.

PS3.25 Steps/day Screening Strategy and Thresholds for a Clinical Exercise Trial

Catrine Tudor-Locke¹, John Schuna¹, Damon Swift², Sandra Larrivée¹, Corby Martin³, William Johnson³, Timothy Church²

¹Pennsylvania Biomedical Research Center, Baton Rouge, Louisiana, USA, ²East Carolina University, Greenville, North Carolina, USA.

PS3.26 Habitual activity levels of patients after total hip arthroplasty compared to healthy controls: Small difference in total levels but large in temporal event distribution.

Bernd Conrad¹, Rachel Senden², Matthias Lippert³, Ida Heyligers⁴

¹AHORSE Research Foundation, Atrium-Orbis Medical Center, Heerlen, Netherlands, ²National Research Centre for the Working Environment, Copenhagen, Denmark.

PS3.27 Objectively measured physical activity and sedentary behaviour in older adults: diurnal patterns and their determinants

Claudio Sartini¹, ²S Gaya Wannamethee¹, Steve Iliffe¹, Richard Morris¹, Sarah Ash¹, Lucy Lennihan¹, Peter Whincup¹, Barbara Jefferis²


PS3.28 Is there an association between objectively measured occupational sitting time and intense neck-shoulder pain among blue-collar workers?

David Hallman¹, Nidhi Gupta¹, Svend Erik Mathiassen², Andreas Holtermann²

¹University of Gävle, Gävle, Sweden, ²National Research Centre for the Working Environment, Copenhagen, Denmark.

PS3.29 Determining the context of sedentary behaviour in older adults using lifelogging body worn sensors (timelapse camera, activityPAL).

Calum Leask¹, ²Juliet Harvey¹, Dawn Skelton¹, ³Sebastian F Chastin²

¹Glasgow Caledonian University, Glasgow, Scotland, UK, ²Institute of Biomedical Engineering, University College London, London, England.

PS3.30 Comparison between a self-reported and objective measure of sedentary behaviour in persons post-stroke

Mona Asslund¹, ²Bård Bogen², Rolf Moe-Nilssen²

¹University of Bergen, Bergen, Norway.

PS3.31 A feasibility study to reduce sedentary behaviour in frail older adults using activity monitors with real time and follow-up feedback

Juliet Harvey¹, ²Sebastian FM Chastin², ³Dawn Skelton¹

¹Glasgow Caledonian University, Glasgow, Scotland, UK.
**Thursday June 11th**

**15:15–16:30**

**Poster Session 4:**

**PS4.1 Differentiating lying down from sitting using a single activPAL³ monitor: A pilot study**

**Philippa Dall¹, Kate Lyden², Dinesh John³, Malcolm Granat⁴**

1Glasgow Caledonian University, Glasgow, Scotland, UK; 2University of Colorado, Boulder, Colorado, USA; 3Northeastern University, Boston, Massachusetts, USA; 4Temple University, Manchester, England, UK.

**PS4.2 More sedentary time is associated with slower walking speed, The Maastricht Study**

**Jeroen van der Velde¹, Hans Savelberg¹, Nicholaas Schaper², Julienne van der Berg¹, Coen Stouthouwer³, Wim Willems⁴, Miranda Schram⁴, Simone Sep⁴, Carla van der Kallen⁵, Ronald Henri⁵, Pieter Dagnelie⁶, Tim Heege van Geel⁷, Annemarie Koster²**

1Maastricht University, Maastricht, Limburg, Netherlands; 2Maastricht University Medical Centre, Maastricht, Limburg, Netherlands.

**PS4.3 Measuring occupational sitting time, transitions and step counts in free living conditions of sedentary workplaces: Criterion validity of a mobile app**

**Anna Puj-Ribes³, Judit Blot-Reig⁴, Ruth Contreras⁴, Joan Carles Marton⁵, Jim McKenna⁶**

1Universitat de Vic-Universitat Central de Catalunya, Barcelona, Spain; 2Leeds Beckett University, Leeds, England, UK.

**PS4.4 Measuring sedentary accumulation with non-postural accelerometers: potential biases from differential misclassification**

**Elisabeth Winkel¹, Genevieve Healy¹, Sebastien Chastin², Neville Owen³, David Dunstan⁴**

¹The University of Queensland, Queensland, Australia; 2Glasgow Caledonian University, Glasgow, Scotland, UK; 3Baker IDI Heart and Diabetes Institute, Melbourne, Victoria, Australia.

**PS4.5 Kids are not little adults: Evidence supporting a 2.0 MET threshold for sedentary behaviour in children**

**Pedro Saint-Maurice¹, Youngwon Kim¹, Gregory Webk¹, Glenn Gaesser²**

¹Iowa State University, Iowa, USA; 2Arizona State University, Tempe, Arizona, USA.

**PS4.6 Concurrent validity of energy monitoring and wearable cameras as measures of TV viewing: a pilot study**

**Adam Louden¹, Lauren Sherar², Dale Elsiger³**

1Loughborough University, Loughborough, Leicestershire, UK.

**PS4.7 The Effects of Altering Sitting Behavior on Energy Expenditure and Muscle Activation**

**Nicholas Lerm³, Scott Strath¹, Kevin Keenan¹, Bethany Forseth¹, Ann Swartz¹**

1University of Wisconsin-Milwaukee, Wisconsin, Milwaukee, USA.

**PS4.8 Relationship of a comprehensive sedentary behaviour measure (SIT-Q) with activity energy expenditure assessed via doubly-labelled water**

**Brigid Lynch¹, Christine Friedenreich², Neville Owen³, David Dunstan⁴, Reini Rabasa-Lhoret⁵, Farah Bhandara⁶, Paula Robinson⁶, Ilona Czirrma⁶**

1Cancer Council Victoria, Melbourne, Victoria, Australia; 2Arizona State University, Tempe, Arizona, USA; 3University of Queensland, Queensland, Australia; 4Baker IDI Heart and Diabetes Institute, Melbourne, Victoria, Australia; 5Université de Montréal, Montréal, Quebec, Canada.

**PS4.9 Investigating the accuracy of the 24-hour recall method in assessing sedentary behaviour: Physical Activity Measurement Survey (PAMS) project**

**Youngwon Kim¹, Gregory Webk¹**

¹Iowa State University, Iowa, USA.

**PS4.10 Correlation and agreement between a composite self-report measure and activPAL³ derived sitting time: AusDiab 3**

**Elisabeth Winkel¹, Brigid Lynch¹, Bronwyn Clark³, Paul Gardiner¹, Genevieve Healy¹, David Dunstan³, Neville Owen⁴**

¹The University of Queensland, Queensland, Australia; 2Baker IDI Heart and Diabetes Institute, Melbourne, Victoria, Australia; 3Baker IDI Heart and Diabetes Institute, Melbourne, Victoria, Australia.

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**PS4.11 Validity and reliability of the accelerometer-determined sedentary time against activPAL in a sample of bus drivers**

**Veronica Varela Mata¹, Tom Yates¹, David Stensel¹, Stuart Biddle², Clare Clemes³**

¹Loughborough University, Loughborough, Leicestershire, UK; ²Institute of Sport, Exercise & Active Living (SEAL), Victoria University, Melbourne, Victoria, Australia.

**PS4.12 Repurposing the LUMOback posture sensor as a sedentary behaviour self-monitor: A controlled validation study**

**James Sanders¹, Charlotte Edwards², Sarah Burnewell³, Thomas Yates¹, Dale Essigger²**

1Loughborough University, Loughborough, Leicestershire, UK; 2NHM Loughborough Hospital, Loughborough, Leicestershire, UK.

**PS4.13 Validation of two physical activity questionnaires and an inactivity questionnaire with accelerometry**

**Ken Hovestad¹, Tim Räsänen², Jared Maestu², Jaak Jürimäe³**

¹University of Tartu, Tartu, Estonia; 2University of Tartu, Tartu, Estonia.

**PS4.14 A comparison of young children’s physical activity levels and sedentary time measured via Actical and ActiGraph accelerometers**

**Leigh Vanderford¹, Patricia Tucker², Natalja D’Alimonte³, Nicole Proudfoot⁴, Brian Timmons⁵**

¹University of Western Ontario, London, Ontario, Canada; ²McMaster University, Hamilton, Ontario, Canada; ³Imperial College, London, UK; ⁴University of North Carolina, Chapel Hill, North Carolina, USA; ⁵University of South Carolina, Columbia, South Carolina, USA.

**PS4.15 Bidirectional associations between adiposity, sedentary behaviour and physical activity: a longitudinal study in children**

**Chao Tanaka¹, Yanne Janssen², Mark Pearce⁴, Katrina Parkinson⁴, Laura Basterfield⁵, Ashley Adamson⁶, John Reddy⁷**

¹J. F. Oberlin University, Machida, Tokyo, Japan; ²University of Sheffield, Sheffield, Scotland, UK; ³Newcastle University, Newcastle, England, UK.

**PS4.16 Occupational physical activity and energetic work load of Finnish police officers**

**Sanne Montemeren³, Janne Halonen⁴, Harri Lindholm⁵, Jorma Niemi⁶, Sirpa Luus⁷**

³Finnish Institute of Occupational Health, Helsinki, Finland; ⁴The East-Uusimaa Police / University of Eastern Finland, Joensuu, Finland.

**PS4.17 Quantifying Time Spent Sitting, Standing And Stepping At University With The Actival Monitor**

**Arturo Vega-Gonzalez¹, Mayra Cuellar-Cruz², Juan Manuel Gomez-Gonzalez³, Irais Quintero-Ortega⁴, Lizbeth Mendoza-Novelo⁵, Jorge Delgado-Garcia⁶**

¹Universidad de Guanajuato, División de Ciencias e Ingenierías, ²Universidad de Guanajuato, Leon, Mexico, ³Universidad Autonoma de Mexico, Mexico City, Mexico, ⁴Universidad Nacional Autonoma de Mexico, Mexico City, Mexico, ⁵University of Limerick, Limerick, Ireland; ⁶University of Connecticut, Storrs, Connecticut, USA.

**PS4.18 Classification of occupational activity categories using accelerometry: NHANES 2003-2004**

**Jeremy Steeves¹, Catrine Tudor-Locke², Rachel Murphy³, Scott Strath³, George King⁴, Eugene Fitzhugh⁵, Tamara Harris⁶**

¹University of Wisconsin-Milwaukee, Milwaukee, Wisconsin, USA; ²Pennsylvania Biomedical Research Center, Baton Rouge, Louisiana, USA; ³National Institute on Aging, Maryland, USA; ⁴University of Texas at El Paso, El Paso, Texas, USA; ⁵University of Tennessee, Knoxville, Tennessee, USA.

**PS4.19 Measuring sedentary behaviour and physical activity in truck drivers: Different approaches to data reduction**

**John Pace¹, Stewart Trost², Nicholas Gilson¹**

¹University of Wisconsin-Milwaukee, Milwaukee, Wisconsin, USA, ²University of Tennessee, Knoxville, Tennessee, USA.

**PS4.20 Daily physical activity and sedentary behavior patterning evaluated by triaxial accelerometer in Japanese adults**

**Tsuguhito Tanaka¹, Takafumi Ando¹, Tomoko Aoyama¹, Kazuko Ishikawa-Takata¹, Sho Nagayoshi²**

¹National Institute of Health and Nutrition, Japan; ²Omron Healthcare Co. Ltd.
PS4.21 Comparison of actigraph-based and self-reported level of physical activity and sitting time in young men
Rikka Ahola¹, Misa Niemelä¹, Rajja Korpeleanen¹, Ritja Pykä², Anna-Maija Jaunola¹, Lauri Tuovinen¹, Peeka Sinttila³, Jaakko Tomberg¹, Matti Mantysaari³, Srinka Kinenen-Kukkuannuku³, Juha Röning³, Timo Jämäsil³.
¹University of Oulu, Oulu, Finland, ²Oulu Deaconess Institute, Oulu, Finland, ³Centre for Military Medicine, Finnish Defense Forces, Helsinki, Finland.

PS4.22 Comparison of Actigraph GT3X, Hookie AM20 and Polar Active physical activity measurement devices under free-living conditions
Anna-Maija Jaunola¹, Jaanne Kulma³, Haro Hakonen², Henri Vähä-Yrjä¹, Juha Auvinen¹, Rajja Korpeleanen¹, Harri Sevainen¹, Tuja Tammelin², Timo Jämäsil³, Rikka Ahola¹.
¹University of Oulu, Oulu, Finland, ²UCREP - Research Center for Sport and Health Sciences, Jyväskylä, Finland, ³aille Institute, Tampere, Finland, ⁴Oulu Deaconess Institute, Department of Sports and Exercise Medicine, Oulu, Finland, ⁵Medical Imaging, Physics and Technology (MIPIT) consortium, University of Oulu, Finland.

PS4.23 Association Between Body Mass Index and Objectively Measured Sitting Patterns at Work and During Leisure Among Blue-Collar Workers
Nishi Gupta², David Hallman³, Swen Erik Mathassens³, Mette Korsgeh, Andreas Holtermann¹.
¹National research centre for the working environment, Copenhagen, Denmark, ²University of Gävle, Gävle, Sweden.

PS4.24 Changes in Objectively Measured Physical Activity and Sedentary Behaviour in Adolescent Females Over A 12 Month Period.
Graine Hughes¹, Kieran David², Deirdre Harrington³, Ailish Harrigan³, Helen Purtil³, Sarah Kelly¹, Niall Moynihan¹, Ciadhgh O’Gorman¹, Alan Donnelly¹.
¹Department of Physical Education and Sport Sciences, University of Limerick, Limerick, Ireland, ²Leicester Diabetes Centre, University of Leicester, Leicester, UK, ³Graduate Entry Medical School, University of Limerick, Limerick, Ireland, ⁴Department of Mathematics and Statistics, University of Limerick, Limerick, Ireland, ⁵Institute of Technology Carlow, School of Health and Human Performance, Dublin City University, Dublin, Ireland.

PS4.25 Convergent validity of wrist acceleration and physical activity energy expenditure from combined heart-rate and movement sensing
Fiona White¹, Katie Westgate¹, Simon Griffin¹, Nick Wareham¹, Soren Brage¹.
¹Medical Epidemiology Unit, Cambridge, UK.

PS4.26 Relevance of age, BMI, and movement detection threshold to accelerometer wakening of elderly consumers.
David Burton¹, Chongyi Shi², Kelly Everson³, Michael LaMonte⁴, I-Min Lee⁵, Eileen Rillamas-Sun², Marika Stefanick³, Lesley Tornberg², Matti Mäntysaari³, Sandra Curta Sancho⁶, M Jesús Valderas Sanchez⁶, Marta Prats Guardiola⁶, Jordi Martí Carbonell⁶, Marta Villanueva Perez⁶, SEDESTACTIV Group⁴.
¹FPCEE Blanquerna–URL, Barcelona, Spain, ²University of Vic - Universitat Central de Catalunya, Barcelona, Spain, ³Lifestyles Study Group, RedKIPP, Institut Universitari d’Investigació en Atenció Primària Jordi Gol, Barcelona, Spain, ⁴Primary Healthcare Centre Can Riba, Primary Healthcare Centre Sant Joan Deu, Primary Healthcare Centre Vote the City, Barcelona, Spain, ⁵Primary Healthcare Centre Santa Coloma de Cervello, Barcelona, Spain, ⁶Primary Healthcare Centre Carles Ribas, ⁷Primary Healthcare Centre Comelà Luis Milet, ⁸Primary Healthcare Centre Passeg Sant Joan, ⁹Primary Healthcare Centre Vilanova, 10 Primary Healthcare Centre Viladecans, ¹¹Research Unit of Barcelona, Primary Healthcare Research Institute IDIAP Jordi Gol, Barcelona, Spain.

Peter Ladlow¹, Tom Nightingale¹, Polly McGuigan¹, Alexander Bennett², Russ Copping³, James Bilson⁴.
¹University of Bath, Bath, UK, ²Defence Medical Rehabilitation Centre, Leatherhead, Surrey, UK.

PS4.28 Quality sleep is associated with overnight metabolic rate in healthy elderly
Giulio Valentini¹, Alberto Bonomi², Klaas Westerterp¹.
¹Maastricht University, Maastricht, Limburg, Netherlands, ²Philips Research Laboratories, Eindhoven, Netherlands.

PS4.29 Step/min cut-points Based on Walking Do Not Predict Intensity of Non-Walking Activities
David Bassett¹, Scott Croucher⁵, Dinesh John⁵.
¹University of Tennessee, Knoxville, Tennessee, USA, ²Northeastern University, Boston, Massachusetts, USA.

PS4.30 Investigating the energetic cost of turning: influence of speed, angle and aerobic fitness
Melissa Meharry¹, Rory Wilson³, Mark Holton¹, Kelly Mackintosh³.
¹Swansea University, Swansea, Wales, UK, ²University of Limerick, Limerick Ireland

PS4.31 Energy Expenditure Estimation using the Accelerometer of the Smartphone
Josea Soled¹, Susana Camren², Bruno Aguiar³, Tiago Rocha¹, Irén Sousa¹, ²Associação Haushole Portugal Research, Porto, Portugal.
³Associación Haushole Portugal Research, Porto, Portugal.

PS4.32 Distinguishing periods of wake during overnight sleep using the activPAL activity monitor
Kate Luden¹, Dinesh John⁵, Philipa Da³, Malcolm Granán⁴, Thomas Moehlman², Christopher Depner², Kenneth Wright², Edward Melanson¹.
¹University of Colorado, Anschutz Medical Campus, Aurora, Colorado, USA, ²Northeastern University, Boston, Massachusetts, USA, ³Glasgow Caledonian University, Glasgow, Scotland, UK, ⁴University of Southampton, Manchester, England, UK, ⁵University of Colorado, Boulder, Colorado, USA.

PS4.33 Accelerometry + GPS: Assessment of Children’s Free-Play Intensity and Location During Recess
Kimberly Cleveridge¹, Gaurav Sinha¹, Ryan Ragan², Matthew Jackson¹, Cheryl Howe².
¹Ohio University, Athens, Ohio, USA, ²Middle Tennessee State University, Murfreesboro, Tennessee, USA.

PS4.34 Relating physical activity, pleasure, and daily satisfaction of older adults: a pilot study
Mireia Cabo³, Monique Topaz³, Milam Valdespino³.
³Reoessings Research and Development, Enschede, Netherlands.

PS4.35 Influence of acute physical activity on blood pressure: Insights from continuous sensing
Andrew Kingsnorth¹, Dale Esslieger¹.
¹Loughborough University, Loughborough, Leicesterhire, England, UK.

PS4.36 Validation of the activPAL micro
Cormac Powell¹, Brian Carson¹, Kieran Davud¹, Alan Donnelly¹.
¹Department of Physical Education and Sport Sciences, University of Limerick, Limerick, Ireland.

PS4.37 Who spent more time doing daily sitting? Analysis of sedentary behavior in primary healthcare patients who are overweight or mildly obese
Carme Martin-Borràs¹, Anna Puig-Ribens¹, Angela M Beltran-Hernandez¹, Elena Martinez Ramos¹, Jordi Real Cagarº, Merce Solà Gons±, Eva Castilla Ramos¹, Ana Maria Guevara Biera³, Sandra Curta Sancho³, M Jesús Valderas Sanchez³, Marta Prats Guardiola³, Arantxa Iturbide Zugasti³, Jordi Martí Carbonell³, Marta Villanueva Perez³, SEDESTACTIV Group³.
¹FPCEE Blanquerna–URL, Barcelona, Spain, ²University of Vic - Universitat Central de Catalunya, Barcelona, Spain, ³Lifestyles Study Group, RedKIPP, Institut Universitari d’Investigació en Atenció Primària Jordi Gol, Barcelona, Spain, ⁴Primary Healthcare Centre Can Riba, Primary Healthcare Centre Sant Joan Deu, Primary Healthcare Centre Vote the City, Barcelona, Spain, ⁵Primary Healthcare Centre Santa Coloma de Cervello, Barcelona, Spain, ⁶Primary Healthcare Centre Carles Ribas, ⁷Primary Healthcare Centre Comelà Luis Milet, ⁸Primary Healthcare Centre Passeg Sant Joan, ⁹Primary Healthcare Centre Vilanova, ¹0 Primary Healthcare Centre Viladecans, ¹¹Research Unit of Barcelona, Primary Healthcare Research Institute IDIAP Jordi Gol, Barcelona, Spain.

PS4.38 SmartStep: an Insole-Based Physical Activity Monitor
Edward Gazdich¹, Nagara J Hedge¹, Edward Melanson¹.
¹The University of Alabama, Tuscaloosa, Alabama, USA.

PS4.39 Automatic car driving detection using raw accelerometer data
Dawhie Han¹, Marcin Strzodka², Jacked Urbaniak³.
²Indiana University RM Fairbanks School of Public Health, Indianapolis, USA, ³ACH University of Science and Technology, Kraków, Poland, ⁴Johns Hopkins Bloomberg School of Public Health, Maryland, USA.

ICAMPAM2015
4th International Conference on Ambulatory Monitoring of Physical Activity and Movement 10 –12 June 2015
University of Limerick, Limerick Ireland
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**PROGRAMME AT A GLANCE**