



## ICAMPAM 2015 Detailed Program

Please note that the program is subject to change

### Tuesday June 9<sup>th</sup>:

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.

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**Location:** Charles Parsons Lecture Theatre (C1-063)

**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.

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15:30-15:45

**Coffee Break:**

**Location:** Charles Parsons Lecture Theatre (C1-063)

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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.

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**Location:** Charles Parsons Lecture Theatre (C1-063)

**WS-2B:** *Grant Writing Workshop*

**Presenter:** Lisa Chasan-Taber, University of Massachusetts, Amherst, Massachusetts, USA.

**Introducer:** Alan Donnelly, University of Limerick, Limerick, Ireland.

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17:15 – 17:45

**Coffee Break:**

**Location:** Charles Parsons Lecture Theatre (C1-063)

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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 Esliger, Loughborough University, Leicestershire, UK.

**Participants:** Paul Sanderson, Loughborough University, UK.  
Adam Loveday, Loughborough University, UK.

**Introducer:** Rhoda Sohun, University of Limerick, Limerick, Ireland.

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**Location:** Charles Parsons Lecture Theatre (C1-063)

**S-2:** *A Holistic Approach in Measuring Occupational Physical Activity: Challenges and Potentials*

**Host:** Maria Hagströmer, Karolinska Institutet, Stockholm, Sweden.

**Participants:** Lydia Kwak, Karolinska Institutet, Sweden.  
David Hallman, University of Gävle, Sweden.  
Wim Grooten, Karolinska Institutet, Sweden.

Patrick Bergman, Linné University, Sweden.

**Introducer:** Fiona Ling, University of Limerick, Limerick, Ireland.

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20:00 – 22:00

**Opening Reception:**

**Location:** Pavillion Restaurant

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## Wednesday 10<sup>th</sup> June

7:00 – 12:00

### Registration Open:

**Location:** Reception Area (Jean Monnet Theatre)

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08:00 – 08:15

### Official Welcome:

**Location:** Jean Monnet Theatre (DG-016)

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

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08:15 – 09:15

### Opening Keynote:

**Location:** Jean Monnet Theatre (DG-016)

**KS-1:** Ulf Ekelund, Department of Sports Medicine, Norwegian School of Sport Sciences, Oslo, Norway.

**Title:** *Physical Activity, Sedentary Time and Cardio-metabolic Health in Youth: Does the Measurement of the Exposure Influence the Results?*

**Chair:** Patty Freedson, University of Massachusetts, Amherst, Massachusetts, USA.

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09:15 – 10:15

### Invited Speakers:

**Location:** Jean Monnet Theatre (DG-016)

**IS-1:** Robert Motl, Division of Neuroscience, University of Illinois, USA.

**Title:** *Accelerometry in Multiple Sclerosis: Past, Present, and Future Applications*

**IS-2:** Wiebren Zijlstra, Institute of Movement and Sport Gerontology, German Sport University, Cologne, Germany

**Title:** *Why Tracking Older Persons' Mobility Patterns is Relevant*

**Chair:** Susan Coote, University of Limerick, Limerick, Ireland.

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### Oral Session 1: Physical Activity: Measurement & General Issues 1

**Location:** Jonathan Swift Lecture Theatre (B1-023)

**Chair:** Scott Crouter, University of Tennessee, Knoxville, Tennessee, USA.

09:15 – 09:30

**01.1 Combining global positioning systems and accelerometry to identify physical activity “hotspots” in adolescents residing in downtown Vancouver**

Christine Voss<sup>1</sup>, Nolan Lee<sup>1</sup>, Vivian Chung<sup>1</sup>, Heather McKay<sup>1</sup>, Meghan Winters<sup>2</sup>

<sup>1</sup>University of British Columbia, Vancouver, British Columbia, Canada, <sup>2</sup>Simon Fraser University, 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 Mellone<sup>1</sup>, Marco Colpo<sup>2</sup>, Stefania Bandinelli<sup>2</sup>, Lorenzo Chiari<sup>1</sup>

<sup>1</sup>Department of Electrical, Electronic and Information Engineering, University of Bologna, Bologna, Italy, <sup>2</sup>Azienda 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**

Siete C. Frouws<sup>1</sup>, Rob van Lummel<sup>1</sup>, Jaap van Dieën<sup>2</sup>

<sup>1</sup>McRoberts, The Hague, Netherlands, <sup>2</sup>VU 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 Barreira<sup>1</sup>, John Schuna Jr<sup>2</sup>, Jean-Philippe Chaput<sup>3</sup>, Timothy Church<sup>4</sup>, Mikael Fogelholm<sup>5</sup>, Gang Hu<sup>4</sup>, Rebecca Kuriyan<sup>6</sup>, Estelle Lambert<sup>7</sup>, Carol Maher<sup>8</sup>, Jose Maia<sup>9</sup>, Victor Matsudo<sup>10</sup>, Timothy Olds<sup>8</sup>, Vincent Onywera<sup>11</sup>, Anura Kurpad<sup>6</sup>, Olga Sarmiento<sup>12</sup>, Martyn Standage<sup>13</sup>, Mark Tremblay<sup>3</sup>, Pei Zhao<sup>14</sup>, Peter Katzmarzyk<sup>4</sup>

<sup>1</sup>Syracuse University, Syracuse, New York, USA, <sup>2</sup>Oregon State University, Oregon, USA, <sup>3</sup>Children’s Hospital of Eastern Ontario Research Institute, Ottawa, Ontario, Canada, <sup>4</sup>Pennington Biomedical Research Center, Baton Rouge, Louisiana, USA, <sup>5</sup>University of Helsinki, Helsinki, Finland, <sup>6</sup>St. Johns Research Institute, Bengaluru, Karnataka, India, <sup>7</sup>University of Cape Town, Cape Town, South Africa, <sup>8</sup>University of South Australia, Adelaide, South Australia, Australia, <sup>9</sup>Faculdade de Desporto, University of Porto, Porto, Portugal, <sup>10</sup>Centro de Estudos do Laboratório de Aptidão Física de São Caetano do Sul (CELAFISCS), Sao Paulo, Brazil, <sup>11</sup>Kenyatta University, Nairobi, Kenya, <sup>12</sup>Universidad de los Andes, Bogotá, Colombia, <sup>13</sup>University of Bath, Bath, North East Somerset, UK, <sup>14</sup>Tianjin Women’s and Children’s Health Center, Heping, Tianjin, China.

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**Oral Session 2: Sedentary Behaviours: Measurement & General Issues 1**

**Location:** Charles Parsons Lecture Theatre (C1-063)

**Chair:** Jo Salmon, Deakin University, Melbourne, Victoria, Australia.

09:15 – 09:30

**02.1 Empirically derived cut-points for sedentary behaviour for weekdays and weekends: are we sitting differently?**

Alexandra Clarke-Cornwell<sup>1</sup>, Tracey Farragher<sup>2</sup>, Penny Cook<sup>1</sup>, Lindsey Dugdill<sup>1</sup>, Malcolm Granat<sup>1</sup>

<sup>1</sup>*School of Health Sciences, University of Salford, Manchester, UK,* <sup>2</sup>*The University of Leeds, Leeds, UK.*

09:30 – 09:45

**02.2 MVPA, and not sedentary time, is associated with total and regional adiposity in a sample of UK adults**

Deirdre Harrington<sup>1</sup>, Charlotte Edwardson<sup>1</sup>, Joe Henson<sup>1</sup>, Kamlesh Khunti<sup>1</sup>, Thomas Yates<sup>2</sup>, Melanie Davies<sup>1</sup>

*Leicester Diabetes Centre, University of Leicester, Leicester, UK,* <sup>2</sup>*NIHR Leicester-Loughborough Diet, Lifestyle and Physical Activity Biomedical Research Unit, Leicester General Hospital, Leicester, UK.*

09:45 – 10:00

**02.3 Sedentary behavior: different types of operationalization influences outcomes**

Johannes Bussmann<sup>1</sup>, Malou Fanchamps<sup>1</sup>, Rita van den Berg - Emons<sup>1</sup>

<sup>1</sup>*Erasmus MC University Medical Center, Rotterdam, Netherlands.*

10:00 – 10:15

**02.4 Influence of season and meteorological factors on objectively measured physical activity and sedentary behaviour patterns among older UK men**

Claudio Sartini<sup>1</sup>, Richard Morris<sup>2</sup>, S Goya Wannamethee<sup>1</sup>, Steve Iliffe<sup>1</sup>, Sarah Ash<sup>1</sup>, Lucy Lennon<sup>1</sup>, Peter Whincup<sup>4</sup>, Barbara Jefferis<sup>3</sup>

<sup>1</sup>*University College London Medical School, Hampstead Campus, London, UK,* <sup>2</sup>*University of Bristol, Bristol, London,* <sup>4</sup>*St George's University, London, UK.*

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10:15 – 10:30

**Coffee Break:**

**Location:** Main Exhibition Hall (EG0-10)

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10:30 – 11:45

**Poster Session 1:**

**Location:** Main Exhibition Hall (EG0-10)

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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.  
Paolo Caserotti, University of Southern Denmark, Denmark.  
Jacek Urbanek, Johns Hopkins University, USA.  
Jaroslaw Harezlak, 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.

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13:15 – 14:30

**Lunch:**

**Location:** Red Raisin Café

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14:30 – 16:00

**Invited Speakers:**

**Location:** Jean Monnet Theatre (DG-016)

**IS-3:** Jo Salmon and Nicky Ridgers, 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 Trost, 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.

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**Oral Session 3: Measuring and Optimising Physical Behaviours in Clinical Populations 1**

**Location:** Jonathan Swift Lecture Theatre (B1-023)

**Chair:** Robert Motl, University of Illinois, Illinois, USA.

14:30 – 14:45

**03.1 Comparing physical activity levels based on self-report and accelerometry in those with and those without knee joint pathology**

Sean Hurley<sup>1</sup>, Sarah Kozey Keadle<sup>2</sup>, William Stanish<sup>1</sup>, Cheryl Hubley-Kozey<sup>1</sup>  
<sup>1</sup>Dalhousie University, Halifax, Nova Scotia, Canada, <sup>2</sup>National Cancer Institute, Maryland, USA.

14:45 – 15:00

**0.3.2 Older people who feel fatigue have restricted ability to accumulate physical activity**

Thorlene Egerton<sup>1</sup>, Dorte Stensvold<sup>1</sup>, Ulrik Wisløff<sup>1</sup>, Jorunn Helbostad<sup>1</sup>, Sebastien Chastin<sup>2</sup>  
<sup>1</sup>Norwegian University of Science and Technology, Trondheim, Sør Trondelag, Norway, <sup>2</sup>Glasgow Caledonian University, Glasgow, Scotland, UK.

- 15:00 – 15:15      **03.3 The detection and isolation of tremor in people with multiple sclerosis (MS) using a wrist worn sensor**  
Stefan Teufel<sup>1</sup>, Jenny Preston<sup>1</sup>, Frederike van Wijck<sup>1</sup>, Ben Stansfield<sup>1</sup>  
<sup>1</sup>Glasgow Caledonian University, Glasgow, Scotland, 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 Nooijen<sup>1</sup>, Henk Stam<sup>1</sup>, Michael Bergen<sup>2</sup>, Rita van den Berg-Emons<sup>1</sup>, Act-Active Research group<sup>1</sup>  
<sup>1</sup>Erasmus MC University Medical Center, Rotterdam, Netherlands, <sup>2</sup>Rijndam Rehabilitation Institute, 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 Fritschi<sup>1</sup>, Chang Park<sup>1</sup>, Laurie Quinn<sup>1</sup>  
<sup>1</sup>University 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 Buman<sup>1</sup>, Matthew Smuck<sup>2</sup>, Ming-Chih Kao<sup>2</sup>, Christy Tomkins-Lane<sup>2</sup>, Agnes Ma<sup>2</sup>, William Haskell<sup>2</sup>  
<sup>1</sup>Arizona State University, Phoenix, Arizona, USA, <sup>2</sup>Stanford University, Stanford, California, USA.

**Oral Session 4: Validation and Calibration**

**Location:** Charles Parsons Lecture Theatre (C1-063)

**Chair:** Greg Welk, Iowa State University, Iowa, USA.

- 14:30 – 14:45      **04.1 Stride-to-stride gait variability in daily life measured using accelerometers attached to the wrist**  
Benedikt Fasel<sup>1</sup>, Kamiar Aminian<sup>1</sup>  
<sup>1</sup>Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland.
- 14:45 – 15:00      **04.2 Agreement between Sensewear Armband Mini and wrist worn GT3X+ Monitors in Youth: Emphasis on nonwear time classification**  
Pedro Saint-Maurice<sup>1</sup>, Youngwon Kim<sup>1</sup>, Gregory Welk<sup>1</sup>  
<sup>1</sup>Iowa State University, Ames, Iowa, USA.
- 15:00 – 15:15      **04.3 Accuracy of a low-cost commercially available GPS data logger/receiver to estimate the slope during outdoor walking**  
Pierre-Yves de Müllenheim, Ségolène Chaudru, Marie Gernigon, Guillaume Mahé, Sandrine Bickert, Jacques Prioux, Bénédicte Noury-Desvaux, Alexis Le Faucheur  
*Laboratory of Sport, Health and Movement, University of Rennes 2, Rennes, France.*



- 15:15 – 15:30 **04.4 Assessing the impact of environmental conditions on GPS accuracy during human walking**  
Alexis Le Faucheur<sup>1</sup>, Ségolène Chaudru<sup>2</sup>, Pierre-Yves de Müllenheim<sup>3</sup>, Guillaume Mahé<sup>2</sup>, Bénédicte Noury-Desvaux<sup>4</sup>  
*<sup>1</sup>Ecole normale supérieure de Rennes, <sup>2</sup>Centre d'investigation clinique (CIC, INSERM 1414), <sup>3</sup>Laboratoire Mouvement, Sport, Santé (M2S), <sup>4</sup>Institut de Formation en Education Physique et en Sport d'Angers.*
- 15:30 – 15:45 **04.5 Validation of an automated algorithm to identify waking and sleeping time in 24 hour accelerometry data**  
Julianne Van Der Berg<sup>1</sup>, Paul Willems<sup>1</sup>, Jeroen van der Velde<sup>1</sup>, Hans Savelberg<sup>1</sup>, Nicolaas Schaper<sup>1</sup>, Miranda Schram<sup>1</sup>, Simone Sep<sup>1</sup>, Pieter Dagnelie<sup>1</sup>, Hans Bosma<sup>1</sup>, Coen Stehouwer<sup>1</sup>, Annemarie Koster<sup>1</sup>  
*<sup>1</sup>Maastricht University, Maastricht, Limburg, Netherlands.*
- 15:45 – 16:00 **04.6 Utility of sedentary behaviour questionnaires in older men; comparisons with accelerometer data**  
Barbara Jefferis<sup>1</sup>, Claudio Sartini<sup>1</sup>, Sarah Ash<sup>1</sup>, Lucy Lennon<sup>1</sup>, S Wannamethee<sup>1</sup>, Peter Whincup<sup>2</sup>  
*<sup>1</sup>University College London Department of Primary Care & Population Health, London, UK, <sup>2</sup>St George's, University of London, London, UK.*
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- 16:00 – 16:15 **Coffee Break:**
- Location:** Main Exhibition Hall (EG0-10)
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- 16:15 – 17:30 **Poster Session 2:**
- Location:** Main Exhibition Hall (EG0-10)
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- 17:30 – 18:30 **Keynote Speaker:**
- Location:** Jean Monnet Theatre (DG-016)
- KS-2:** Kamiar Aminian, Institute of Bioengineering, Ecole Polytechnique Fédérale de Lausanne (EPFL)
- Title:** *Advances in Technology and Algorithms for Activity Monitoring*
- Chair:** Malcolm Granat, University of Salford, Manchester, UK.
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- 18:30 – 19:15 **General Assembly:**
- Location:** Jean Monnet Theatre (DG-016)

**Title:** *Formation of the International Society for the Measurement of Physical Behaviour.*

**Hosts:** Johannes Bussmann, Erasmus Medical Centre, Rotterdam, Netherlands.  
Malcolm Granat, University of Salford, Manchester, England, UK.  
Patty Freedson, University of Massachusetts, Amherst, Massachusetts, USA.  
David Bassett Jr., University of Tennessee, Knoxville, Tennessee, USA.  
Genevieve Healy, University of Queensland, Queensland, Australia.

**Introducer:** Alan Donnelly, University of Limerick, Limerick, Ireland.

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## Thursday 11<sup>th</sup> June:

7:00 – 12:00

### Registration Open

**Location:** Reception Area (Jean Monnet Theatre)

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08:00 – 09:00

### Invited Speakers

**Location:** Jean Monnet Theatre (DG-016)

**IS-5:** Carol Torgan, 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.

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### 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 Chastin<sup>1</sup>, Javier Palarea-Albaladejo<sup>2</sup>

<sup>1</sup>Glasgow Caledonian University, Glasgow, Scotland, UK, <sup>2</sup>Biomathematics 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**

Rachael Taylor<sup>1</sup>, Sheila Williams<sup>1</sup>, Victoria Farmer<sup>1</sup>, Barry Taylor<sup>1</sup>

<sup>1</sup>University 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-Jones<sup>1</sup>, Sheila Williams<sup>1</sup>, Barbara Galland<sup>1</sup>, Gavin Kennedy<sup>1</sup>, Rachael Taylor<sup>1</sup>

<sup>1</sup>University 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 Nolan<sup>1</sup>, Rose Anne Kenny<sup>1</sup>  
<sup>1</sup>*Trinity College Dublin, Dublin, Ireland.*

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**Oral Session 6: Balance and Falls**

**Location:** Charles Parsons Lecture Theatre (C1-063)

**Chair:** Claudia Mazzà, 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 Mancini<sup>1</sup>, Mahmoud El-Gohary<sup>2</sup>, Jeffrey Kaye<sup>1</sup>, Fay Horak<sup>1</sup>  
<sup>1</sup>*Oregon Health & Science University, Portland, Oregon, USA, <sup>2</sup>APDM Inc, Portland, Oregon, USA.*

08:15 – 08:30

**06.2 Smartphone-based Fall Detection Algorithm and Validation**

Joana Silva<sup>1</sup>, Bruno Aguiar<sup>1</sup>, Tiago Rocha<sup>1</sup>, Filipe Sousa<sup>1</sup>, Ines Sousa<sup>1</sup>  
<sup>1</sup>*Associação 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 accelerometry in ageing research: results from an international symposium**

Martiin Daumer<sup>1</sup>,  
<sup>1</sup>*SLC - The Human Motion Institute / Trium / TUM, Munich, Germany.*

08:45 – 09:00

**06.4 WIISEL: Wireless Insole for Independent and Safe Elderly Living**

Richard Harte<sup>1</sup>, Monica Casey<sup>1</sup>, Patrick Hayes<sup>1</sup>, Gearóid ÓLaighin<sup>1</sup>, Elisenda Reixach<sup>2</sup>, Carlos Carenas<sup>3</sup>, Cristina Rusu<sup>4</sup>, John Rosevall<sup>5</sup>, Stefan Burkard<sup>6</sup>, Jordi Chamagué<sup>7</sup>, Liam Glynn<sup>1</sup>  
*National Centre for Biomedical Engineering and Science, National University of Ireland, Galway, Ireland, <sup>2</sup>CETEMMSA, Av. d'Ernest Lluch 36 - Parc Científic i de la Innovació TecnoCampus, 08302, Mataró, Barcelona, Spain, <sup>3</sup>CETESSMA, Av. d'Ernest Lluch 36 - Parc Científic i de la Innovació TecnoCampus, 08302, Mataró, Barcelona, Spain, <sup>4</sup>Acreo, Swedish ICT AB, Sensor Systems Department, Kista, Sweden, <sup>5</sup>Aceo, Swedish ICT AB, Sensor Systems Department, Kista, Sweden, <sup>6</sup>Spring techno GmbH & Co. KG, Hermann-Köhl-Str. 7, 28199, <sup>7</sup>T.I. GEISA, s.l. , C. Ramon LLull s/n, P.I. Can Trias, 08232, Viladecavalls, Barcelona, Spain.*

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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.

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10:00 – 10:30

**Coffee Break:**

**Location:** Main Exhibition Hall (EG0-10)

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10:30 – 11:45

**Exhibitor Talks:**

**ActiGraph:**

**PAL Technologies:**

**ACTIVINSIGHTS:**

**Shimmer:**

**McRoberts:**

**Gait Up:**

**OpenVivo**

**CamNTech**

**movisens**

**Location:** Jean Monnet Theatre (DG-016)

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11:45 – 13:00

**Poster Session 3:**

**Location:** Main Exhibition Hall (EG0-10)

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13:00 – 14:00

**Lunch:**

**Location:** Red Raisin Cafe

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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.

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## Oral Session 7: Physical Activity: Measurement & General Issues 2

**Location:** Jonathan Swift Lecture Theatre (B1-023)

**Chair:** Søren Brage, University of Cambridge School of Clinical Medicine, Cambridge, UK.

14:00 – 14:15

### **07.1 Using a machine learning approach to enhance prediction of children's energy expenditure**

Kelly Mackintosh<sup>1</sup>, Alexander Montoye<sup>2</sup>, Karin Pfeiffer<sup>3</sup>, Melitta McNarry<sup>1</sup>  
*Swansea University, Swansea, Wales, UK, <sup>2</sup>Ball State University, Muncie, Indiana, USA, <sup>3</sup>Michigan State University, Michigan, USA.*

14:15 – 14:30

### **07.2 Video Direct Observation to Assess Children's Free-Play Physical Activity during School Recess**

Cheryl Howe<sup>1</sup>, Kimberly Clevenger<sup>1</sup>, Joann Benigno<sup>1</sup>  
<sup>1</sup>*Ohio University, Athens, Ohio, USA.*

14:30 – 14:45

### **07.3 Smartphone Based Physical Activity Recognition with Geospatial Awareness**

John J Guiry<sup>1</sup>, Pepijn van de Ven<sup>1</sup>, John Nelson<sup>1</sup>  
<sup>1</sup>*Department 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 Montoye<sup>1</sup>, James Pivarnik<sup>2</sup>, Lanay Mudd<sup>2</sup>, Subir Biswas<sup>2</sup>, Karin Pfeiffer<sup>2</sup>  
<sup>1</sup>*Ball State University, Muncie, Indiana, USA, <sup>2</sup>Michigan State University, Michigan, USA.*

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## Oral Session 8: Measuring and Optimising Physical Behaviours in Clinical Populations 2

**Location:** Charles Parsons Lecture Theatre (C1-063)

**Chair:** Amanda Clifford, University of Limerick, Limerick, Ireland.

14:00 – 14:15

### **08.1 Further development of the instrumented Bath Ankylosing Spondylitis Functional Index (iBASFI) in axial spondyloarthritis: the added value of complex accelerometry-derived movement features for activity capacity assessment**

Lieven Billiet<sup>1</sup>, Thijs Swinnen<sup>1</sup>, Milica Milosevic<sup>1</sup>, Wim Dankaerts<sup>1</sup>, Sabine Van Huffel<sup>1</sup>, René Westhovens<sup>1</sup>, Kurt de Vlam<sup>1</sup>  
*KU Leuven, Leuven, Vlaams-Brabant, Belgium.*

14:15 – 14:30

### **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 Chiari<sup>1</sup>, Pieter Ginis<sup>2</sup>, Moran Dorfman<sup>3</sup>, Anat Mirelman<sup>3</sup>, Alice Nieuwboer<sup>2</sup>, Alberto Ferrari<sup>1</sup>  
<sup>1</sup>*University of Bologna, Bologna, Italy, <sup>2</sup>KU Leuven, Leuven, Vlaams-Brabant, Belgium, <sup>3</sup>Tel Aviv Sourasky Medical Center, Tel Aviv, Israel.*

14:30 – 14:45

**08.3 Measurement of physical activity by accelerometry and doubly labeled water predicts growth in preschool-aged children**

Nancy Butte<sup>1</sup>, Maurice Puyau<sup>1</sup>, Yan Liu<sup>1</sup>, William Wong<sup>1</sup>, Theresa Wilson<sup>1</sup>, Anne Adolph<sup>1</sup>, Roman Shypailo<sup>1</sup>, Issa Zakeri<sup>2</sup>

<sup>1</sup>Baylor College of Medicine, Houston, Texas, USA, <sup>2</sup>Drexel University, Philadelphia, USA.

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14:45 – 15:00

**08.4 Relationship between Changes in MVPA Time and peak 30-min Cadence**

Catrine Tudor-Locke<sup>1</sup>, John Schuna, Jr.<sup>2</sup>, Damon Swift<sup>3</sup>, Sandra Larrivee<sup>1</sup>, Corby Martin<sup>1</sup>, William Johnson<sup>1</sup>, Timothy Church<sup>1</sup>

<sup>1</sup>Pennington Biomedical Research Center, Baton Rouge, Louisiana, USA, <sup>2</sup>Oregon State University, Oregon, USA, <sup>3</sup>East Carolina University Greenville, North Carolina, USA.

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15:00 – 15:15

**Coffee Break:**

**Location:** Main Exhibition Hall (EG0-10)

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15:15 – 16:30

**Poster Session 4:**

**Location:** Main Exhibition Hall (EG0-10)

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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.

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19:00 – 23:00

**Conference Banquet:**

**Location:** Strand Hotel, Limerick City Centre.

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## Friday 12<sup>th</sup> June:

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.

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**S-5:** *Free-Living Assessment of Wearable Sensor Data Processing Methods.*

**Location:** Charles Parsons Lecture Theatre (C1-063)

**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.

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10:15 – 10:45

### Coffee Break:

**Location:** Main Exhibition Hall (EG0-10)

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10:45 – 11:45

### Invited Speakers:

**Location:** Jean Monnet Theatre (DG-016)

**IS-9:** Dale Esliger, School of Sport, Exercise and Health Sciences, Loughborough University, Leicestershire, UK.

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

**IS-10:** Patty Freedson, Department of Kinesiology, University of Massachusetts, Amherst, Massachusetts, USA.

**Title:** *New Frontiers for the 'Quantified Self'.*



**Chair:** Kieran Dowd, University of Limerick, Limerick, Ireland.

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**Oral Session 9: Sedentary Behaviours: Measurement & General Issues 2**

**Location:** Jonathan Swift Lecture Theatre (B1-023)

**Chair:** Katrien Wijndaele, MRC Epidemiology Unit, Cambridge, UK.

10:45 – 11:00

**09.1 Reallocating time from sitting to standing or to stepping: cross-sectional associations with cardiometabolic risk biomarkers in Australian adults**

Genevieve Healy<sup>1</sup>, David Dunstan<sup>2</sup>, Elisabeth Winkler<sup>1</sup>, Neville Owen<sup>2</sup>

*The University of Queensland, Brisbane, Queensland, Australia, <sup>2</sup>Baker IDI Heart & Diabetes Institute, Melbourne, Victoria, Australia.*

11:00 – 11:15

**09.2 Objectively measured sedentary behaviour patterns according to diabetes status: The Maastricht Study**

Annemarie Koster<sup>1</sup>, Julianne van der Berg<sup>1</sup>, Hans Bosma<sup>1</sup>, Jeroen van der Velde<sup>1</sup>, Paul Willems<sup>1</sup>, Hans Savelberg<sup>1</sup>, Miranda Schram<sup>1</sup>, Simone Sep<sup>1</sup>, Carla van der Kallen<sup>1</sup>, Ronald Henry<sup>1</sup>, Pieter Dagnelie<sup>1</sup>, Nicolaas Schaper<sup>1</sup>, Coen Stehouwer<sup>1</sup>

*Maastricht University, Maastricht, Netherlands.*

11:15 – 11:30

**09.3 Associations between sedentary behaviour, moderate to vigorous physical activity and cortical bone size in children**

Rebecca Meiring<sup>1</sup>, Lisa Micklesfield<sup>2</sup>, Andrew Green<sup>1</sup>, Joanne McVeigh<sup>1</sup>

*<sup>1</sup>Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, Gauteng, South Africa, <sup>2</sup>MRC/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**

Pauliina Husu<sup>1</sup>, Jaana Suni<sup>1</sup>, Kari Tokola<sup>1</sup>, Henri Vähä-Ypyä<sup>1</sup>, Harri Sievänen<sup>1</sup>, Tommi Vasankari<sup>1</sup>

*<sup>1</sup>The UKK Institute for Health Promotion Research, Tampere, Finland.*

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**Oral Session 10: Data Processing, Analysis and Statistics**

**Location:** Charles Parsons Lecture Theatre (C1-063)

**Chair:** Sebastien Chastin, Glasgow Caledonian University, Glasgow, Scotland, UK.

10:45 – 11:00

**10.1 Actigraphy features for predicting mobility function in older adults**

Todd Manini<sup>1</sup>, Catrine Tudor-Locke<sup>2</sup>, Robert Axtell<sup>3</sup>, Matthew Buman<sup>4</sup>, Roger Fielding<sup>5</sup>, Nancy Glynn<sup>1</sup>, Don Hire<sup>6</sup>, Jack Guralnik<sup>7</sup>, Abby King<sup>8</sup>, Dan White<sup>9</sup>, Michael Miller<sup>6</sup>, Juned Siddique<sup>10</sup>, Peter Brubaker<sup>6</sup>, W. Jack Rejeski<sup>6</sup>, Stephen Ranshous<sup>1</sup>, Matin Kheirkhahan<sup>1</sup>, Marco Pahor<sup>1</sup>, Sanjay Ranka<sup>1</sup>

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

11:00 – 11:15

## **10.2 Open Platforms to Sustain and Reuse Component Contributions**

Jon Moon<sup>1</sup>, Jared Sieling<sup>1</sup>, Erik Iverson<sup>1</sup>  
*MEI 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 Edwardson<sup>1</sup>, Kishan Bakrania<sup>1</sup>, Danielle Bodicoat<sup>1</sup>, Tom Yates<sup>1</sup>, Genevieve Healy<sup>2</sup>, Elisabeth Winkler<sup>2</sup>  
<sup>1</sup>*Diabetes Research Centre, University of Leicester, Leicester General, Leicester, Leicestershire,* <sup>2</sup>*The 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 Gardiner<sup>1</sup>, Libby Holden<sup>1</sup>, Brigid Lynch<sup>2</sup>, Genevieve Healy<sup>1</sup>, Natasha Reid<sup>1</sup>, Bronwyn Clark<sup>1</sup>, David Dunstan<sup>3</sup>, Neville Owen<sup>3</sup>  
*The University of Queensland, Brisbane, Queensland, Australia,* <sup>2</sup>*Cancer Council Victoria, Melbourne, Victoria, Australia,* <sup>3</sup>*Baker IDI Heart and Diabetes Institute, Diabetes Institute, Melbourne, Victoria, Australia.*

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11:45 – 12:45

## **Keynote Speaker:**

**Location:** Jean Monnet Theatre (DG-016)

**KS-5:** Greg Welk, Department of Kinesiology, Iowa State University, Iowa, USA.

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

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

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12:45 – 13:00

## **Closing Ceremony & Prize Presentation:**

**Location:** Jean Monnet Theatre (DG-016)

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

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14:00 – 21:30

## **Optional Tour:**

**Location:** Cliffs of Moher and Doolin Village.