MONDAY, JUNE 17TH

ICAMPAM 2013 SCHEDULE

MONDAY JUNE 17, 2013

7:30 AM – 8:30 AM – BREAKFAST
CAMPUS CENTER CONCOURSE

8:30 AM – 8:50 AM – WELCOME
CAMPUS CENTER AUDITORIUM

9:00 AM – 9:30 AM – INVITED SPEAKER
JEAN-PHILIPPE CHAPUT
“MEASUREMENT OF SLEEP IN RESEARCH: NOT A WASTE OF TIME”
INTRODUCER: CHRISTINE FRIEDENREICH
CAMPUS CENTER AUDITORIUM

9:30 AM – 10:00 AM – INVITED SPEAKER
ALICIA CARRIQUIRY
“A MEASUREMENT ERROR MODEL FOR PHYSICAL ACTIVITY DATA”
INTRODUCER: MINSOO KANG
CAMPUS CENTER AUDITORIUM

10:00 AM – 10:30 AM – INVITED SPEAKER
JEFF HAUSDORFF
INTRODUCER: JORUN HELBOSTAD
CAMPUS CENTER AUDITORIUM
SLIDE PRESENTATIONS

Student Competition – 9:00 AM – 10:30 AM
Campus Center Room 162
Moderator: Kate Lyden

Calibration And Cross-validation Of Wrist Worn Actigraph GT3X+ In Young Preschoolers
Elin Johansson¹, Håkan Nero², Marcus Claude¹, Ulf Ekelund³, Maria Hagströmer². ¹CLINTEC, Karolinska Institutet, Stockholm, Sweden. ²NVS, Karolinska Institutet, Stockholm, Sweden. ³Sport Medicine, Norwegian School of Sport Sciences, Oslo, Norway.
Email: elin.johansson@ki.se
9:00-9:15

Day-to-day Differences In Sedentary Behavior In Adults And Adolescents
Amanda Hickey, Sarah Kozy Keadle, Patty Freedson. University of Massachusetts, Amherst, MA.
Email: aliberti@kin.umass.edu
9:15-9:30

Predicting Activity Type from Accelerometer Data in Older Adults
Jeffer E. Sasaki, John Staudenmayer, Amanda Hickey, Jane Kent-Braun, Patty S. Freedson. University of Massachusetts Amherst, Amherst, MA.
Email: jeffersasaki@gmail.com
9:30-9:45

Normalization And Extraction Of Interpretable Metrics From Raw Accelerometry Data
Jiawei Bai, Bing He, Thomas Glass, Ciprian Crainiceanu. Johns Hopkins University, Baltimore, MD.
Email: jbai@jhsph.edu
9:45-10:00

Inferred Time In Bed Independently Predicts Levels Of Daytime Activity And Sedentary Behavior
Iuliana Hartescu¹, Kevin Morgan¹, Dale W. Esliger²,³, Adam Loveday³, James P. Sanders². ¹Loughborough University, Clinical Sleep Research Unit, United Kingdom. ²Loughborough University, School of Sport, Exercise and Health Sciences, United Kingdom. ³The NIHR Leicester-Loughborough Diet, Lifestyle and Physical Activity Biomedical Research Unit, LEICS, UK.
Email: i.hartescu@lboro.ac.uk
10:00-10:15

Machine Learning To Predict Energy Expenditure And Type Of Physical Activity From Accelerometer And Heart Rate Data
Katherine Ellis¹, Jacqueline Kerr¹, Suneeta Godbole¹, Lanckriet Gert¹, John Staudenmayer², David Wing¹, Simon Marshall¹. ¹UCSD, La Jolla, CA. ²University of Massachusetts, Amherst, MA.
Email: kkatellis@gmail.com
10:15-10:30
Sedentary Behavior – 9:00 AM – 10:30 AM
Campus Center Room 163
Moderator: Phillipa Dall

Time Spent in Different Domains of Sitting and their Associations with Cardio-Metabolic Health
Charlotte Edwardson¹, Trish Gorely², Thomas Yates³, Emma Wilmot⁴, Kamlesh Khunti⁴, Melanie Davies⁴, Myra Nimmo¹, Stuart Biddle¹. ¹Loughborough University, Loughborough, United Kingdom. ²Stirling University, Stirling, United Kingdom. ³University of Leicester, Leicester, United Kingdom. ⁴Leicester Diabetes Centre, University of Leicester, Leicester, United Kingdom.
9:00-9:15

Congruency of Motion Sensors to Detect Change following a Sedentary Behavior Intervention
Email: aswartz@uwm.edu
9:15-9:30

Objectively Determined Light Intensity Physical Activity Is Negatively Associated With Adiposity In Adolescent Females
Kieran P. Dowd¹, Deirdre M. Harrington², Alan E. Donnelly¹. ¹University of Limerick, Limerick, Ireland. ²Pennington Biomedical Research Centre, Baton Rouge, LA.
Email: kieran.dowd@ul.ie
9:30-9:45

Comparison Of International Physical Activity Questionnaire (IPAQ) With Inclinometry (activPAL) For Measuring Sitting Time
Sebastien FM Chastin, Brendan Culhane, Philippa Dall. Glasgow Caledonian University, Glasgow, United Kingdom.
Email: sebastien.chastin@gcal.ac.uk
9:45-10:00

Validity of Automated Estimation of Worn Waking Time for ActivPAL Data
Elisabeth AH Winkler¹, Genevieve N. Healy¹, Sebastien FM Chastin². ¹The University of Queensland, Herston, Australia. ²Glasgow Caledonian University, Glasgow, United Kingdom.
Email: e.winkler@sph.uq.edu.au
10:00-10:15

Assessment Of Sedentary Behaviours, Activity And Sleep With A Wrist-worn Accelerometer; Introducing The Sedentary Sphere
Alex V. Rowlands¹, Tina L. Hurst², Tim S. Olds¹, Roger G. Eston¹, Sjaan J. Gomersall¹, Joss Langford². University of South Australia, Adelaide, Australia. ²ActivInsights, Cambridgeshire, United Kingdom.
Email: alex.rowlands@unisa.edu.au
10:15-10:30
MONDAY, JUNE 17TH

10:30 AM – 11:00 AM – BREAK
CAMPUS CENTER CONCOURSE

11:00 AM – 11:50 PM – KEYNOTE SPEAKER
I-MIN LEE
“USING ACCELEROMETERS TO MEASURE PHYSICAL ACTIVITY IN LARGE-SCALE EPIDEMIOLOGIC STUDIES: ISSUES AND CHALLENGES”
INTRODUCER: KELLY EVENSON
CAMPUS CENTER AUDITORIUM

12:15 PM – 1:45 PM – LUNCH
STUDENT UNION BALLROOM

2:00 PM – 2:30 PM – INVITED SPEAKER
KATHLEEN JANZ
“UNDERSTANDING THE EFFECT OF MECHANICAL LOADING TO BONE HEALTH VIA PHYSICAL ACTIVITY MONITORING”
INTRODUCER: DAVID BASSETT
CAMPUS CENTER AUDITORIUM

2:30 PM – 3:00 PM – INVITED SPEAKER
YANNIS GOULERMAS
“MACHINE LEARNING AND PATTERN ANALYSIS TECHNIQUES FOR HUMAN MOTION AUTOMATION AND MONITORING”
INTRODUCER: STACY CLEMES
CAMPUS CENTER AUDITORIUM
SLIDE PRESENTATIONS

Behavior and Health Outcomes – 2:00 PM – 3:00 PM
Campus Center Room 163
Moderator: Stuart Biddle

Contemporaneous Assessment Of Physical Activity, Sedentary Behavior And Sleep Using An ActiGraph GT3X+ Accelerometer
Simon Marshall, Jacqueline Kerr, Suneeta Godbole, Jacqueline Chen, Katherine Ellis, David Wing. University of California, San Diego, La Jolla, CA.
Email: sjmarshall@ucsd.edu
2:00-2:15

MVPA And Sedentary Behavior In Community Dwelling Older Men Measured By Accelerometer
Barbara J. Jefferis¹, Claudio Sartini¹, S. Goya Wannamethee¹, Peter H. Whincup². ¹University College London, London, United Kingdom. ²St George’s University of London, London, United Kingdom.
Email: b.jefferis@ucl.ac.uk
2:15-2:30

Sustained vs. Shorter Bouts of Physical Activity and Cardiovascular Health
Dale W. Esliger, James P. Sanders, Adam Loveday, Lauren B. Sherar. Loughborough University, Loughborough, United Kingdom.
Email: d.esliger@lboro.ac.uk
2:30-2:45

Intra-Day Physical Activity Patterns in Young and Older Adults
Email: sfoulis@kin.umass.edu
2:45–3:00
Gait and Fall Detection – 2:00 PM – 3:00 PM  
Campus Center Room 162  
Moderator: Malcolm Granat

Assessing the Accuracy of Accelerometry to Measure Gait Speed  
Klaus-Hendrik Wolf¹, Michael Marschollek², Andreas Hornberger¹, Matthias Gietzelt¹. ¹TU Braunschweig, Braunschweig, Germany. ²Hannover Medical School, Hannover, Germany.  
2:00-2:15

Fall Detection Sensitivity and False Alarm Rate During a Long Term Test Among Elderly  
Maarit Kangas¹, Raija Korpelainen², Irene Vikman³, Lars Nyberg³, Timo Jämsä¹. ¹University of Oulu, Oulu, Finland. ²Oulu Deaconess Institute, University of Oulu and Oulu University Hospital, Oulu, Finland. ³Luleå University of Technology, Luleå, Sweden.  
Email: maarit.kangas@oulu.fi  
2:15-2:30

Assessing Feasibility of Using Wearable Foot Pressure Sensor After Injury  
Kimio Oguchi¹, Kasumi Miyazawa², Takanori Ichinose³, Dai Hanawa³. ¹Graduate School of Science and Technology, Seikei University, Musashino, Japan. ²Office of the Health Center, Seikei University, Musashino, Japan. ³Faculty of Science and Technology, Seikei University, Musashino, Japan.  
Email: oguchi@st.seikei.ac.jp  
2:30-2:45

Normal Ranges for Novel Measures for Balance Quality in Healthy Individuals and Patients based on Mobile Accelerometry  
Cristina Soaz¹, Anneke Neuhaus², Klaus Diepold³, Martin Daumer³. ¹Technical University Munich, Munich, Germany. ²Trium Analysis Online GmbH, Munich, Germany. ³SLCMSR e.V – The Human Motion Institute, Trium Analysis Online GmbH, Munich, Germany.  
Email: cristina.soaz@tum.de  
2:45-3:00

3:30 PM – 4:20 PM – KEYNOTE SPEAKER  
STEPHEN INTILLE  
“CONTINUOUS MONITORING OF ACTIVITY USING MOBILE PHONES WITH REAL-TIME FEEDBACK”  
INTRODUCER: ED MELANSON  
CAMPUS CENTER AUDITORIUM
MONDAY, JUNE 17TH

POSTER SESSION
Authors will be present from 4:30 – 6:00 PM
Campus Center Auditorium

Statistical, Computational, and Data Processing Methods

A Preliminary Study for Development of A New Identification Algorithm for Objectively Measured Sedentary Behavior
Youngdeok Kim, James L. Farnsworth, Saori Ishikawa, Minsoo Kang. Middle Tennessee State University, Murfreesboro, TN.
Email: yk2k@mtmail.mtsu.edu
Board # 1

The Influence Of Minimum Sitting Period Of The ActivPAL On The Measurement Of Breaks In Sitting In Young Children
Zubaida Alghaeed¹, John Reilly², Sebastien Chastin³, Anne Martin⁴, Gwyneth Davies⁵, James Paton¹. ¹School of Medicine, College of Medical, Veterinary, and Life Sciences, Glasgow, United Kingdom. ²Physical Activity for Health Group, University of Strathclyde, Glasgow, United Kingdom. ³School of Health and Social Care, Glasgow Caledonian University, Glasgow, United Kingdom. ⁴Institute of Sport, PE and Health Science, University of Edinburgh, Edinburgh, United Kingdom. ⁵National Heart and Lung Institute, Imperial College London, London, United Kingdom.
Board # 2

Accounting For Physical Activity In Sedentary Behaviour Research: A Theoretical Framework
Geeske Peeters¹, Andrew Page¹, Annemarie Koster², Charles E. Matthews³, Annette J. Dobson¹, Wendy J. Brown¹. ¹The University of Queensland, Brisbane, Australia. ²Maastricht University, Maastricht, Netherlands. ³National Cancer Institute, Rockville, MD.
Email: g.peeters@uq.edu.au
Board # 3

Automatic Snoring Detection Using Piezo Sensor Data Based On Continuous Hidden Markov Models
Hyo-Ki Lee¹, Jeon Lee¹, Jin-Young Ha³, Kyoung-Joung Lee³. ¹Yonsei University, Wonju, Korea, Republic of. ²Kangwon University, Chuncheon, Korea, Republic of.
Board # 4

Seasonal Variation In Objectively Measured Physical Activity, Sedentary Time, And Sleep Duration Among Children
Mads F. Hjorth¹, Jean-Philippe Chaput², Kim F. Michaelsen¹, Arne Astrup¹, Inge Tetens³, Anders Sjödin¹. ¹University of Copenhagen, Faculty of Science, Department of Nutrition, Exercise and Sports, Copenhagen, Denmark. ²Healthy Active Living and Obesity Research Group, Children's Hospital of Eastern Ontario Research Institute, Ottawa, ON, Canada. ³National Food Institute, Division of Nutrition, DTU Food, Technical University of Denmark, Copenhagen, Denmark.
Email: madsfiil@life.ku.dk
Board # 5
The Influence Of Applying Different Non-wear Criteria On Wear-time Distributions Across Childhood And Youth
Email: mried-larsen@health.sdu.dk
Board # 6

Commonly Used Single Regression Model Compared To Activity Based Method To Predict Energy Expenditure
Birte von Haaren¹, Panagiota Anastasopoulou¹, Sascha Haertel², Stefan Hey³. ¹Karlsruhe Institute of Technology, Karlsruhe, Germany. ²Institute of Sport and Sports Science, Karlsruhe, Germany.
Board # 7

Integrated Movelets Approaches For Predicting Human Movement Type Based On Multiple Accelerometers
Bing He¹, Jiawei Bai¹, Annemarie Koster², Paolo Caserotti³, Nancy Glynn⁴, Tamara B. Harris⁵, Ciprian M. Crainiceanu¹. ¹Johns Hopkins University, Baltimore, MD. ²University of Maastricht, Maastricht, Netherlands. ³University of Southern Denmark, Odense, Denmark. ⁴University of Pittsburgh, Pittsburgh, PA. ⁵National Institute on Aging, Bethesda, MD.
Board # 8

Feature Selection for Actigraphy Signal Processing and Recognition
Mohamed A. Khabou, Michael V. Parlato. Electrical and Computer Engineering Department, University of West Florida, Pensacola, FL.
Board # 9

A Statistical Model For Estimating Within-subject Variability Of Objectively Measured Physical Activity
Juned Siddique¹, Peter de Chavez¹, Donald Hedeker², Bonnie Spring¹. ¹Northwestern University, Chicago, IL. ²University of Illinois-Chicago, Chicago, IL.
Email: siddique@northwestern.edu
Board # 10

Estimation Of Physical Activity Level With An Accelerometer Using An Intensity-based Classification Of Counts
Giulio Valenti¹, Stefan GJA Camps¹, Alberto G. Bonomi², Klaas R. Westerterp³. ¹Maastricht University, Maastricht, Netherlands. ²Philips Research Laboratories, Eindhoven, Netherlands.
Email: g.valenti@maastrichtuniversity.nl
Board # 11

Objectively Measured Total Accelerometer Counts and MVPA: The Relationship with Biomarkers Using 2003 - 2006 NHANES
Dana L. Wolff¹, Eugene C. Fitzhugh¹, David R. Bassett¹, James R. Churilla². ¹University of Tennessee, Knoxville, TN. ²University of North Florida, Jacksonville, FL.
Email: dwolff@utk.edu
Board # 12
Feature Extraction from Biological Motion with PARTwear An Application for Sprint Running
Michael Gasser, Benjamin Habegger, Josef Goette, Marcel Jacomet. Berne University of Applied Sciences, Biel, Switzerland.
Email: michael.gasser@bfh.ch
Board # 13

Estimating Accelerometer Wear And Non-wear Events: Comparative Study Of Physical Activity Between Children And Adults
Sinead Brophy, Shang-Ming Zhou, Rebecca Hill, Kelly Morgan, Gareth Stratton, Ronan A. Lyons, Gunnar Bijlsma. Swansea University, Swansea, United Kingdom.
Email: s.brophy@swansea.ac.uk
Board # 14

Influence of Children’s Age and Gender in Establishing Reliable Physical Activity Estimates
Minsoo Kang¹, Kristie Bjornson², Tiago V. Barreira³, Brian G. Ragan⁴, Kit Song⁵. ¹Middle Tennessee State University, Murfreesboro, TN. ²Seattle Children's Research Institute, Seattle, WA. ³Pennington Biomedical Research Center, Baton Rouge, LA. ⁴Ohio University, Athens, OH. ⁵Shriners Hospitals for Children, Los Angeles, CA.
Email: mkang@mtsu.edu
Board # 15

Real-Time Activity Recognition using Changepoint Detection and Machine Learning on Free-Living Accelerometer Data
Weng-Keen Wong¹, Michael Anderson¹, Stewart Trost². ¹Oregon State University, Corvallis, OR. ²The University of Queensland, St. Lucia, Australia.
Email: wong@eecs.oregonstate.edu
Board # 16

Comparison Of Four "Time In Intensity" Physical Activity Indices As Predictors Of Cardiometabolic Health
David A. Rowe¹, Minsoo Kang², Youngdeok Kim². ¹University of Strathclyde, Glasgow, United Kingdom. ²Middle Tennessee State University, Murfreesboro, TN.
Email: david.rowe@strath.ac.uk
Board # 17

Physical Activity Intensity Signature (PAIS) Of Pain: Large-scale Study Reveals Novel Cut-points For Accelerometry Analysis In Regional Body Pain
Ming-Chih Kao¹, Renata Jarosz¹, Sean Mackey¹, Christy Tomkins-Lane², Matthew Smuck¹. ¹Stanford University, Palo Alto, CA. ²Mount Royal University, Calgary, AB, Canada.
Email: mckao@stanford.edu
Board # 18

Two-Tiered Machine Learning Model for Estimating Energy Expenditure in Children
Kevin Amaral, Yang Mu, Henry Lo, Wei Ding, Scott E. Crouter. University of Massachusetts Boston, Boston, MA.
Board # 19
A Novel Method To Assess The Intensity And Duration Of Walking Bouts In Youth
Wilshaw R. Stevens Jr, Kirsten Tulchin-Francis. Texas Scottish Rite Hospital for Children, Dallas, TX.
Email: wilshaw.stevens@tsrh.org
Board # 20

Discriminative Accelerometer Patterns in Children Physical Activities
Yang Mu, Henry Lo, Kevin Amaral, Wei Ding, Scott E. Crouter. University of Massachusetts Boston, Boston, MA.
Email: acemuyang@gmail.com
Board # 21

Comparison of Two Filter Settings in Accelerometer-assessed Physical Activity in Individuals with Impaired Gait
Håkan Nero, Martin Benka Wallén, Erika Franzén, Maria Hagströmer. Neurobiology, Care Sciences and Society, Karolinska Institutet, Stockholm, Sweden.
Email: hakan.nero@ki.se
Board # 22

A Novel Method for Summarizing Activity Intensity Levels and Bout Durations During Everyday Living
Warren D. Smith¹, Anita Bagley². ¹California State University, Sacramento, Sacramento, CA. ²Shriners Hospitals for Children, Northern California, Sacramento, CA.
Email: smithwd@csus.edu
Board # 23

Evaluation Of A Method For Minimizing Diurnal Information Bias In Objective Sensor Data
Soren Brage, Kate Westgate, Katrien Wijndaele, Job Godinho, Simon Griffin, Nick Wareham. MRC Epidemiology Unit, Cambridge, United Kingdom.
Email: soren.brage@mrc-epid.cam.ac.uk
Board # 24

Accelerometer Cutpoints: What to do During the Transition from Adolescence to Adulthood in Longitudinal Studies?
Email: lindsay.nettlefold@hiphealth.ca
Board # 25

How Many Hours And Days Of Data Provide Reliable Estimates Of Habitual Physical Activity In Preschool Children?
Jane Hislop¹, James Law², Robert Rush¹, Andrew Grainger¹, Cathy Bulley¹, John J. Reilly³, Tom Mercer¹. ¹Queen Margaret University, Musselburgh, United Kingdom. ²Newcastle University, Newcastle, United Kingdom. ³University of Strathclyde, Glasgow, United Kingdom.
Email: jhislop@qmu.ac.uk
Board # 26
The Use of Triaxial Accelerometry Data to Define Nonwear Time
Annemarie Koster1, Dane R. Van Domen2, Paolo Caserotti3, Robert J. Brychta4, Kong Y. Chen4, Nanna Y. Arnardóttir5, Gudny Eiriksdottir6, Þórarinn Sveinsson5, Erlingur Jóhannsson5, Vilmundur Gudnason6, Lenore J. Launer2, Tamara B. Harris2.
1Maastricht University, Maastricht, Netherlands. 2National Institute on Aging, Bethesda, MD. 3University of Southern Denmark, Odense, Denmark. 4National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD. 5University of Iceland, Reykjavik, Iceland. 6The Icelandic Heart Association, Kopavogur, Iceland.
Email: a.koster@maastrichtuniversity.nl
Board # 27

Decision Rules In Analyzing Acceleration Data And Their Impact On Meeting ACSM Physical Activity Recommendations
Menno J. Zuidema1, Rob C. van Lummel1, Jorine E. Hartman2, Mathieu HG de Greef3, Nick HT ten Hacken2. 1McRoberts BV, Den Haag, Netherlands. 2University Medical Centre Groningen, Groningen, Netherlands. 3University of Groningen, Groningen, Netherlands.
Email: mzuidema@mcroberts.nl
Board # 28

Relationships between Physical Activity and Adiposity: Does Accelerometer Non-Wear Criteria Matter?
Leigh Gabel, Lindsay A. Nettlefold, Louise C. Mâsse, Douglas Race, Heather A. McKay, Heather M. Macdonald. The University of British Columbia, Vancouver, BC, Canada.
Email: leigh.gabel@hiphealth.ca
Board # 29

GeneActiv And ActiGraph GT3X+ Raw Acceleration Outputs: Are They Similar In Children?
Christine A. Schaefer, Valerie Ward, Raymond C. Browning. Colorado State University, Fort Collins, CO.
Email: christine.a.schaefer@gmail.com
Board # 30

Activity Classification Using the Wrist-Mounted GeneActiv Accelerometer in Children
Raymond C. Browning, Chrissy Schaefer, Charles Anderson. Colorado State University, Fort Collins, CO.
Email: christine.a.schaefer@gmail.com
Board # 31

Moveecloud: An Analytical And Study Management Platform For Raw Sensor Data
Vincent T. van Hees1, Simon Woodman2, Hugo Hiden2, Mark Turner2, Paul Watson2, Michael Catt1, Micheal Trenell1. 1MoveLab: Physical activity and Exercise research, Newcastle University, Newcastle upon Tyne, United Kingdom. 2Computer Science Department, Newcastle University, Newcastle upon Tyne, United Kingdom.
Email: vincent.van-hees@newcastle.ac.uk
Board # 32
Loaded and Unloaded Foot Movement Differentiation Using Chest Mounted Accelerometer Signatures
Cynthia M. Clements, Derek Moody, Joseph F. Seay, Rebecca E. Fellin, Mark J. Buller. USARIEM, Natick, MA.
Email: cynthia.clements1@us.army.mil
Board # 33

Post-trial Anatomical Frame Alignment Technique for Inertial Sensor System in Joint Kinematics Measurements
Qingguo Li, Jun-Tian Zhang. Queen’s University, Kingston, ON, Canada.
Email: qli@appsci.queensu.ca
Board # 34

Engineering and Tool Development

Detection of Respiration Rate During Sleep Using 3D Sensor
Email: jussi.virkkala@ttl.fi
Board # 35

Evaluating Four Types Of Spinal Orthoses Using Inertia Sensor Based Motion Analysis
W van Rooij, R Senden, I Curfs, IC Heyligers, W van Hemert, B Grimm. AHORSE dept. Orthopaedic Surgery and Traumatology, Heerlen, Netherlands.
Email: rachel.senden@gmail.com
Board # 36

Towards Home Exercise Performance Measures: Classifying Walking Balance Exercises from Hip and Ankle Accelerometers
James Tung. University of Waterloo, Waterloo, ON, Canada.
Email: james.tung@uwaterloo.ca
Board # 37

Assessing Physical Activity Intensity Using a Video Based Approach
Pedro Silva¹, Catarina Santiago², Luis Paulo Reis³, Armando Sousa², Jorge Mota³, Greg Welk⁴. ¹CIAFEL, FADE-University of Porto, Porto, Portugal. ²INESC TEC and Faculty of Engineering - University of Porto, Porto, Portugal. ³School of Engineering - University of Minho and LIACC, Faculty of Engineering - University of Porto, Porto, Portugal. ⁴Iowa State University, Ames, IA.
Email: perrinha@gmail.com
Board # 38

Comparing Energy Expenditure Prediction from a Wearable Wireless Network of Accelerometers to Indirect Calorimetry
Karin A. Pfeiffer, Alexander H. Montoye, Bo Dong, Subir Biswas. Michigan State University, East Lansing, MI.
Email: kap@msu.edu
Board # 39
Real-time Activity Classification With Android Smartphones
Michael B. Del Rosario, Nigel H. Lovell, Stephen J. Redmond. *University of New South Wales, Sydney, Australia.*
Email: michael_delrosario@hotmail.com
Board # 40

PARTwear: A Modular System for a Flexible Development of Physical Activity Recognition and Tracking Applications
Martin Rumo¹, Benjamin Habegger², Michael Gasser², Urs Mäder¹. *Swiss Federal Institute of Sports, Magglingen, Switzerland. Bern University of Applied Sciences, Biel, Switzerland.*
Email: martin.rumo@baspo.admin.ch
Board # 41

Classification Of Physical Activity Based On A Biomechanical Approach
Laetitia Fradet, Frédéric Marin². *Institut PPRIME, Université de Poitiers, Chasseneuil du Poitou - Futuroscope, France. BMBI-UMR 7338, Université de Technologie de Compiègne, Compiègne, France.*
Email: laetitia.fradet@univ-poitiers.fr
Board # 42

Measurement Of Sit-stand And Stand-sit Transitions Using A Tri-axial Accelerometer On The Lower Back
Alan Godfrey, Gillian Barry, John Mathers, Lynn Rochester. *Newcastle University, Newcastle upon Tyne, United Kingdom.*
Board # 43

Dynamic Calibration Approach For A Multi-sensor Knee Brace Exploiting Inductive Coil Technology
Kenneth Meijer, Hans Essers, Marcella Hamers, Lodewijk van Rhijn, Paul Willems. *Maastricht University, Maastricht, Netherlands.*
Email: kenneth.meijer@maastrichtuniversity.nl
Board # 44

Absolute Performance of Physical Activity Monitors
Jon Moon, Jared Sieling. *MEI Research, St Louis Park, MN.*
Email: jmoon@meinergy.com
Board # 45

Assessing the Development and Application of an Overall Dynamic Body Accelerometer Technique for use in Elite Swimmers
Melitta McNarry, Huw Summers, Kelly Mackintosh, Gareth Stratton, Mark Holton. *Swansea University, Swansea, United Kingdom.*
Email: m.mcnarry@swansea.ac.uk
Board # 46
Application of Nanotechnology and Computer Science to the Development of Physical Activity Sensors
Kelly Mackintosh, Huw Summers, Melitta McNarry, Gareth Stratton, Mark Holton. Swansea University, Swansea, United Kingdom.
Email: k.mackintosh@swansea.ac.uk
Board # 47

Evaluating a Complete Streets Implementation using Web-Based Prompted Recall for MVPA Bouts
Laura Wilson¹, Dr. Barbara Brown², Michelle Lee¹. ¹Westat / GeoStats Services, Atlanta, GA. ²The University of Utah, Salt Lake City, UT.
Email: LauraWilson@westat.com
Board # 48

Accelerometer Technologies, Specifications, and Limitations
Jeffrey Miller. ActiGraph, Pensacola, FL.
Board # 49

Validation and Calibration

Discriminating Between Lying Down, Sitting, Standing, and Ambulating Using Two Tri-Axial Accelerometers
Dinesh John¹, David R. Bassett², Scott A. Conger², Brian C. Rider², Ryan M. Passmore², Justin M. Clark². ¹Northeastern University, Boston, MA. ²University of Tennessee, Knoxville, TN.
Email: d.john@neu.edu
Board # 50

A Comparison of Two Accelerometers For Measuring Physical Activity and Sedentary Behaviour
Ted R. Pfister¹, Qinggang Wang², Karen A. Kopciuk³, Patricia Doyle-Baker¹, Lindsay McLaren¹, Charles E. Matthews¹, Kerry S. Courneya¹, Christine M. Friedenreich³. ¹University of Calgary, Calgary, AB, Canada. ²Population Health Research, Alberta Health Services-Cancer Care, Calgary, AB, Canada. ³University of Calgary; Population Health Research, Alberta Health Services-Cancer Care, Calgary, AB, Canada.
Email: trpfiste@ucalgary.ca
Board # 51

Validation Of The ActivPAL And ActiGraph For Assessing Sitting In A School Classroom Setting
Kate Ridley¹, Jo Salmon², Nicola D. Ridgers². ¹Flinders University, Adelaide, Australia. ²Deakin University, Melbourne, Australia.
Email: kate.ridley@flinders.edu.au
Board # 52

Reliability and Validity of a Domain-Specific, Last-7-Day Sedentary Behaviour Questionnaire in Adults
Katrien Wijndaele¹, Ilse De Bourdeaudhuij², Job Godino¹, Simon Griffin¹, Kate Westgate¹, Søren Brage¹. ¹MRC Epidemiology Unit, Cambridge, United Kingdom. ²Ghent University, Ghent, Belgium.
Email: katrien.wijndaele@mrc-epid.cam.ac.uk
Board # 53
Comparison Of Objectively Measured And Self-reported Time Spent Sitting For Administrative Workers
Julie Lagersted-Olsen¹, Mette Korshøj¹, Isabella G. Carneiro¹, Jørgen Skotte¹, Karen Søgaard², Andreas Holtermann¹. ¹National Research Center for the Working Environment, Copenhagen Ø, Denmark. ²University of Southern Denmark, Odense, Denmark.
Email: jol@nrce.dk
Board # 54

Reliability And Validity Of Subjective And Objective Instruments For Measuring Sedentary Behaviour In Older Adults
Nicolas Aguilar Farias, Wendy J. Brown, Geeske Peeters. University of Queensland, Brisbane, Australia.
Email: n.aguilar@uq.edu.au
Board # 55

Comparing A Questionnaire With Logbooks And Accelerometry To Assess Sedentary Behaviors And Active Transport
Aurélia Maire¹, Thomas Bastian¹, Christophe Enaux², Hélène Charreire³, Julien Dugas¹, Delphine Roux¹, Christiane Weber³, Yan Ropert-Coudert⁴, Akiko Kato⁴, Jean-Michel Oppert⁵, Chantal Simon¹. ¹CNRS Rhône-Alpes / CENS - CARMEN (INSERM U1060/Université Lyon1/INRA U1235), Lyon, France. ²Laboratoire Image Ville Environnement, Strasbourg, France. ³Université Paris-Est / Lab-Urba / UPEC - UREN INSERM U557/INRA U1125 / Cnam / Université Paris13 Paris-Cité-Sorbonne/Centre de Recherche en Nutrition Humaine Ile-de-France, Paris, France. ⁴Institut Pluridisciplinaire Hubert Curien (CNRS-UMR 7178/Université de Strasbourg), Strasbourg, France. ⁵UREN INSERM U557/INRA U1125/Cnam/Université Paris 13 Paris-Cité-Sorbonne/Centre de Recherche en Nutrition Humaine Ile-de-France - Université Pierre et Marie Curie Paris 6, Hôpital Pitié Salpêtrière, Centre de Recherche en Nutrition Ile-de-France, Paris, France.
Board # 56

The Association Between Two Accelerometer-derived Measures Of Gait Function; Gait Regularity And The Harmonic Ratio
Email: bard.bogen@isf.uib.no
Board # 57

Evaluation Of Different Kind Of Pedometers Measuring Walking Steps At Different Speeds
Anna Åkerberg, Maria Lindén. Mälardalen University, Västerås, Sweden.
Email: anna.akerberg@mdh.se
Board # 58

School-based Studies: Who Self-Selects Into Physical Activity Monitoring?
Christine Voss¹, Lauren Sulz², Joan Wharf Higgins², PJ Naylor², Sandy Gibbons², Douglas Race³, Heather McKay³. ¹University of British Columbia, Vancouver, BC, Canada. ²University of Victoria, Victoria, BC, Canada.
Email: christine.voss@hiphealth.ca
Board # 59
Development and Validation of a Physical Activity and Heart Rate Monitor for Children Who are Overweight

Sharon A. Martino, Sue Ann Sisto, John Brittelli, Michael Gouzman. Stony Brook University, Stony Brook, NY.

Board # 60

How Many Days are Needed to Measure Physical Activity with an Accelerometer in Older Adults?

Sara J. Francois, Stephanie A. Studenski, Jennifer S. Brach. University of Pittsburgh, Pittsburgh, PA.

Board # 61

Validity Of Multiple-position Wearable Pedometers In Non-traditional Wearing Locations Under Controlled Conditions

Hideaki Kumahara¹, Makoto Ayabe², Misato Ichibakase¹, Akari Tashima¹, Maiko Chiwata¹, Tomomi Takashi¹. ¹Nakamura Gakuen University, Fukuoka, Japan. ²Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan.

Board # 62

Number Of Days Of Trunk Acceleration Measurements To Reliably Quantify Daily Walking In Older Adults

Kimberley S. van Schooten¹, Siets M. Rispens¹, Petra J. M. Elders², Paul Lips³, Jaap H. van Dieën¹, Mirjam Pijnappels¹. ¹MOVE Research Institute Amsterdam, VU University Amsterdam, Amsterdam, Netherlands. ²EMGO Institute, VU University Medical Center, Amsterdam, Netherlands. ³MOVE Research Institute Amsterdam, VU University Medical Center, Amsterdam, Netherlands.

Email: k.van.schooten@vu.nl

Board # 63

Accuracy Of Activity Monitors For Assessing Low Intensity Physical Activity: A Systematic Review


Email: tanakas@nih.go.jp

Board # 64

Shaker Table Validation Of Openmovement Ax3 Accelerometer

Cassim Ladha, Karim Ladha, Daniel Jackson, Patrick Olivier. Newcastle University, Newcastle upon Tyne, United Kingdom.

Email: cassim.ladha@ncl.ac.uk

Board # 65

Objective Measurement of Resistance Training Exercises with a Wrist Accelerometer

David R. Bassett, Scott A. Conger, Brian C. Rider. University of Tennessee, Knoxville, TN.

Email: dbassett@utk.edu

Board # 66
Registrations Of Activities Of Daily Living, Measured By 9-DOF-sensors, Are Highly Reproducible In Healthy Individuals
Ryanne Lemmens\textsuperscript{1}, Henk Seelen\textsuperscript{2}, Yvonne Janssen-Potten\textsuperscript{2}, Annick Timmermans\textsuperscript{3}, Annet Eerden\textsuperscript{2}, Richard Geers\textsuperscript{2}, Rob Smeets\textsuperscript{1}. \textsuperscript{1}Research School CAPHRI, Maastricht University, Maastricht, Netherlands. \textsuperscript{2}Adelante, Centre of Expertise in Rehabilitation and Audiology, Hœnsbroek, Netherlands. \textsuperscript{3}BIOMED Biomedical Research Institute, Hasselt University, Hasselt, Belgium.
Email: ryanne.lemmens@maastrichtuniversity.nl
Board # 67

Validation of International Physical Activity Questionnaire (IPAQ): Test-retest reliability and Criterion validity against Intelligent Device for Energy Expenditure and Activity (IDEEA)
Nadia Garashi, Jasem Ramadan. Kuwait University, Kuwait, Kuwait.
Email: nadia.m@hsc.edu.kw
Board # 68

Validity of the Global Physical Activity Questionnaire in the National Health Survey - Chile 2009-10
Jaime Leppe\textsuperscript{1}, Olga L. Sarmiento\textsuperscript{2}, Paula Margozzini\textsuperscript{3}, Gonzalo Valdivia\textsuperscript{3}, Luis Villarroel\textsuperscript{3}, Regina Guthold\textsuperscript{4}, Fiona Bull\textsuperscript{5}. \textsuperscript{1}Universidad del Desarrollo, Santiago, Chile. \textsuperscript{2}Universidad de los Andes, Bogotá, Colombia. \textsuperscript{3}Universidad Católica, Santiago, Chile. \textsuperscript{4}WHO, Geneva, Switzerland. \textsuperscript{5}University of Western, Perth, Australia.
Email: jleppe@udd.cl
Board # 69

Validity of the MyWellness Key Accelerometer in Free-living Normal Weight, Overweight and Obese Adults
Stacy A. Clemes, Veronica Varela Mato, Hollie Everett. Loughborough University, Loughborough, United Kingdom.
Email: S.A.Clemes@lboro.ac.uk
Board # 70

Choice Of Pedometer Impacts Upon Daily Step Counts In Japanese Primary School Children
Chiaki Tanaka\textsuperscript{1}, Yuki Hikihara\textsuperscript{2}, Shigeru Inoue\textsuperscript{3}, Shigeho Tanaka\textsuperscript{4}. \textsuperscript{1}J. F. Oberlin University, Tokyo, Japan. \textsuperscript{2}Chiba Institute of Technology, Narashino, Japan. \textsuperscript{3}Tokyo Medical University, Tokyo, Japan. \textsuperscript{4}National Institute of Health and Nutrition, Tokyo, Japan.
Email: c-tanaka@obirin.ac.jp
Board # 71

Non-wear Algorithm Accuracy In An Overweight Population
Brenda AJ Berendsen, Marike RC Hendriks, Nicolaas C. Schaper, Paul Willems, Kenneth Meijer, Hans HCM Savelberg. Maastricht University Medical Center, Maastricht, Netherlands.
Email: brenda.berendsen@maastrichtuniversity.nl
Board # 72
Free-living Cross Validation of Actigraph-Gt3x+ And Actiwatch-64 For 24h Monitoring in Healthy Young Adults
Matthew P. Buman1, Nicola Cellini2, Elizabeth A. McDevitt3, Monica Gutierrez1, Joseph Brinkman1, Ashley Ricker3, Sara C. Mednick3. 1Arizona State University, Phoenix, AZ. 2University of Padua, Padua, Italy. 3University of California, Riverside, CA. Email: mbuman@asu.edu
Board # 73

Free-living Cadence (Steps/min) Values Associated with Traditional Accelerometer Activity Count Cut Points
Catrine Tudor-Locke, John M. Schuna, Damon L. Swift, Chelsea A. Hendrick, Corby K. Martin, Timothy S. Church, William D. Johnson. Pennington Biomedical Research Center, Baton Rouge, LA. Email: Tudor-Locke@pbrc.edu
Board # 74

Validation of a Wrist-worn Activity Monitor in the Estimation of Energy Expenditure during Daily Activities
Johanna M. Hänggi1, Carolin Tuch2, Raija Laukkanen3, Nicole Ruch4. 1University of Applied Science and Arts Northwestern Switzerland, Brugg, Switzerland. 2Friedrich-Schiller-University of Jena, Jena, Germany. 3Polar Electro Oy, Kempele, Finland and University of Oulu, Oulu, Finland. 4Swiss Federal Institute of Sport, Magglingen, Switzerland. Email: johanna.haenggi@fhnw.ch
Board # 75

Cross-Device Comparison of Raw Accelerometer Data Under Laboratory Conditions
Rahel Ammann1, Martin Rumo1, Benjamin Habegger2, Michael Gasser2, Thomas Wyss1. 1Swiss Federal Institute of Sport Magglingen, SFISM, Magglingen, Switzerland. 2Bern University of Applied Sciences, Biel, Switzerland. Email: rahel.ammann@baspo.admin.ch
Board # 76

Estimating Free-living Energy Expenditure With A Portable Direct Calorimeter: Effects Of Ambient Temperature
Kate Lyden1, Tracy Swibas1, Victoria Catenacci1, Ruixin Guo1, Neil Szuminsky2, Edward Melanson1. 1University of Colorado Anschutz Medical Campus, Denver, CO. 2Necessity Consulting, Pittsburgh, PA. Email: kate.lyden@ucdenver.edu
Board # 77

Ambulatory System For Upper Limb Movement Assessment In Real Work Conditions - Focus On Wrist Joint
Brice Bouvier, Adriana Savescu, Agnès Aublet-Cuvelier. French National Research and Safety Institute for the prevention of occupational accidents and diseases (INRS), Nancy, France. Email: brice.bouvier@inrs.fr
Board # 78
A Cross-Validation Study of the GENE Accelerometer Waist Cut-Points
Whitney A. Welch¹, David R. Bassett¹, Patty S. Freedson², John W. Staudenmayer², Dinesh John², Jeremy A. Steeves¹, Scott A. Conger¹, Tyrone Ceaser¹, Cheryl A. Howe², Jeffer E. Sasaki². ¹University of Tennessee, Knoxville, TN. ²University of Massachusetts, Amherst, MA.
Board # 79

Aging Research Evaluating Accelerometry (area): Methodologic Comparison Of Accelerometry Performance In The Very Old
Tamara B. Harris¹, Paolo Caserotti², Kong Chen³, Nancy Glynn⁴, Robert Brychta³, Charles Matthews⁵, Brittany Lange Maia⁶, Dane Van Domelen⁶, Helen M. Shen¹, Ming-yang Hung⁷, Annemarie Koster⁷. ¹National Institute on Aging, Bethesda, MD. ²University of Southern Denmark, Odense, Denmark. ³National Institute of Diabetes and Digestive and Kidney Disease, Bethesda, MD. ⁴University of Pittsburgh, Pittsburgh, PA. ⁵National Cancer Institute, Bethesda, MD. ⁶Emory University, Atlanta, GA. ⁷Maastricht University, Maastricht, Netherlands.
Email: harris99@mail.nih.gov
Board # 80

Validation of the It’s Life! Monitoring And Feedback Tool
Sanne van der Weegen¹, Hans Essers², Marieke Spreeuwenberg¹, Kenneth Meijer², Luc de Witte¹. ¹CAPHRI School for Public Health and Primary Care, Maastricht University, Maastricht, Netherlands. ²NUTRIM School for Nutrition, Toxicology and Metabolism, Maastricht University Medical Centre, Maastricht, Netherlands.
Email: s.vanderweegen@maastrichtuniversity.nl
Board # 81

Valid Detection of Wheelchair Propulsion with a Simple Sensor Configuration
Johannes B. Bussmann, Hedwig Kooijmans, Jireh Lim, Suzanne Kooke, Rita van den Berg - Emons, Herwin Horemans. Erasmus MC University Medical Center Rotterdam, Rotterdam, Netherlands.
Email: j.b.j.bussmann@erasmusmc.nl
Board # 82

Assessment of Body Posture Using Inertial Measurement Units: A Validation Study
Gu Eon Kang, Melissa Gross. University of Michigan, Ann Arbor, MI. 
Email: guekang@umich.edu
Board # 83

Methods For Validating Spatio-temporal Gait Parameters In Knee Endoprosthesis Patients Prior To Clinical Field Study
Mareike Schulze, Tilman Calliess, Raphael Bocklage, Frank Seehaus, Henning Windhagen, Michael Marschollek. Hannover Medical School, Hannover, Germany.
Board # 84
Assessment of the False Alarm Rate in a 3 Accelerometry-Based Fall Detector for the Elderly and methods to reduce it
Martin Daumer¹, Cristina Soaz², Christian Lederer³. ¹SLCMSR e.V. - The Human Motion Institute & Trium & TUM, Munich, Germany. ²SLCMSR e.V. - The Human Motion Institute & TUM, Munich, Germany. ³SLCMSR e.V. - The Human Motion Institute, Munich, Germany.
Email: daumber@slcmsr.org
Board # 85

A Comparison Of Commercial Systems To Evaluate Postural Control During Clinical Testing
Silvia Del Din¹, Alan Godfrey¹, Martina Mancini², Lynn Rochester¹. ¹Newcastle University, Newcastle Upon Tyne, United Kingdom. ²Oregon Health & Science University, Portland, OR.
Email: silvia.del-din@ncl.ac.uk
Board # 86

Comparing Energy Expenditure Prediction from an Accelerometer-Based Artificial Neural Network to Indirect Calorimetry
Alexander H. Montoye, Bo Dong, Subir Biswas, Karin A. Pfeiffer. Michigan State University, East Lansing, MI.
Email: montoyea@msu.edu
Board # 87

Reliability And Validity Of Sensor-Based Sit-To-Stand Peak Power In Older Adults
Ruben Regterschot¹, Wei Zhang², Martin Stevens¹, Heribert Baldus², Wiebren Zijlstra³. ¹University of Groningen, University Medical Center Groningen, Groningen, Netherlands. ²Philips Research Europe, Eindhoven, Netherlands. ³Institute of Movement and Sport Gerontology, German Sport University Cologne, Cologne, Germany.
Email: g.r.h.regterschot@umcg.nl
Board # 88

Detecting Indoor and Outdoor Environments Using the Actigraph GT3X+ Light Sensor in Children
Jennifer I. Flynn, Dawn P. Coe, Chelsea Larsen, Brian C. Rider, Scott A. Conger, David R. Bassett, Jr. The University of Tennessee, Knoxville
Board # 89

Physical Activity Recognition from Body-worn Sensors: A Comparison of Free-living and Controlled Data Collection
Katherine Ellis, Jacqueline Kerr, Simon Marshall, Suneeta Godbole, Gert Lanckriet. UCSD, La Jolla, CA.
Email: kkatellis@gmail.com
Board # 90

The Quantity And Quality Of Patient Activity Influence In-vivo Wear In Total Hip Arthroplasty
R Senden, M Lipperts, IC Heyligers, B Grimm. AHORSE dept. Orthopaedic Surgery and Traumatology, Heerlen, Netherlands.
Board # 91
MONDAY, JUNE 17TH

6:00 PM – 8:00 PM – RECEPTION
STUDENT UNION BALLROOM, STUDENT UNION
TUESDAY, JUNE 18TH

7:30 AM – 8:30 AM – BREAKFAST
CAMPUS CENTER CONCOURSE

8:30 AM – 9:00 AM – INVITED SPEAKER
CIPRIAN CRAINICEANU
“COMING TO OUR SENSORS: WHY BODY LANGUAGE IS HARDER TO DECODE THAN NATURAL LANGUAGE”
INTRODUCER: JOHN STAUDENMAYER
CAMPUS CENTER AUDITORIUM

9:00 AM – 9:30 AM – INVITED SPEAKER
RICHARD TROIANO
“PHYSICAL ACTIVITY MONITORING IN NHANES – TECHNOLOGICAL AND METHODOLOGICAL PROGRESS”
INTRODUCER: PATTY FREEDSON
CAMPUS CENTER AUDITORIUM

SLIDE PRESENTATIONS
Validation and Calibration – 8:30 AM – 9:30 AM
Campus Center Room 163
Moderator: Hans Bussmann

CSTS and MARS Models Using Accelerometry and Heart Rate Predict Energy Expenditure of Preschoolers
Nancy F. Butte¹, Anne L. Adolph¹, Maurice R. Puyau¹, Firoz A. Vohra¹, William W. Wong¹, Issa F. Zakeri².¹USDA/ARS CNRC, Baylor College of Medicine, Houston, TX. ²Drexel University, Philadelphia, PA.
Email: nbutte@bcm.edu
8:30-8:45

Testing a New Classification Algorithm to Capture Lifestyle Activities in Free-living Conditions
Thomas Bastian¹, Aurélia Maire³, Julien Dugas¹, Florence Gris³, Emilie Perrin³, Maeva Doron³, Yanis Caritu³, Pierre Jallon³, Chantal Simon¹.¹CRNH Rhône-Alpes/CENS & CarMeN (INSERM/INRA/Univ. Lyon 1), Lyon, France. ²CEA-Leti, Grenoble, France. ³Movea, Grenoble, France.
Email: thomas.bastian@chu-lyon.fr
8:45-9:00
Is Accelerometry Really Measuring Travel-related Physical Activity During The Hour Before And After School?
Amanda Frazer¹, Christine Voss², Heather McKay, Patti-Jean Naylor. ¹University of Victoria, Victoria, BC, Canada. ²University of British Columbia, Vancouver, BC, Canada.
Email: afrazer@uvic.ca
9:00-9:15

Modeling Simultaneous Heart Rate and Accelerometry to Estimate Energy Expenditure
Scott J. Strath¹, Nora E. Miller¹, Elizabeth K. Lenz², Ke Yan³, Raymond Hoffmann⁴, Ann M. Swartz¹.
¹University of Wisconsin-Milwaukee, Milwaukee, WI. ²The College at Brockport-SUNY, Brockport, NY. ³Medical College of Wisconsin, Milwaukee, WI.
Email: sstrath@uwm.edu
9:15-9:30

Special Populations – 8:30 AM – 9:30 AM
Campus Center Room 162
Moderator: Erwin van Wegen

Estimating Energy Expenditure Using Propulsion Power During Wheelchair Locomotion
Scott A. Conger, Stacy N. Scott, David R. Bassett, Jr. University of Tennessee, Knoxville, TN.
Email: sconger@utk.edu
8:30-8:45

Measuring Physical Activity in Children with Cerebral Palsy who are Ambulatory
Margaret E. O’Neil¹, Maria A. Fragala-Pinkham², Stewart G. Trost³, Jeffrey Forman⁴, Nancy Lennon⁵, Ameeka George⁶. ¹Drexel University, Philadelphia, PA. ²Franciscan Hospital for Children, Brighton, MA. ³The University of Queensland, Brisbane, Australia. ⁴Al duPont Hospital for Children, Wilmington, DE.
Email: moneil@drexel.edu
8:45-9:00

Posture And Physical Activity Measurement In Youth With Cerebral Palsy: An ActivPAL Monitor Validity Study
Deirdre E. O’Donoghue¹, Norelee Kennedy². ¹Central Remedial Clinic, Dublin, Ireland. ²University of Limerick, Limerick, Ireland.
Email: deirdred4@yahoo.com
9:00-9:15

Pedometer and Accelerometer Derived Steps in Free-living Older Adults with Parkinson’s disease or Osteoporosis
Email: ing-mari.dohrn@ki.se
9:15-9:30
TUESDAY, JUNE 18TH

9:30 AM – 10:20 AM – KEYNOTE SPEAKER
ABBIE KING
“HARNESSING THE POWER OF TECHNOLOGY TO PROMOTE POPULATION-WIDE PHYSICAL ACTIVITY”
INTRODUCER: DAVID BUCHNER
CAMPUS CENTER AUDITORIUM

10:30 – 11:00 AM – BREAK
CAMPUS CENTER CONCOURSE

11:00 AM – 12:00 PM – EXHIBITOR TALKS
CAMPUS CENTER AUDITORIUM

12:15 – 1:15 PM – LUNCH
STUDENT UNION BALLROOM

1:30 PM – 2:00 PM – INVITED SPEAKER
GENEVIEVE HEALY
“GOING BEYOND THE TOTAL TO UNDERSTANDING THE HOW, WHAT, WHEN AND WHERE OF SEDENTARY BEHAVIOUR CHANGE”
INTRODUCER: KATE RIDLEY
CAMPUS CENTER AUDITORIUM

2:00 PM – 2:30 PM – INVITED SPEAKER
MISHA PAVEL
“MONITORING AND THE INFERENCE OF GAIT BASED ON COMPUTATIONAL MODELS”
INTRODUCER: BEN STANSFIELD
CAMPUS CENTER AUDITORIUM
SLIDE PRESENTATIONS

Statistical, Computational and Data Processing Methods – 1:30 PM – 2:30 PM
Campus Center Room 163
Moderator: Soren Brage

Human Physical Activity Assessment Based on Sparse Representation
Shaopeng Liu¹, Robert X. Gao², Dinesh John³, John Staudenmayer⁴, Patty S. Freedson⁴. ¹Software Science & Analytics, GE Global Research, Niskayuna, NY. ²University of Connecticut, Storrs, CT. ³Northeastern University, Boston, MA. ⁴University of Massachusetts, Amherst, MA.
1:30-1:45

Estimating Energy Expenditure from Heart Rate and Activity Counts: a Bayesian Approach
Jeff Goldsmith¹, Jennifer Schrack², Vadim Zipunnikov², Luigi Ferrucci³, Ciprian Crainiceanu². ¹Columbia University, New York, NY. ²Johns Hopkins University, Baltimore, MD. ³National Institute on Aging, Baltimore, MD.
1:45-2:00

Machine Learning for Activity Recognition: Hip versus Wrist Data
Stewart G. Trost¹, Yonglei Zheng², Weng-Keen Wong². ¹The University of Queensland, Brisbane, Australia. ²Oregon State University, Corvallis, OR.
Email: s.trost@uq.edu.au
2:00-2:15

Support Vector Machines Classifiers Of Physical Activities In Preschoolers
Issa Zakeri. Drexel University, Philadelphia, PA.
2:15-2:30

Sleep – Tuesday, June 18, 1:30 PM – 2:30 PM
Campus Center Room 162
Moderator: Iuliana Hartescu

Assessing Sleep With Wrist And Hip Actigraphy In Young Adults - Comparison To Simultaneous Laboratory Polysomnography
Leon Straker¹, Thalia Botis², Jennifer Walsh², Stuart King², Peter Eastwood². ¹Curtin University, Perth, Australia. ²University of Western Australia, Perth, Australia.
Email: L.Straker@curtin.edu.au
1:30-1:45
Affordable Sleep Estimates using Micro-Electro-Mechanical-Systems (MEMS) Accelerometry
Bart HW te Lindert, Eus JW van Someren. Netherlands Institute for Neuroscience, Amsterdam, Netherlands.
Email: b.te.lindert@nin.knaw.nl
1:45-2:00

Do Active Children Sleep More? A Cross-sectional, Longitudinal Analysis Using Accelerometry
Email: rachael.taylor@otago.ac.nz
2:00-2:15

Validation of the Zephyr Bioharness to Measure Obstructive Sleep Apnea Compared to Laboratory-Based Polysomnography
Eduardo Salazar¹, James M. Parish², Joseph Brinkman³, Amanda Spillman¹, Eric B. Hekler¹, Carol M. Baldwin¹, Bernie Miller², Matthew P. Buman¹. ¹Arizona State University, Phoenix, AZ. ²Mayo Clinic Arizona, Scottsdale, AZ.
Email: eduardo.salazar@asu.edu
2:15-2:30

2:30 PM – 3:20 PM – KEYNOTE SPEAKER
JOHN STAUDENMAYER
“ESTIMATING PHYSICAL ACTIVITY WITH ACCELEROMETERS: THERE HAS BEEN ACCELERATION; WHERE HAVE WE MADE PROGRESS?”
INTRODUCER: CIPRIAN CRAINICENEAU
CAMPUS CENTER AUDITORIUM

POSTER SESSION
Authors will be present from 3:30 PM – 4:45 PM
Campus Center Auditorium

Clinical Applications

Variability Of Postural Control With Time In Parkinson’s Disease
Silvia Del Din¹, Alan Godfrey¹, Brook Galna¹, Sue Lord¹, Martina Mancini², Lynn Rochester¹. ¹Newcastle University, Newcastle Upon Tyne, United Kingdom. ²Oregon Health & Science University, Portland, OR.
Email: silvia.del-din@ncl.ac.uk
Board # 1
TUESDAY, JUNE 18TH

Accelerometry Based Assessment Of Anti-Parkinsonian Medication On Postural Control
Silvia Del Din¹, Alan Godfrey¹, Brook Galna¹, Sue Lord¹, Martina Mancini², Lynn Rochester¹. ¹Newcastle University, Newcastle Upon Tyne, United Kingdom. ²Oregon Health & Science University, Portland, OR.
Email: silvia.del-din@ncl.ac.uk
Board # 2

In-Home Activity Monitoring in Frail Elders: A New Measure of Function
Bijan Najafi¹,², Michael Schwenk¹,², Karen D’Huyvetter²,³, Christopher Wendel²,³, Gurtej Grewal¹,², M. Jane Mohler¹,²,³. ¹Interdisciplinary Consortium for Advanced Motion Performance (iCAMP), Department of Surgery, Tucson AZ. ²Arizona Center on Aging, University of Arizona, Tucson AZ. ³Department of Geriatric, General Internal Medicine and Palliative Medicine, University of Arizona, Tucson AZ.

Predicting Falls in Patients with Dementia using Accelerometry: Preliminary Results of an Unsupervised Field Study
Matthias Gietzelt¹, Klaus-Hendrik Wolf¹, Michael Marschollek³, Reinhold Haux¹. ¹TU Braunschweig, Braunschweig, Germany. ²Hannover Medical School, Hannover, Germany.
Email: Matthias.Gietzelt@plri.de
Board # 3

Walking Stride Rate Patterns In Children with Cerebral Palsy
Kristie F. Bjornson¹, Chuan Zhou¹, Dimitri Christakis¹, Richard Stevenson². ¹Seattle Children's Research Institute, Seattle, WA. ²University of Virginia, Charlottesville, VA.
Email: kristie.bjornson@seattlechildrens.org
Board # 4

Number Of Days Needed To Provide Reliable Estimates Of Habitual Physical Activity Using GeneActiv Accelerometer
Christina B. Dillon¹, Jamie M. Madden¹, Kirsten Rennie², Robert Kozarski², Anthony P. Fitzgerald³, Patricia M. Kearney¹. ¹University College Cork, Cork, Ireland. ²University Of Hertfordshire, Hertfordshire, United Kingdom.
Email: christina.b.dillon@gmail.com
Board # 5

Physical Behaviour During The 4th Postoperative Day After Hip Fracture - Part Of The Trondheim Hip Fracture Trial
Kristin Taraldsen¹, Olav Sletvold², Pernille Thingstad¹, Ingvild Saltvedt², Malcolm H Granat³, Jorunn L Helbostad². ¹NTNU, Trondheim, Norway. ²NTNU and St.Olavs Hospital, Trondheim University Hospital, Trondheim, Norway. ³Glasgow Caledonian University, Glasgow, United Kingdom.
Email: kristin.taraldsen@ntnu.no
Board # 7
Effects Of Mindfulness-enhanced Versus Standard Nutrition Weight Management Programs On Physical Activity And Pedometer Usage
Matthew A. Stults-Kolehmainen¹, Tao Lu², Keri Tuit¹, Rajita Sinha¹. ¹Yale University Medical School, New Haven, CT. ²SUNY Albany, Albany, NY.
Email: matthew.stults-kolehmainen@yale.edu
Board # 8

Analysis of Crutch & Weightbearing Steps from ActiGraph GT3X+ Activity Monitor Signals
Glenn N. Williams, Daniel Cobian. University of Iowa, Iowa City, IA.
Email: glenn‐williams@uiowa.edu
Board # 9

Measuring Function And Physical Activity Of Patients With Low Back Pain Using Ambulant Sensor Technology
W van Rooij¹, R Senden¹, IC Heyligers¹, P Cuppen², W van Hemert¹, B Grimm¹. ¹AHORSE dept. Orthopaedic Surgery and Traumatology, Atrium MC Heerlen, Netherlands. ²Cheiron Medisch Centrum, Waalre, Heerlen, Netherlands.
Board # 10

Comparison Of Generalized And Individualized Approaches To Estimating Physical Activity Using Accelerometers In Older Adults
Todd Manini¹, Catrine Tudor‐Locke², Walter T. Ambrosius³, Robert Axtell⁴, Matt Buman⁵, Roger Fielding⁶, Nancy Glynn⁷, William Haskell⁸, Don Hire⁹, Abby King⁹, Anthony Marsh⁹, Dan White¹⁰, Mike E. Miller³, Juned Siddique¹¹. ¹University of Florida, Gainesville, FL. ²Pennington Biomedical Research Center, Baton Rouge, LA. ³Wake Forest School of Medicine, Winston-Salem, NC. ⁴Southern Connecticut State University, New Haven, CT. ⁵Arizona State University, Phoenix, AZ. ⁶Tufts University, Boston, MA. ⁷University of Pittsburgh, Pittsburgh, PA. ⁸Stanford University School of Medicine, Stanford, CA. ⁹Wake Forest, Winston-Salem, NC. ¹⁰Boston University, Boston, MA. ¹¹Northwestern University, Chicago, IL.
Email: tmanini@ufl.edu
Board # 11

Correlations Between Free‐living Accelerometry, Self‐report And Laboratory Measures Of Physical Activity In Patients With Lumbar Spinal Stenosis
Matthew Smuck¹, Matthew P. Buman², Agnes Martinez‐Ith³, William L. Haskell³, Ming‐Chih J. Kao¹. ¹Stanford University, Redwood City, CA. ²Arizona State University, Phoenix, AZ. ³Stanford University, Palo Alto, CA.
Board # 12

Patient Activity As Measured By 3D Accelerometer Is Not Improved 10 Years After Total Knee Arthroplasty And Remains Under Healthy Levels
R Senden, IC Heyligers, B Grimm. AHORSE dept. Orthopaedic Surgery and Traumatology, Heerlen, Netherlands.
Email: rachel.senden@gmail.com
Board # 13
Detecting Not-wearing Periods During Activity Monitoring In Older Adults
Martijn Niessen1, Mirjam Pijnappels2, Jaap van Dieën2, Rob van Lummel1. 1McRoberts, The Hague, Netherlands. 2MOVE Research Institute, VU University Amsterdam, Amsterdam, Netherlands. Email: mniessen@mcroberts.nl
Board # 14

Feasibility And Added Value Of Activity Monitoring In Clinical Practice
Rita (Hendrika) van den Berg-Emons, Helmi (Wilhelmina) van Hirtum, Fabienne Schasfoort, Hans (Johannes) Bussmann. Erasmus MC, Rotterdam, Netherlands. Email: h.j.g.vandenberg@erasmusmc.nl
Board # 15

Effect Of Cannabinoid (dronabinol) Treatment On Physical Activity In Patients With Severe Anorexia Nervosa
Bibi Gram1, Alin Andries2, René Klinkby Støving2. 1Hospital of Southwest Denmark, Esbjerg, Denmark. 2Odense University Hospital, Odense, Denmark.
Board # 16

Physical Behaviour Early After Onset Of Acute Vestibular Neuritis, And How It Predicts Gait And Self-reported Function 3 Months Later
Jorunn L Helbostad1, Kristin Taraldsen2, Guri Tokle3. 1NTNU and St.Olavs Hospital, Trondheim University Hospital, Trondheim, Norway. 2NTNU, Trondheim, Norway. 3St.Olavs Hospital, Trondheim University Hospital, Trondheim, Norway.
Email: jorunn.helbostad@ntnu.no
Board # 17

Physical Activity Levels at work Among Patient Care Unit and Construction Workers: Preliminary Findings
Oscar E. Arias1, Alberto J. Caban-Martinez1, Peter Umukoro1, Glorian Sorensen2, Jack Dennerlein1. 1Harvard School of Public Health, Boston, MA. 2Dana-Farber Cancer Institute, Boston, MA.
Board # 18

Behavior and Health Outcomes

Fall Risk Indicators in Daily Life Trunk Acceleration Data
Sietse M. Rispens, Kimberley S. van Schooten, Mirjam Pijnappels, Andreas Daffertshofer, Peter J. Beek, Jaap H. van Dieën. MOVE Research Institute Amsterdam, Faculty of Human Movement Sciences, VU University Amsterdam, Amsterdam, Netherlands.
Email: s.m.rispens@vu.nl
Board # 19

Postural Control During Standing Balance As A Biomarker For Healthy Ageing
Alan Godfrey, Silvia Del Din, Brook Galna, John Mathers, Lynn Rochester. Newcastle University, Newcastle upon Tyne, United Kingdom.
Board # 20
TUESDAY, JUNE 18TH

Injury Prevention For Shod Vs. Minimal Footwear/barefoot Runners: Exploratory Study During Competition And Laboratory
Martin Daumer¹, Christine Kleinmond², Christoph Stolle³, Matthias Fasching⁴, Markus Walther⁵. ¹SLCMSR e.V. - The Human Motion Institute & Trium & TUM, Munich, Germany. ²ClinProject UG, Eurasburg, Germany. ³SLCMSR e.V. - The Human Motion Institute, Munich, Germany. ⁴Trium Analysis Online, Munich, Germany. ⁵Schön Klinik München Harlaching, Munich, Germany.
Email: daumer@slcmsr.org
Board # 21

Appetite Scores In The Morning Are Associated With Subsequent Sedentary Behavior
Takafumi Ando¹, Jonghoon Park², Masashi Miyashita³, Kazunori Ohkawara⁴, Chiyoko Usui⁵, Rieko Miyake⁶, Osamu Ezaki⁷, Mitsuru Higuchi⁸, Shigeho Tanaka⁹. ¹Graduate school of sport sciences, Waseda University, Tokorozawa, Japan. ²Department of Nutritional Education, National Institute of Health and Nutrition, Tokyo, Japan. ³Department of Health and Sports Sciences, Tokyo Gakugei University, Tokyo, Japan. ⁴Faculty of Informatics and Engineering, The University of Electro-Communications, Tokyo, Japan. ⁵Japan Society for the Promotion of Science, Tokyo, Japan. ⁶Faculty of Health and Medical Science, Teikyo Heisei University, Tokyo, Japan. ⁷Department of Human Health and Design, Showa Women's University, Tokyo, Japan. ⁸Faculty of Sport Sciences, Waseda University, Tokorozawa, Japan. ⁹Department of Nutritional Science, National Institute of Health and Nutrition, Tokyo, Japan.
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Board # 22

Sedentary Time And Psychological Health In Young Adults At High Risk Of Type 2 Diabetes
Trish Gorely¹, Charlotte Edwardson², Thomas Yates³, Melanie Davies³, Kamlesh Khunti³, Emma Wilmot³, Myra Nimmo², Stuart Biddle². ¹Stirling University, Striling, United Kingdom. ²Loughborough University, Loughborough, United Kingdom. ³University of Leicester, Leicester, United Kingdom.
Email: trish.gorely@stir.ac.uk
Board # 23

Effect of Age on Sitting and Walking of Office Workers on Work and Non-Work Days
Margaret Grant¹, Graeme Stevenson², Catrina Henderson², Philippa Dall¹. ¹Glasgow Caledonian University, Glasgow, United Kingdom. ²NHS Greater Glasgow and Clyde, Glasgow, United Kingdom.
Board # 24

Differences in Sedentary Behaviour at Work and Not at Work in Healthy Office Workers
Philippa Dall¹, Graeme Stevenson³, Catrina Henderson², Margaret Grant¹. ¹Glasgow Caledonian University, Glasgow, United Kingdom. ²NHS Greater Glasgow & Clyde, Glasgow, United Kingdom.
Board # 25

Can We Improve Movement Behavior In Young Adults With Cerebral Palsy With A Lifestyle Intervention?
Board # 26
Midlife Predictors Of Sedentary Behavior In Old Age: Age, Gene/Environment Susceptibility (AGES II)-Reykjavik Study
Maastricht University, Maastricht, Netherlands. Laboratory of Epidemiology, Population Sciences, National Institute on Aging, Bethesda, MD. Institute of Sports Science and Clinical Biomechanics, University of Southern Denmark, Odense, Denmark. Icelandic Heart Association, Kópavogur, Iceland. Research Center of Movement Science, University of Iceland, Reykjavik, Iceland. National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD. Center for Sport and Health Sciences, Iceland University of Education, Laugarvatn, Iceland. Maastricht University Medical Centre, Maastricht, Netherlands.
Email: j.vanderberg@maastrichtuniversity.nl
Board # 27

Self-reported Television Time and Health of Older Adults
Elizabeth K. Lenz, Ann M. Swartz, Amy E. Harley, Scott J. Strath. The College at Brockport-SUNY, Brockport, NY. The University of Wisconsin-Milwaukee, Milwaukee, WI.
Email: egrimm@brockport.edu
Board # 28

Resiliency In Vietnam-era Combat Veterans Associated With Decreased Sedentary Activity Levels
Robert E. Hoyt, Steven Linnville, Francine Segovia, Jeffrey Moore. Robert E Mitchell Center for Prisoner of War Studies, Pensacola, FL.
Email: robert.hoyt@med.navy.mil
Board # 29

A Randomised Controlled Trial Of Occupational Therapy To Promote Mobility In Care Home Residents
Peter J. Sharp, Catherine M. Sackley. University of East Anglia, Norwich, United Kingdom.
Email: c.sackley@uea.ac.uk
Board # 30

Profiling the impact of Prolonged Sedentary Time on Cardio-metabolic Health
James P. Sanders, Adam Loveday, Lauren B. Sherar, Stuart J.H. Biddle, Dale W. Esliger. Loughborough University, Loughborough, United Kingdom.
Board # 31

Under The Physical Cliff: What Happens With Activity While You Age
Vadim Zipunnikov, Jennifer Schrack, Luigi Ferrucci, Ciprian Crainiceanu. Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.
Email: vadim.zipunnikov@gmail.com
Board # 32
Associations Between Sedentary Behaviour Patterns With Body Fatness In Population-based Study Of Irish Adults
Kirsten L. Rennie¹, Tracy A. McCaffrey², Robert Kozarski¹, Breige McNulty³, Anne Nugent³, Janette Walton⁴, Albert Flynn⁴, Mike Gibney³, M Barbara E. Livingstone². ¹University of Hertfordshire, Hatfield, United Kingdom. ²University of Ulster, Coleraine, United Kingdom. ³University College Dublin, Dublin, Ireland. ⁴University College Cork, Cork, Ireland.
Email: k.rennie@herts.ac.uk

The Association Of The Frequency And Duration Of Sedentary Behaviors With Walking Speed In Older Adults: The Most Study
Daniele Casini¹, Giacomo Severini¹, Paolo Bonato¹, Michael LaValley², K. Douglas Gross³, I-Min Lee⁴, Roger Fielding⁵, Cora E. Lewis⁶, Michael Nevitt⁷, James Torner⁸, Daniel K. White⁹. ¹Spaulding Rehabilitation Hospital, Boston, MA. ²Boston University, Boston, MA. ³MGH Institute of Health Professions, Boston, MA. ⁴Harvard University, Boston, MA. ⁵Tufts University, Boston, MA. ⁶University Alabama at Birmingham, Birmingham, AL. ⁷University California San Francisco, San Francisco, CA. ⁸University of Iowa, Iowa City, IA.

Sedentary Behaviour And Physical Activity In Rheumatoid Arthritis
Daniel Rafferty¹, Lorna Paul¹, Rebecca Marshall¹, Jason MR Gill², Iain McInnes², Duncan Porter², Jim Woodburn¹. ¹Glasgow Caledonian University, Glasgow, United Kingdom. ²University of Glasgow, Glasgow, United Kingdom.
Email: d.rafferty@gcu.ac.uk

Sedentary Time by Physical Activity Level in Employed Women: Standard and Alternative Measures
Nancy M. Gell¹, Danielle D. Wadsworth². ¹Group Health Research Institute, Seattle, WA. ²Auburn University, Auburn, AL.
Email: gell.n@ghc.org

Objectively Measured Physical Activity And Calcaneal Bone Health In Older Japanese Adults: The Nakanojo Study
Hyuntae Park¹, Roy J. Shephard², Sungjin Park³, Yukitoshi Aoyagi³. ¹National Center for Geriatrics and Gerontology, Obu, Aichi, Japan. ²University of Toronto, Toronto, ON, Canada. ³Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan.
Email: tonypark@ncgg.go.jp
Gamified Physical Activation of Young Men - a Multidisciplinary Population-Based Randomized Controlled Trial (MOPO study)
Raija Korpelainen¹, Riikka Ahola², Riitta Pyky³, Matti Mäntysaari⁴, Heli Koskimäki², Tiina Ikäheimo², Maija-Leena Huotari², Juha Röning², Hannu J. Heikkinen⁵, Timo Jämsä². ¹Oulu Deaconess Institute, University of Oulu, Oulu, Finland. ²University of Oulu, Oulu, Finland. ³Oulu Deaconess Institute, Oulu, Finland. ⁴Finnish Defence Forces, Helsinki, Finland.
Email: raija.korpelainen@odl.fi
Board # 38

Relationship Between Number Of Steps Per Day And Body Weight Indicators Among Respondents With Metabolic Syndrome
Hazizi A. Saad, Chee Huei Phing, Barakatun Nisak Mohd Yusof, Mohd Nasir Mohd Taib. Universiti Putra Malaysia, Universiti Putra Malaysia, Serdang Selangor, Malaysia.
Email: hazizi@putra.upm.edu.my
Board # 39

Objectively Measured Physical Activity And Appendicular Lean Tissue In Older Japanese Adults: The Nakanojo Study
Roy J. Shephard¹, Hyuntae Park², Sungjin Park³, Yukitoshi Aoyagi³. ¹University of Toronto, Toronto, ON, Canada. ²National Center for Geriatrics and Gerontology, Obo, Aichi, Japan. ³Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan.
Board # 40

Habitual Physical Activity And Immunological Function In Older Individuals: Preliminary Findings From The Nakanojo Study
Yukitoshi Aoyagi¹, Makoto Ayabe¹, Sungjin Park¹, Hiroshi Kawakami², Hidefumi Kuwata³, Roy J. Shephard⁴. ¹Exercise Sciences Research Group, Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan. ²Graduate Programs in Human Life Science, Kyoritsu Women’s University, Tokyo, Japan. ³NRL Pharma, Inc., Kanagawa, Japan. ⁴Faculty of Kinesiology and Physical Education, University of Toronto, Toronto, ON, Canada.
Email: aoyagi@tmig.or.jp
Board # 41

Effect of Group Instruction for Improving Physical Activity in Cold District
Eiji Watanabe¹, Takeshi Sato², Masami Miyazaki³, Shoji Igawa⁴, Takaaki Mishima⁵, Takayuki Watanabe⁵, Kazuyoshi Seki³. ¹Senshu University, Kanagawa, Japan. ²Jissen Women’s University, Tokyo, Japan. ³Waseda University, Saitama, Japan. ⁴Nippon Sport Science University, Kanagawa, Japan. ⁵Hachinohe University, Aomori, Japan.
Email: watana@isc.senshu-u.ac.jp
Board # 42
Evolution of Physical Activity in Young Adult of Aomori Japan
Takayuki Watanabe¹, Takeshi Sato², Eiji Watanabe³, Masami Miyazaki⁴, Kazuyoshi Seki⁵, Shoji Igawa⁵.
¹Hachinohe University, Aomori, Japan. ²Jissen Women’s University, Tokyo, Japan. ³Senshu University, Kanagawa, Japan. ⁴Waseda University, Tokyo, Japan. ⁵Nippon Sport Science University, Kanagawa, Japan.
Board # 43

Work-Related Ambulatory Activity and Sedentary Behavior of Overweight and Obese Office Workers
Board # 44

What is the Relationship Between Self-reported Physical Activity Intensity and Objective Outcomes?
Donough McBrearty¹, Paul R. McCrorie², Malcolm H. Granat¹, Elaine Duncan¹, Ben W. Stansfield¹.
¹Glasgow Caledonian University, Glasgow, United Kingdom. ²MRC Social & Public Health Sciences Unit, Glasgow, United Kingdom.
Email: ben.stansfield@gcu.ac.uk
Board # 45

Integrating Objective Measures (accelerometer/GPS/GIS) and Interviews to Determine Where Adolescents are Physically Active: the PEAR Project
Angie Page¹, Ashley Cooper¹, Emma Coombes², Steve Cummins³, Tom Griffin¹, Andy Jones², Laurence Moore⁴, Byron Tibbitts¹. ¹University of Bristol, Bristol, United Kingdom. ²University of East Anglia, Norwich, United Kingdom. ³London School of Hygiene & Tropical Medicine, London, United Kingdom. ⁴Cardiff University, Cardiff, United Kingdom.
Email: a.s.page@bris.ac.uk
Board # 46

Effects On Presenteeism And Absenteeism From A Randomized Controlled Trial Among Health Care Workers
Jeanette Reffstrup Christensen¹, Kristian Overgaard¹, Andreas Holtermann³, Karen Søgaard¹. ¹University of Southern Denmark, Odense, Denmark. ²Aarhus University, Aarhus, Denmark. ³National Research Centre for the Working Environment, Copenhagen, Denmark.
Email: jrc@sport.au.dk
Board # 47

Walking Activity Of Children With Cerebral Palsy And Children Developing Typically: A Dutch-american Comparison
Leontien Van Wely¹, Annet J. Dallmeijer¹, Jules G. Becher³, Chuan Zhou², Astrid CJ Balemans¹, Kristie F. Bjornson². ¹EMGO+ Institute for Health and Care Research; Research Institute MOVE Amsterdam; VU University Medical Center, Amsterdam, Netherlands. ²Seattle Children’s Research Institute; School of Medicine, University of Washington, Seattle, WA.
Board # 48
Are Perceived Fatigue And Actual Level Of Physical Activity Correlated In Patients With Multiple Sclerosis?
Erwin E. H. van Wegen¹, Marc B. Rietberg², Gert Kwakkel¹. ¹VU University Medical Center, MOVE Research Institute Amsterdam, Amsterdam, Netherlands. ²VU University Medical Center, MOVE Research Institute Amsterdam, Amsterdam, Netherlands.
Email: e.vanwegen@vumc.nl
Board # 49

Proximity Of GPS Measured Time Outdoors To Home In Adolescents
Ashley R. Cooper¹, Angie S. Page¹, Ben Wheeler², Emma Coombes³, Andy Jones³. ¹University of Bristol, Bristol, United Kingdom. ²University of Exeter, Truro, United Kingdom. ³University of East Anglia, Norwich, United Kingdom.
Email: ashley.cooper@bris.ac.uk
Board # 50

Studying Physical Activity in Children’s Environments across Scotland (SPACES)
Paul McCrorie, Scott MacDonald, Laura Macdonald, Anne Ellaway. Medical Research Council, Glasgow, United Kingdom.
Email: p.mccrorie@sphsu.mrc.ac.uk
Board # 51

Seven Days Activity Monitoring in Workers with Musculoskeletal Pain: Daily Patterns, Associations with Symptoms
Email: david.hallman@hig.se
Board # 52

Slow Walking Improves Insulin Action And Plasma Lipids More Than Intense Cycling During Similar Energy Expenditure
Hans H. Savelberg¹, Bernard M. Duvivier¹, Michelle A. Bremers¹, Glenn Van Crombrugge¹, Paul P. Menheere², Marleen Kars², Nicolaas C. Schaper³. ¹Maastricht University, Maastricht, Netherlands. ²Maastricht University Medical Centre+, Maastricht, Netherlands.
Email: hans.savelberg@maastrichtuniversity.nl
Board # 53

Ambulatory Monitoring of EMG Activity During Outdoor Walking
Madoka Iwasaki¹, Takeshi Sato¹, Takayuki Watanabe², Masami Miyazaki³, Shoji Igawa⁴, Eiji Watanabe⁵. ¹Jissen Women’s University, Tokyo, Japan. ²Hachinohe University, Aomori, Japan. ³Waseda University, Tokyo, Japan. ⁴Nippon Sport Science University, Kanagawa, Japan. ⁵Senshu University, Tokyo, Japan.
Email: 1017018i@univ.jissen.ac.jp
Board # 54
Sleep Quality, Physical Activity And Awakening Salivary Cortisol Response Among Police Officers: The BCOPS Study
Desta B. Fekedulegn, Cecil M. Burchfiel, Luenda E. Charles, Tara A. Hartley, John M. Violanti, Michael E. Andrew, Diane B. Miller. CDC/NIOSH, Morgantown, WV.
Email: djf7@cdc.gov
Board # 55

Physical Activity among Preschoolers at Childcare: Differences in Participation Indoors Versus Outdoor?
Patricia Tucker, Leigh M. Vanderloo, Jeffrey D. Holmes, Andrew M. Johnson. Western University, London, ON, Canada.
Email: ttucker2@uwo.ca
Board # 56

Improving The Context Of Activity Monitoring By Combining Objective Measures With Measures Of Use-of-time
Sjaan R. Gomersall, Carol Maher, Coralie English, Alex V. Rowlands, Tim S. Olds. University of South Australia, Adelaide, Australia.
Email: gomsy001@mymail.unisa.edu.au
Board # 57

How Many Steps/day Are Associated With Health Among Older Adults With Knee Osteoarthritis?
Daniel K. White, Roger A. Fielding, Tuhina Neogi, Michael LaValley, K. Douglas Gross, Michael Nevitt, Cora E. Lewis, James Torner, Catrine Tudor-Locke. Boston University, Boston, MA. Tufts University, Boston, MA. University California San Francisco, San Francisco, CA. University Alabama at Birmingham, Birmingham, AL. University of Iowa, Iowa City, IA. Pennington Biomedical Reserach Center, Baton Rouge, LA.
Email: dwtbn@bu.edu
Board # 58

Objective Measurement of Physical Activity and Sedentary Behavior Among Women Age 63-99 Years
Kelly R. Evenson, David M. Buchner, Andrea Z. LaCroix, Michael J. LaMonte, I-Min Lee, Lesley F. Tinker. UNC-Chapel Hill, Chapel Hill, NC. University of Illinois Urbana -Champaign, Champaign, IL. Fred Hutchinson Cancer Research Center, Seattle, WA. University at Buffalo - SUNY, Buffalo, NY. Harvard Medical School, Boston, MA.
Email: kelly_everson@unc.edu
Board # 59

Physical Activity In Patients With Ankylosing Spondylitis Compared to Healthy Controls
Email: s.vangenderen@maastrichtuniversity.nl
Board # 60
Changes In Physical Activity Pattern And Bone Mineral Accrual In Peripubertal Boys: Longitudinal Associations
University of Tartu, Tartu, Estonia.
Email: jaak.jurimae@ut.ee
Board # 61

Physical Activity Levels During School Recess: Novelty Effects During an Intervention
Email: ALMEIDAM@mailbox.sc.edu
Board # 62

Profiling The Impact Of Active School Travel On Physical Activity And Sedentary Behaviour
Adam Loveday, James P. Sanders, Lauren B. Sherar, Dale W. Esliger. Loughborough University, Loughborough, United Kingdom.
Board # 63

Parent-Child Physical Activity Relationships using Accelerometers
Jose Ribeiro¹, Jorge Mota¹, Gustavo Marçal¹, Luísa Aires¹, Vera Ferro-Lebres¹, Maria P. Santos¹, Andreia Pizarro¹, Pedro Moreira². ¹University of Porto, Faculty of Sport, Porto, Portugal. ²University of Porto, Faculty of Nutrition, Porto, Portugal.
Board # 64

Risk Of Running Injuries In Minimal Footwear/barefoot Runners - New Hypothesis Generated By Crowd Sourcing
Martin Daumer¹, Tino Müller², Florian Bauer², Christine Kleinmond³, Christoph Stolle⁴, Christian Lederer⁴, Markus Walther⁵. ¹SLCMSR e.V. - The Human Motion Institute & Trium & TUM, Munich, Germany. ²TU Munich, Munich, Germany. ³ClinProject UG, Eurasburg, Germany. ⁴SLCMSR e.V. - The Human Motion Institute, Munich, Germany. ⁵Schön Klinik München Harlaching, Munich, Germany.
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Board # 65

Activity Profile of Menopausal Women Using the activPAL Professional Physical Activity Monitor
Arturo Vega-Gonzalez¹, Maria Raquel Huerta-Franco¹, Birzabith Mendoza-Novelo¹, Juan Manuel Gómez-González². ¹Universidad de Guanajuato, León, Guanajuato., Mexico. ²Universidad Nacional Autónoma de México, Mexico City, Mexico.
Email: a.vega@ugto.mx
Board # 66

Accelerometer-Determined Steps Per Day in Norwegian Adults and Older People
Email: bjorge.herman.hansen@nih.no
Board # 67
QMedic: Next Generation Personal Emergency Response Systems (PERS) for Older Adults
Fahd K. Albinali. EveryFit Inc., Cambridge, MA.
Email: falbinali@everyfit.com
Board # 68

Event-based Physical Activity- How Is Wheelchair Physical Activity Accumulated?
Elaine H. Coulter¹, Philippa M. Dall², Lynn Rochester³, Jon P. Hasler⁴, Malcolm H. Granat². ¹University of Glasgow, Glasgow, United Kingdom. ²Glasgow Caledonian University, Glasgow, United Kingdom. ³Newcastle University, Newcastle, United Kingdom. ⁴Queen Elizabeth National Spinal Injuries Unit, Glasgow, United Kingdom.
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Board # 69

Associations between Daily Postural Transitions and Weight Status in 9-11 year old School Children
Ceri E. Sellers, Malcolm H. Granat, P M. Grant, Benedict W. Stansfield. Glasgow Caledonian University, Glasgow, United Kingdom.
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Board # 70

Collecting Baseline Data on Physical Activity and Health as part of a Regional Travel Survey
Michelle R. Lee¹, Leslie Meehan². ¹Westat, Atlanta, GA. ²Nashville Area MPO, Nashville, TN.
Email: michellelee@westat.com
Board # 71

Changes in Daily Activity Patterns with Advancing Age among US Men and Women
Kathryn R. Martin¹, Annemarie Koster², Rachel A. Murphy¹, Dane R. Van Domelen¹, Ming-yang Hung¹, Robert Brychta³, Kong Y. Chen³, Tamara B. Harris¹. ¹NIH/NIA, Bethesda, MD. ²Maastricht University, Maastricht, Netherlands. ³NIDDK, Bethesda, MD.
Email: kathryn.martin@nih.gov
Board # 72

Objectively And Subjectively Measured Physical Activity: Associations With Cognition And Academic Achievement In Adolescents
Martin van Dijk¹, Renate de Groot¹, Frederik van Acker², Hans Savelberg³, Paul A. Kirschner¹. ¹Open University / CELSTEC, Heerlen, Netherlands. ²Open University / Psychology, Heerlen, Netherlands. ³Maastricht University, Maastricht, Netherlands.
Email: martin.vandijk@ou.nl
Board # 73

Using Activity Monitor as Part of an Activation Method - A Pilot Study in Young Men
Anna Jauho¹, Maarit Kangas¹, Riikka Ahola¹, Raija Korpelainen⁵, Timo Jämsä¹. ¹University of Oulu, Oulu, Finland. ²Oulu Deaconess Institute, University of Oulu and Oulu University Hospital, Oulu, Finland.
Email: anna.jauho@oulu.fi
Board # 74
Objective Quantifying Physical Activity in an Evidence-Based Program for Older Adults
Dori Rosenberg1, Nancy Gell1, Harry Papadopoulos2. 1Group Health Research Institute, Seattle, WA. 2Pacific Lutheran University, Tacoma, WA.
Email: rosenberg.d@ghc.org
Board # 75

Sleep Disorders and Physical Activity among U.S. Adults: National Health and Nutrition Examination Survey
James L. Farnsworth, Youngdeok Kim, Minsoo Kang. Middle Tennessee State University, Murfreesboro, TN.
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Board # 76

Association Between What You Can Do (Physical Function) And What You Do (Physical Activity)
Rob C. Van Lummel1, Stefan Walgaard2, Martijn H.M. Niessen1, Mirjam Pijnappels3, Peter J. Beek1, Jaap H. van Dieën1. 1McRoberts, The Hague, Netherlands. 2The Hague University of Applied Sciences, Movement Technology, The Hague, Netherlands. 3MOVE Research Institute Amsterdam, Faculty of Human Movement Sciences, VU University Amsterdam, Amsterdam, Netherlands.
Email: rcvanlummel@mcroberts.nl
Board # 77

'Home' and 'Away': Location-Based Differences in Walking in Individuals with Intermittent Claudication
Anna M. J. Iveson, Philippa M. Dall, Malcolm H. Granat, Brian M. Ellis. Glasgow Caledonian University, Glasgow, United Kingdom.
Email: anna.iveson@gcu.ac.uk
Board # 78

School-day Physical Activity In Elementary School Children: When And How Much?
Erin M. Rauh1, Christine A. Schaefer1, Eve M. Kutchman2, Claudio R. Nigg3, James O. Hill2, Lois A. Brink2, Raymond C. Browning1. 1Colorado State University, Fort Collins, CO. 2University of Colorado Denver, Denver, CO. 3University of Hawaii, Honolulu, HI.
Email: Erinrauh@gmail.com
Board # 79

Non-Sedentary Physical Activity (NSPA): A Relevant Way of Examining Physical Activity Levels in Advanced Age Adults
Casey Mace1, Ralph Maddison1, Timothy Olds2, Ngaire Kerse1. 1University of Auckland, Auckland, New Zealand. 2University of Southern Australia, Adelaide, Australia.
Email: cjcmace@indiana.edu
Board # 80
Is All Screen-time Sedentary? Feasibility Of Wearable Cameras To Assess Different Types Of Screen-time
Johanna M. Hänggi¹, Aiden Doherty², Charlie Foster². ¹University of Applied Sciences and Arts Northwestern Switzerland, Brugg, Switzerland. ²British Heart Foundation Health Promotion Research Group, University of Oxford, Oxford, United Kingdom.
Email: johanna.haenggi@gmail.com
Board # 81

Effect Of High Individual Motivation On Ambulatory Physical Activity In Swiss Army Recruits
Lilian Roos¹, Sandra Trulec Sefidan², Maria Bösch³, Hubert Annen³, Thomas Wyss¹. ¹Swiss Federal Institute of Sport Magglingen SFISM, Magglingen, Switzerland. ²Clinical Psychology and Psychotherapy University of Zurich, Zurich, Switzerland. ³Military Academy ETH Zurich, Zurich, Switzerland.
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Board # 82

Intensity of Physical Activity and Obesity in an Irish Cohort Using GENEActiv Accelerometers
Jamie M. Madden¹, Christina Dillion¹, Kirsten Rennie², Robert Kozarski², Anthony P. Fitzgerald¹, Patricia M. Kearney¹. ¹University College Cork (UCC), Cork, Ireland. ²University of Hertfordshire, Hertfordshire, United Kingdom.
Email: jamiem1234@gmail.com
Board # 83

Activity Levels of Patients post Total Hip Arthroplasty
Laura Covill, Katie Foarde, Vassilios Vardaxis. Des Moines University, Des Moines, IA.
Email: Laura.Covill@dmu.edu
Board # 84

Cardiorespiratory Fitness and Objective Measures of Physical Activity Among Cleaners During Work and Leisure Time
Mark Lidegaard¹, Mette Korshøj¹, Isabella Gomes Carneiro¹, Jørgen Skotte¹, Karen Søgaard², Peter Krstrup³, Andreas Holtermann¹. ¹National Research Centre for the Working Environment, Copenhagen O, Denmark. ²University of Southern Denmark, Odense, Denmark. ³University of Copenhagen, Copenhagen, Denmark.
Email: mli@nrcwe.dk
Board # 85

Associations Of Pedometer/accelerometer Data And Maximal Walking Speeds With Pulse Wave Velocities: The Nakanojo Study
Makoto Ayabe¹, Sungjin Park¹, Roy J. Shephard², Yukitoshi Aoyagi¹. ¹Exercise Sciences Research Group, Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan. ²Faculty of Kinesiology and Physical Education, University of Toronto, Toronto, ON, Canada.
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Board # 86
Results From An On-going Study Of Physical Behaviour In Healthy Individuals Above 70 Years
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Board # 87

Is The Effect Of Sleep Duration On BMI In Children Independent Of Behavioural And Environmental Conditions?
Email: kim.meredith-jones@otago.ac.nz
Board # 88

The Relationship Between Sleep And Daytime Activity In Preschool Children
Phillip Desrochers, Wilbeth Lugo, Lauri Kurdziel, Karen Ertel, Sofiya Alhassan, Rebecca Spencer.
University of Massachusetts Amherst, Amherst, MA.
Board # 89

Associations between Daytime Sleepiness and Sleep Duration with Accelerometer-Measured Physical Activity in the NHANES 2005 - 2006
Sarah E. Tom¹, Kathryn R. Martin², Dane R. Van Domelen³, Kushang V. Patel⁴. ¹University of Maryland School of Pharmacy, Baltimore, MD. ²National Institute on Aging, Bethesda, MD. ³Emory University, Atlanta, GA. ⁴University of Washington School of Medicine, Seattle, WA.
Email: stom@rx.umaryland.edu
Board # 90

Sleep Duration And Sleep Variability Are Associated With Dietary Risk Factors For Obesity In Children
Anders Sjödin¹, Mads F. Hjorth¹, Jonas S. Kjeldsen¹, Rikke Andersen², Kim F. Michaelsen¹, Inge Tetens², Arne Astrup¹, Jean-Philippe Chaput¹. ¹University of Copenhagen, Faculty of Science, Department of Nutrition, Exercise and Sports, Copenhagen, Denmark. ²National Food Institute, Division of Nutrition, DTU Food, Technical University of Denmark, Copenhagen, Denmark. ³Healthy Active Living and Obesity Research Group, Children’s Hospital of Eastern Ontario Research Institute, Ottawa, ON, Canada.
Email: amsj@life.ku.dk
Board # 91

6:30 PM – 7:30 PM: PRE-BANQUEST RECEIPTION
CONCOURSE

7:30 PM: BANQUET
CAMPUSS CENTER AUDITORIUM
8:00 AM – 9:00 AM – BREAKFAST
CAMPUS CENTER CONCOURSE

9:00 AM – 9:50 AM – KEYNOTE SPEAKER
JAMES WYATT
“RESEARCH AND CLINICAL USE OF ACTIGRAPHY IN MEASURING SLEEP AND WAKE”
INTRODUCER: REBECCA SPENCER
CAMPUS CENTER AUDITORIUM

10:00 AM – 10:30 AM – INVITED SPEAKER
REBECCA SPENCER
“USING WRIST-WORN ACTIGRAPHS TO MEASURE SLEEP AND WAKE IN PRESCHOOL CHILDREN”
INTRODUCER: LAURA KURDZIEL
CAMPUS CENTER AUDITORIUM

10:30 AM – 11:00 AM – INVITED SPEAKER
JAMES MCCLAIN
“DEVELOPING INFORMATION AND INFRASTRUCTURE RESOURCES FOR COLLABORATION IN AMBULATORY MONITORING RESEARCH”
INTRODUCER: CATRINE TUDOR-LOCKE
CAMPUS CENTER AUDITORIUM
10:00 AM – 11:30 AM – SYMPOSIUM
“Quantification of physical behaviours: An event-based approach”
“Introduction to event-based analysis of physical behaviours”, Malcolm H. Granat
“Measuring Behavioral Events in Context”, Chuck Matthews
“Assessing Adherence to PA Guidelines”, Sebastien Chastin
“Stepping patterns: Application in Patients with Intermittent Claudication”, Philippa Dall
“Physical Behaviour in Older People and How it Relates to Physical Function”, Jorunn Helbostad
“Under Par: A Story of a Scottish Golfer”, Margaret Grant
CAMPUS CENTER ROOM 163

11:30 AM – 11:45 AM – CLOSING, CAMPUS CENTER AUDITORIUM