

MONDAY, JUNE 17TH

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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
“WHAT HAPPENS WHEN BODY-FIXED SENSORS MEET PARKINSONIAN GAIT? A
LOOK BACK TO THE FUTURE”
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 Kozey 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. Eslinger^{2,3}, Adam Loveday², 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. ¹*Loughborough University, Loughborough, United Kingdom.* ²*Stirling University, Stirling, United Kingdom.* ³*University of Leicester, Leicester, United Kingdom.* ⁴*Leicester Diabetes Centre, University of Leicester, Leicester, United Kingdom.*

9:00-9:15

Congruency of Motion Sensors to Detect Change following a Sedentary Behavior Intervention

Ann M. Swartz, Aubrienne E. Rote, Nick Thielke, Whitney A. Welch, Scott J. Strath. *University of Wisconsin-Milwaukee, Milwaukee, WI.*

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. ¹*University of Limerick, Limerick, Ireland.* ²*Pennington 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. ¹*The University of Queensland, Herston, Australia.* ²*Glasgow 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.* ²*ActivInsights, Cambridgeshire, United Kingdom.*

Email: alex.rowlands@unisa.edu.au

10:15-10:30

MONDAY, JUNE 17TH

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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. ¹*University College London, London, United Kingdom.* ²*St 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

Stephen A. Foulis, Teresa O'Brien, Anita Christie, Jane A. Kent-Braun. *University of Massachusetts, Amherst, MA.*

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. ¹*TU Braunschweig, Braunschweig, Germany.* ²*Hannover 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. ¹*University of Oulu, Oulu, Finland.* ²*Oulu Deaconess Institute, University of Oulu and Oulu University Hospital, Oulu, Finland.* ³*Luleå 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. ¹*Graduate School of Science and Technology, Seikei University, Musashino, Japan.* ²*Office of the Health Center, Seikei University, Musashino, Japan.* ³*Faculty 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 Diepold¹, Martin Daumer³. ¹*Technical University Munich, Munich, Germany.* ²*Trium Analysis Online GmbH, Munich, Germany.* ³*SLCMSR 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

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.

¹*School of Medicine, College of Medical, Veterinary, and Life Sciences, Glasgow, United Kingdom.*

²*Physical Activity for Health Group, University of Strathclyde, Glasgow, United Kingdom.* ³*School of Health and Social Care, Glasgow Caledonian University, Glasgow, United Kingdom.* ⁴*Institute of Sport, PE and Health Science, University of Edinburgh, Edinburgh, United Kingdom.* ⁵*National 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. ¹*The University of Queensland, Brisbane, Australia.* ²*Maastricht University, Maastricht, Netherlands.* ³*National 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 Ha², Kyoung-Joung Lee¹. ¹*Yonsei University, Wonju, Korea, Republic of.*

²*Kangwon 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 Sjødin¹.

¹*University of Copenhagen, Faculty of Science, Department of Nutrition, Exercise and Sports, Copenhagen, Denmark.*

²*Healthy Active Living and Obesity Research Group, Children's Hospital of Eastern Ontario Research Institute, Ottawa, ON, Canada.* ³*National 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

Mathias Ried-Larsen, Jan Christian Brønd, Peter Lund Kristensen, Anders Grøntved, Sidsel Domazet, Line Olesen, Anna Bugge, Niels Christian Møller. *University of Southern Denmark, Odense, Denmark.*

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 Hey¹. ¹*Karlsruhe Institute of Technology, Karlsruhe, Germany.* ²*Institute 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. ¹*Johns Hopkins University, Baltimore, MD.* ²*University of Maastricht, Maastricht, Netherlands.* ³*University of Southern Denmark, Odense, Denmark.* ⁴*University of Pittsburgh, Pittsburgh, PA.* ⁵*National 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. ¹*Northwestern University, Chicago, IL.* ²*University 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. Westerterp¹. ¹*Maastricht University, Maastricht, Netherlands.* ²*Philips 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. ¹*University of Tennessee, Knoxville, TN.* ²*University 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. ¹*Middle Tennessee State University, Murfreesboro, TN.* ²*Seattle Children's Research Institute, Seattle, WA.* ³*Pennington Biomedical Research Center, Baton Rouge, LA.* ⁴*Ohio University, Athens, OH.* ⁵*Shriners 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. ¹*Oregon State University, Corvallis, OR.* ²*The 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. ¹*University of Strathclyde, Glasgow, United Kingdom.* ²*Middle 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. ¹*Stanford University, Palo Alto, CA.* ²*Mount 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. ¹*California State University, Sacramento, Sacramento, CA.* ²*Shriners 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?

Lindsay A. Nettlefold, Leigh Gabel, Louise C. Mâsse, Heather M. Macdonald, Heather A. McKay. *University of British Columbia, Vancouver, BC, Canada.*

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. ¹*Queen Margaret University, Musselburgh, United Kingdom.* ²*Newcastle University, Newcastle, United Kingdom.* ³*University 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 Domelen², 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. ¹*Maastricht University, Maastricht, Netherlands.* ²*National Institute on Aging, Bethesda, MD.* ³*University of Southern Denmark, Odense, Denmark.* ⁴*National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD.* ⁵*University of Iceland, Reykjavik, Iceland.* ⁶*The Icelandic Heart Association, Kopavogur, Iceland.*

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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. ¹*McRoberts BV, Den Haag, Netherlands.* ²*University Medical Centre Groningen, Groningen, Netherlands.* ³*University 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.*

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Board # 31

Movecloud: 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. ¹*MoveLab: Physical activity and Exercise research, Newcastle University, Newcastle upon Tyne, United Kingdom.* ²*Computer 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

Jussi Virkkala, Tiina Paunio. *Finnish Institute of Occupational Health, Helsinki, Finland.*

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, Luís Paulo Reis³, Armando Sousa², Jorge Mota¹, Greg Welk⁴. ¹*CIAFEL, FADE-University of Porto, Porto, Portugal.* ²*INESC TEC and Faculty of Engineering - University of Porto, Porto, Portugal.* ³*School of Engineering - University of Minho and LIACC, Faculty of Engineering - University of Porto, Porto, Portugal.* ⁴*Iowa 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. ¹*Swiss Federal Institute of Sports, Magglingen, Switzerland.* ²*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. ¹*Institut PPRIME, Université de Poitiers, Chasseneuil du Poitou - Futuroscope, France.* ²*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. ¹*Westat / GeoStats Services, Atlanta, GA.* ²*The 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. ¹*Northeastern University, Boston, MA.* ²*University of Tennessee, Knoxville, TN.*

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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. Matthews⁴, Kerry S. Courneya⁵, Christine M. Friedenreich³. ¹*University of Calgary, Calgary, AB, Canada.* ²*Population Health Research, Alberta Health Services-Cancer Care, Calgary, AB, Canada.* ³*University of Calgary; Population Health Research, Alberta Health Services-Cancer Care, Calgary, AB, Canada.* ⁴*National Cancer Institute, Bethesda, MD.* ⁵*University of Alberta, Edmonton, 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. ¹*Flinders University, Adelaide, Australia.* ²*Deakin University, Melbourne, Australia.*

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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. ¹*MRC Epidemiology Unit, Cambridge, United Kingdom.* ²*Ghent University, Ghent, Belgium.*

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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 Sjøgaard², Andreas Holtermann¹. ¹*National Research Center for the Working Environment, Copenhagen Ø, Denmark.*

²*University of Southern Denmark, Odense, Denmark.*

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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.*

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Board # 55

Comparing A Questionnaire With Logbooks And Accelerometry To Assess Sedentary Behaviors And Active Transport

Aurélia Maire¹, Thomas Bastian¹, Christophe Eaux², Hélène Charreire³, Julien Dugas¹, Delphine Roux¹, Christiane Weber², Yan Ropert-Coudert⁴, Akiko Kato⁴, Jean-Michel Oppert⁵, Chantal Simon¹. ¹*CRNH Rhône-Alpes / CENS - CARMEN (INSERM U1060/Université Lyon1/INRA U1235), Lyon, France.*

²*Laboratoire Image Ville Environnement, Strasbourg, France.* ³*Université 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.* ⁴*Institut Pluridisciplinaire Hubert Curien (CNRS-UMR 7178/Université de Strasbourg), Strasbourg, France.* ⁵*UREN 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

Bård Bogen, Mona K. Aaslund, Anette H. Ranhoff, Rolf Moe-Nilssen. *University of Bergen, Bergen, Norway.*

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Board # 57

Evaluation Of Different Kind Of Pedometers Measuring Walking Steps At Different Speeds

Anna Åkerberg, Maria Lindèn. *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 Race¹, Heather McKay¹. ¹*University of British Columbia, Vancouver, BC, Canada.* ²*University 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. ¹*Nakamura Gakuen University, Fukuoka, Japan.* ²*Tokyo 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, Sietse M. Rispens¹, Petra J. M. Elders², Paul Lips³, Jaap H. van Dieën¹, Mirjam Pijnappels¹. ¹*MOVE Research Institute Amsterdam, VU University Amsterdam, Amsterdam, Netherlands.*

²*EMGO Institute, VU University Medical Center, Amsterdam, Netherlands.* ³*MOVE Research Institute Amsterdam, VU University Medical Center, Amsterdam, Netherlands.*

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Board # 63

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

Shigeo Tanaka, Satoshi Nakae, Takafumi Ando. *National Institute of Health and Nutrition, Tokyo, Japan.*

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Board # 64

Shaker Table Validation Of Openmovement Ax3 Accelerometer

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

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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.*

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Board # 66

Registrations Of Activities Of Daily Living, Measured By 9-DOF-sensors, Are Highly Reproducible In Healthy Individuals

Ryanne Lemmens¹, Henk Seelen², Yvonne Janssen-Potten², Annick Timmermans³, Annet Eerden², Richard Geers², Rob Smeets¹. ¹*Research School CAPHRI, Maastricht University, Maastricht, Netherlands.* ²*Adelante, Centre of Expertise in Rehabilitation and Audiology, Hoensbroek, Netherlands.* 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 Leppe¹, Olga L. Sarmiento², Paula Margozzini³, Gonzalo Valdivia³, Luis Villarroel³, Regina Guthold⁴, Fiona Bull⁵. ¹*Universidad del Desarrollo, Santiago, Chile.* ²*Universidad de los Andes, Bogotá, Colombia.* ³*Universidad Católica, Santiago, Chile.* ⁴*WHO, Geneva, Switzerland.* 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 Tanaka¹, Yuki Hikiyama², Shigeru Inoue³, Shigeo Tanaka⁴. ¹*J. F. Oberlin University, Tokyo, Japan.* ²*Chiba Institute of Technology, Narashino, Japan.* ³*Tokyo Medical University, Tokyo, Japan.* ⁴*National Institute of Health and Nutrition, Tokyo, Japan.*
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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.*

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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.

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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.

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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.

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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.*

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Board # 78

A Cross-Validation Study of the GENEA 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 Maia⁴, Dane Van Domelen⁶, Helen M. Shen¹, Ming-yang Hung¹, Annemarie Koster⁷.

¹National Institute on Aging, Bethesda, MD. ²University of Southern Denmark, Odense, Denmark.

³National Institute of Diabetes, Digestive Disorders and Kidney Disease, Bethesda, MD. ⁴University of Pittsburgh, Pittsburgh, PA. ⁵National Cancer Institute, Bethesda, MD. ⁶Emory University, Atlanta, GA.

⁷Maastricht University, Maastricht, Netherlands.

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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.*

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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: daumer@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.

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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

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**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, Aurélie Maire¹, Julien Dugas¹, Florence Gris², Emilie Perrin³, Maeva Doron², Yanis Caritu³, Pierre Jallon², 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 McKay², Patti-Jean Naylor¹. ¹*University of Victoria, Victoria, BC, Canada.* ²*University 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 Hoffmann³, Ann M. Swartz¹.

¹*University of Wisconsin-Milwaukee, Milwaukee, WI.* ²*The College at Brockport-SUNY, Brockport, NY.*

³*Medical College of Wisconsin, Milwaukee, WI.*

Email: ssstrath@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 Forman², Nancy Lennon⁴, Aameeka George⁴. ¹*Drexel University, Philadelphia, PA.* ²*Franciscan Hospital for Children, Brighton, MA.*

³*The University of Queensland, Brisbane, Australia.* ⁴*Al 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. ¹*Central Remedial Clinic, Dublin, Ireland.* ²*University 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

Ing-Mari Dohrn, Martin Benka Wallén, Erika Franzén, Agneta Ståhle, Maria Hagströmer. *Karolinska Institutet, Huddinge, Sweden.*

Email: ing-mari.dohrn@ki.se

9:15-9:30

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 – 12:15 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. ¹*Software Science & Analytics, GE Global Research, Niskayuna, NY.* ²*University of Connecticut, Storrs, CT.* ³*Northeastern University, Boston, MA.* ⁴*University 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. ¹*Columbia University, New York, NY.* ²*Johns Hopkins University, Baltimore, MD.* ³*National 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. ¹*The University of Queensland, Brisbane, Australia.* ²*Oregon 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 Botsis², Jennifer Walsh², Stuart King², Peter Eastwood². ¹*Curtin University, Perth, Australia.* ²*University 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

Rachael Taylor, Sheila Williams, Victoria Farmer, Barry Taylor. *University of Otago, Dunedin, New Zealand.*

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 Brinkman¹, Amanda Spillman¹, Eric B. Hekler¹, Carol M. Baldwin¹, Bernie Miller², Matthew P. Buman¹. ¹*Arizona State University, Phoenix, AZ.* ²*Mayo 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. ¹*Newcastle University, Newcastle Upon Tyne, United Kingdom.* ²*Oregon Health & Science University, Portland, OR.*

Email: silvia.del-din@ncl.ac.uk

Board # 1

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.
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Board # 2

In-Home Activity Monitoring in Frail Elders: A New Measure of Function

Bijan Najafi^{1,2}, Michael Schwenk^{1,2}, Karen D'Huyvetter^{2,3}, Christopher Wendel^{2,3}, Gurtej Grewal^{1,2}, M. Jane Mohler^{1,2,3}. 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.

Board # 3

Predicting Falls in Patients with Dementia using Accelerometry: Preliminary Results of an Unsupervised Field Study

Matthias Gietzelt¹, Klaus-Hendrik Wolf¹, Michael Marschollek², Reinhold Haux¹. ¹TU Braunschweig, Braunschweig, Germany. ²Hannover Medical School, Hannover, Germany.

Email: Matthias.Gietzelt@plri.de

Board # 4

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 # 5

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. Fitzgerald¹, Patricia M. Kearney¹. ¹University College Cork, Cork, Ireland. ²University Of Hertfordshire, Hertfordshire, United Kingdom.

Email: christina.b.dillon@gmail.com

Board # 6

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.

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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. ¹*Yale University Medical School, New Haven, CT.* ²*SUNY Albany, Albany, NY.*

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Board # 8

Analysis of Crutch & Weightbearing Steps from ActiGraph GT3X+ Activity Monitor Signals

Glenn N. Williams, Daniel Cobian. *University of Iowa, Iowa City, IA.*

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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. ¹*AHORSE dept. Orthopaedic Surgery and Traumatology, Atrium MC Heerlen, Netherlands.* ²*Cheiron Medisch Centrum, Waalre, Heerlen, Netherlands.*

Board # 10

Comparison Of Generalized And Individualized Approaches To Estimating Physical Activity Using Accelerometers In Older Adults

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Board # 11

Correlations Between Free-living Accelerometry, Self-report And Laboratory Measures Of Physical Activity In Patients With Lumbar Spinal Stenosis

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Board # 12

Patient Activity As Measured By 3D Accelerometer Is Not Improved 10 Years After Total Knee Arthroplasty And Remains Under Healthy Levels

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Board # 13

Detecting Not-wearing Periods During Activity Monitoring In Older Adults

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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.*

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Board # 15

Effect Of Cannabinoid (dronabinol) Treatment On Physical Activity In Patients With Severe Anorexia Nervosa

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Board # 16

Physical Behaviour Early After Onset Of Acute Vestibular Neuritis, And How It Predicts Gait And Self-reported Function 3 Months Later

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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.

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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.*

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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

Injury Prevention For Shod Vs. Minimal Footwear/barefoot Runners: Exploratory Study During Competition And Laboratory

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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

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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 Stevenson², 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?

Jorrit Slaman, Marij Roebroek, Hans Bussmann, Henk Stam, Rita van den Berg-Emons. *ErasmusMC, Rotterdam, Netherlands.*

Board # 26

Midlife Predictors Of Sedentary Behavior In Old Age: Age, Gene/Environment Susceptibility (AGES II)- Reykjavik Study

Julianne D. van der Berg¹, Hans Bosma¹, Tamara B. Harris², Paolo Caserotti³, Gudny Eiriksdottir⁴, Nanna Yr. Arnardottir⁵, Kathryn Martin², Robert J. Brychta⁶, Kong Y. Chen⁶, Thorarinn Sveinsson⁵, Erlingur Johannsson⁷, Vilmondur Gudnason⁴, Coen D.A. Stehouwer⁸, Annemarie Koster¹. ¹*Maastricht University, Maastricht, Netherlands.* ²*Laboratory of Epidemiology, Population Sciences, National Institute on Aging, Bethesda, MD.* ³*Institute of Sports Science and Clinical Biomechanics, University of Southern Denmark, Odense, Denmark.* ⁴*Icelandic Heart Association, Kópavogur, Iceland.* ⁵*Research Center of Movement Science, University of Iceland, Reykjavik, Iceland.* ⁶*National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD.* ⁷*Center for Sport and Health Sciences, Iceland University of Education, Laugarvatn, Iceland.* ⁸*Maastricht University Medical Centre, Maastricht, Netherlands.*

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Board # 27

Self-reported Television Time and Health of Older Adults

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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.*

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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.*

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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 Zipunnikov¹, Jennifer Schrack¹, Luigi Ferrucci², Ciprian Crainiceanu¹. ¹*Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.* ²*NIA/NIH, Baltimore, MD.*

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Board # 32

Associations Between Sedentary Behaviour Patterns With Body Fatness In Population-based Study Of Irish Adults

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Board # 33

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. White². ¹*Spaulding Rehabilitation Hospital, Boston, MA.* ²*Boston University, Boston, MA.* ³*MGH Institute of Health Professions, Boston, MA.* ⁴*Harvard University, Boston, MA.* ⁵*Tufts University, Boston, MA.* ⁶*University Alabama at Birmingham, Birmingham, AL.* ⁷*University California San Francisco, San Francisco, CA.* ⁸*University of Iowa, Iowa City, IA.*

Board # 34

Sedentary Behaviour And Physical Activity In Rheumatoid Arthritis

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Board # 35

Sedentary Time by Physical Activity Level in Employed Women: Standard and Alternative Measures

Nancy M. Gell¹, Danielle D. Wadsworth². ¹*Group Health Research Institute, Seattle, WA.* ²*Auburn University, Auburn, AL.*

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Board # 36

Objectively Measured Physical Activity And Calcaneal Bone Health In Older Japanese Adults: The Nakanojo Study

Hyuntae Park¹, Roy J. Shephard², Sungjin Park³, Yukitoshi Aoyagi³. ¹*National Center for Geriatrics and Gerontology, Obu, Aichi, Japan.* ²*University of Toronto, Toronto, ON, Canada.* ³*Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan.*

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Board # 37

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 Rönning², Hannu .I. Heikkinen², Timo Jämsä². ¹*Oulu Deaconess Institute, University of Oulu, Oulu, Finland.* ²*University of Oulu, Oulu, Finland.* ³*Oulu Deaconess Institute, Oulu, Finland.* ⁴*Finnish Defence Forces, Helsinki, Finland.*

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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.*

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Board # 39

Objectively Measured Physical Activity And Appendicular Lean Tissue In Older Japanese Adults: The Nakanojo Study

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Board # 40

Habitual Physical Activity And Immunological Function In Older Individuals: Preliminary Findings From The Nakanojo Study

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Board # 41

Effect of Group Instruction for Improving Physical Activity in Cold District

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Board # 42

Evolution of Physical Activity in Young Adult of Aomori Japan

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Board # 43

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

John M. Schuna Jr., Damon L. Swift, Chelsea A. Hendrick, Corby K. Martin, Timothy S. Church, William D. Johnson, Catrine Tudor-Locke. *Pennington Biomedical Research Center, Baton Rouge, LA.*

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.
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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.

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Board # 46

Effects On Presenteeism And Absenteeism From A Randomized Controlled Trial Among Health Care Workers

Jeanette Reffstrup Christensen¹, Kristian Overgaard², Andreas Holtermann³, Karen Sjøgaard¹. ¹University of Southern Denmark, Odense, Denmark. ²Aarhus University, Aarhus, Denmark. ³National Research Centre for the Working Environment, Copenhagen, Denmark.

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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. Becher¹, 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?

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Board # 49

Proximity Of GPS Measured Time Outdoors To Home In Adolescents

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Board # 50

Studying Physical Activity in Children's Environments across Scotland (SPACES)

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Board # 51

Seven Days Activity Monitoring in Workers with Musculoskeletal Pain: Daily Patterns, Associations with Symptoms

David M. Hallman, Eugene Lyskov. *University of Gävle, Centre for Musculoskeletal Research, Gävle, Sweden.*

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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. Schaper². ¹Maastricht University, Maastricht, Netherlands. ²Maastricht University Medical Centre+, Maastricht, Netherlands.

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Board # 53

Ambulatory Monitoring of EMG Activity During Outdoor Walking

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Board # 54

Sleep Quality, Physical Activity And Awakening Salivary Cortisol Response Among Police Officers: The BCOPS Study

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Board # 55

Physical Activity among Preschoolers at Childcare: Differences in Participation Indoors Versus Outdoor?

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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.*

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Board # 57

How Many Steps/day Are Associated With Health Among Older Adults With Knee Osteoarthritis?

Daniel K. White¹, Roger A. Fielding², Tuhina Neogi¹, Michael LaValley¹, K. Douglas Gross¹, Michael Nevitt³, Cora E. Lewis⁴, James Torner⁵, Catrine Tudor-Locke⁶. ¹*Boston University, Boston, MA.* ²*Tufts University, Boston, MA.* ³*University California San Francisco, San Francisco, CA.* ⁴*University Alabama at Birmingham, Birmingham, AL.* ⁵*University of Iowa, Iowa City, IA.* ⁶*Pennington Biomedical Reserach Center, Baton Rouge, LA.*

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Board # 58

Objective Measurement of Physical Activity and Sedentary Behavior Among Women Age 63-99 Years

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Board # 59

Physical Activity In Patients With Ankylosing Spondylitis Compared to Healthy Controls

Simon van Genderen¹, Annelies Boonen¹, Piet Jacobs², Liesbeth Heuft³, Jolanda Luime⁴, Anneke Spoorenberg⁵, Suzanne Arends⁶, Désirée van der Heijde⁷, Robert Landewe⁸, Guy Plasqui¹. ¹*Maastricht UMC+, Maastricht, Netherlands.* ²*St. Laurentius Hospital, Roermond, Netherlands.* ³*St. Jans Gasthuis, Weert, Netherlands.* ⁴*Erasmus MC, Rotterdam, Netherlands.* ⁵*MCL, Leeuwarden, Netherlands.* ⁶*UMCG, Groningen, Netherlands.* ⁷*LUMC, Leiden, Netherlands.* ⁸*AMC, Amsterdam, Netherlands.*

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Board # 60

Changes In Physical Activity Pattern And Bone Mineral Accrual In Peripubertal Boys: Longitudinal Associations

Jaak Jürimäe, Artūrs Ivuškāns, Jarek Mäestu, Evelin Lätt, Priit Purge, Meeli Saar, Toivo Jürimäe.
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Board # 61

Physical Activity Levels During School Recess: Novelty Effects During an Intervention

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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. ¹*University of Porto, Faculty of Sport, Porto, Portugal.* ²*University 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. ¹*SLCMSR e.V. - The Human Motion Institute & Trium & TUM, Munich, Germany.* ²*TU Munich, Munich, Germany.* ³*ClinProject UG, Eurasburg, Germany.* ⁴*SLCMSR e.V. - The Human Motion Institute, Munich, Germany.* ⁵*Schön 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. ¹*Universidad de Guanajuato, León, Guanajuato., Mexico.* ²*Universidad Nacional Autónoma de México, Mexico City, Mexico.*

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Board # 66

Accelerometer-Determined Steps Per Day in Norwegian Adults and Older People

Bjørge H. Hansen, Elin Kolle, Sigmund Alfred Anderssen. *Norwegian School of Sport Sciences, Oslo, Norway.*

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Board # 67

QMedic: Next Generation Personal Emergency Response Systems (PERS) for Older Adults

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Board # 68

Event-based Physical Activity- How Is Wheelchair Physical Activity Accumulated?

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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

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Board # 71

Changes in Daily Activity Patterns with Advancing Age among US Men and Women

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Board # 72

Objectively And Subjectively Measured Physical Activity: Associations With Cognition And Academic Achievement In Adolescents

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Board # 73

Using Activity Monitor as Part of an Activation Method - A Pilot Study in Young Men

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Board # 74

Objectively Quantifying Physical Activity in an Evidence-Based Program for Older Adults

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Board # 75

Sleep Disorders and Physical Activity among U.S. Adults: National Health and Nutrition Examination Survey

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Board # 76

Association Between What You Can Do (Physical Function) And What You Do (Physical Activity)

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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.*

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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. ¹*Colorado State University, Fort Collins, CO.* ²*University of Colorado Denver, Denver, CO.* ³*University of Hawaii, Honolulu, HI.*

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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. ¹*University of Auckland, Auckland, New Zealand.* ²*University of Southern Australia, Adelaide, Australia.*

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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. ¹*University of Applied Sciences and Arts Northwesternswitzerland, Brugg, Switzerland.* ²*British Heart Foundation Health Promotion Research Group, University of Oxford, Oxford, United Kingdom.*

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Board # 81

Effect Of High Individual Motivation On Ambulatory Physical Activity In Swiss Army Recruits

Lilian Roos¹, Sandra Trulec Sefidan², Maria Bösch², Hubert Annen³, Thomas Wyss¹. ¹*Swiss Federal Institute of Sport Magglingen SFISM, Magglingen, Switzerland.* ²*Clinical Psychology and Psychotherapy University of Zurich, Zurich, Switzerland.* ³*Military 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. ¹*University College Cork (UCC), Cork, Ireland.* ²*University of Hertfordshire, Hertfordshire, United Kingdom.*

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Board # 83

Activity Levels of Patients post Total Hip Arthroplasty

Laura Covill, Katie Foarde, Vassilios Vardaxis. *Des Moines University, Des Moines, IA.*

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Board # 84

Cardiorespiratory Fitness and Objective Measures of Physical Activity Among Cleaners During Work and Leisure Time

Mark Lidsgaard¹, Mette Korshøj¹, Isabella Gomes Carneiro¹, Jørgen Skotte¹, Karen Søgaard², Peter Krusturup³, Andreas Holtermann¹. ¹*National Research Centre for the Working Environment, Copenhagen O, Denmark.* ²*University of Southern Denmark, Odense, Denmark.* ³*University of Copenhagen, Copenhagen, Denmark.*

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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. ¹*Exercise Sciences Research Group, Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan.* ²*Faculty 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

Mona K. Aaslund, Bård Bogen. *University of Bergen, Bergen, Norway.*

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Board # 87

Is The Effect Of Sleep Duration On BMI In Children Independent Of Behavioural And Environmental Conditions?

Kim Meredith-Jones, Rachael W. Taylor, Sheila M. Williams. *University of Otago, Dunedin, New Zealand.*

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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. ¹*University of Maryland School of Pharmacy, Baltimore, MD.* ²*National Institute on Aging, Bethesda, MD.* ³*Emory University, Atlanta, GA.* ⁴*University of Washington School of Medicine, Seattle, WA.*

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Board # 90

Sleep Duration And Sleep Variability Are Associated With Dietary Risk Factors For Obesity In Children

Anders Sjödín¹, Mads F. Hjorth¹, Jonas S. Kjeldsen¹, Rikke Andersen², Kim F. Michaelsen¹, Inge Tetens², Arne Astrup¹, Jean-Philippe Chaput³. ¹*University of Copenhagen, Faculty of Science, Department of Nutrition, Exercise and Sports, Copenhagen, Denmark.* ²*National Food Institute, Division of Nutrition, DTU Food, Technical University of Denmark, Copenhagen, Denmark.* ³*Healthy Active Living and Obesity Research Group, Children's Hospital of Eastern Ontario Research Institute, Ottawa, ON, Canada.*

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Board # 91

7:30 PM: BANQUET

CAMPUS 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