ISMPB

International Society for the
Measurement of Physical Behaviour

Newsletter
ISMPB
August, 2017

Message from the President

I would like to start by saying that it is an honour and privilege for me to have taken over the role of President of ISMPB from Hans Bussmann, Hans will now be the Society's Vice President.

ICAMPAM 2017 was truly an outstanding success, as demonstrated by the breadth of the scientific programme, and the numerous opportunities for networking. It was also great socially! Rick Troiano and the staff at the NIH in Bethesda were fabulous hosts!

We are in a period of rapid growth in the use of wearable devices for monitoring physical behaviour. These devices are now being employed in an increasing range of applications and used in very large cohort studies. As a result, the role of the ISMPB has become even more important. Since formation of the ISMPB, we have expanded both our activities and membership, and have also developed our vision for the future of the Society. I would now like to see us being the central forum for the measurement of physical behaviour and to help shape the future in this exciting area.

The formation of our new journal - Journal of the Measurement of Physical Behaviour - will provide a major forum promoting dissemination and facilitating discussion. I am delighted that Patty Freedson, who has lead on this project, is now the journal's Editor-in-Chief. I would like to thank her for her hard work, and for pulling together such a great team. I am eagerly anticipating the publication of our first edition, and I would encourage you all to consider submitting articles to our journal.

The ISMPB is also looking to expand the role that our younger researchers have within the Society, and we were pleased when Miriam Cabrita took the initiative and organised the highly successful Early Career Researcher Event at ICAMPAM. As a Society, we will seek to strengthen and expand this important aspect.

For me, our most important goal over the next two years is to both increase, and widen, our membership base. We now need to engage researchers from a broader range of disciplines to provide them with a forum to discuss how best to use physical behaviour monitoring techniques and to influence the directions of the development of these. This is important not only to maintain the vibrancy of our Society and our conference, but also for all

our research endeavours to have a wider impact.

We are now starting to plan the next ICAMPAM meeting in 2019 and will soon begin working with the local organisers in Maastricht. I hope that in the planning and execution of this, the 6th ICAMPAM meeting, we can reflect these aspirations.

I would like to take this opportunity to welcome four new members to the Society's Board: Miriam Cabrita, Bronwyn Clark, Jorunn Helbostad and Sarah Keadle. We have an enthusiastic and truly talented Board. I would like to thank the "retiring" Board members - David Bassett, Patty Freedson and Genevieve Healy for their central role in taking the Society from an idea to reality.

I very much look forward to us working together.

Malcolm Granat

Member profile

by Sarah Keadle

Everybody has a unique career path to their current destination. Can you share some of your stops along the way?

I grew up in Nova Scotia in Canada and then went to Wake Forest University in North Carolina, mostly to play soccer, but I also got a degree in Health and Exercise Science. I have been so fortunate so far in my career to work with great scientists who are also great people, which has really defined my graduate and postgraduate training. I did my doctorate at the University of Massachusetts in Amherst where I had the opportunity to work with Patty Freedson as she was beginning the first large study to evaluate machine learning techniques to process monitor data. As a Postdoc, I had stops at the Harvard School of Public Health working with I-Min Lee and the National Cancer Institute with Chuck Matthews, where I learned a lot about the logistic and scientific issues we face as we transition from collecting data on 100 to 100,000 subjects. I'm

now on the west coast in San Luis Obispo, California in the Department of Kinesiology at California Polytechnic State University. I plan to continue evaluating and applying monitor data to better understand associations between sedentary behavior, physical activity and health.

Tell us about a current project you are working on.

I'm just starting my research program here at Cal Poly. We are working on a project validating different activity monitors using direct observation. Another project is examining different types of incentives linked to wearable sensor data to motivate cancer survivors to increase activity.

What do you think are the most important research advancements in this area?

I think people are really starting to interrogate the temporal aspect of activity monitor data in new and exciting ways. For example, several people at the Bethesda meeting presented activity (and sedentary) patterns on an hourly, daily weekly and even yearly basis that will give new insight into how activity is related to health.

Have you participated in any ISMBP events? If so, can you please describe your experiences?

I have attended several meeting really enjoyed them. It's such a unique and collegial group of people who are supportive, innovative, and always have great banquets!

In the future, what would you like to see from the ISMBP?

It's an exciting time for research using activity monitors as there are now several large cohorts that will be accruing disease outcomes over the next few years and many experimental trials with activity

monitor data. However, many end users who collect activity monitor data in an intervention study do not understand how to identify appropriate methods and how (or why) to process data in a particular way. I think the new journal will provide a space to disseminate innovative methods to process data including code and support for end users. The society has a unique opportunity to play a leading role in facilitating communication between data scientists, measurement researchers and end-users (e.g., interventionists, clinicians). I think we can play an active role in developing procedures, best practices and establishing collaborations to facilitate uptake of new and better methods.

IS THERE ANYTHING YOU WANT TO FOLLOW UP WITH SARAH?

skeadle@calpoly.edu

KEEP UP TO DATE ON OUR WESITE
http://www.ismpb.org /

CONTRIBUTIONS CONTACT:

BRONWYN CLARK: b.clark3@uq.edu.au

CHERYL HOWE: howec@ohio.edu

New Board Members

Bronwyn K. Clark, PhD
School of Public Health, The University of Queensland
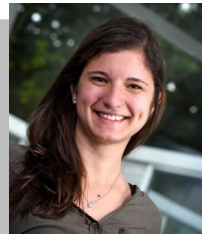

Sarah L. Keadle, PhD
Dept. of Kinesiology, California Polytechnic State University

Jorunn L. Helbostad, PT
Dept. of Neuromedicine and Movement Science, Norwegian University of Science and Technology

Miriam Cabrita, PhDc
Biomedical Signals and Systems group, Enschede, The Netherlands

Retiring Board Members

David R. Bassett, Jr , PhD (Secretary)
Dept. of Kinesiology, Recreation, & Sport Studies, University of Tennessee

Genevieve Healy, PhD
School of Public Health, The University of Queensland

Patty S. Freedson, PhD
Dept. of Kinesiology (emeritus), University of Massachusetts

Conference Highlights

Guest Speakers/Lectures. Key note speakers brought us a range of wonderful new opportunities from smart shoes to smart phones. We heard about the use of devices in large studies and how monitoring can be used in tailoring and individualising interventions.

Conference Venue. NIH offered a cozy/cosy but light filled space to interact with colleagues and easily traverse between presentations. Wandering between the poster presentations while looking out on the greenery was perfect. The green grass proved such a lure that many escaped to share lunch under the blue skies.

General Membership Meeting. The board provided a comprehensive update on the society, including membership numbers, budget and the new journal. Check out the website for more information on these items. https://ismpb.org/general-members-meeting-gmm/

Social Events. We journeyed in to Bethesda to enjoy welcome drinks and the conference banquet at the Hyatt. Over some wine and beer delegates enjoyed great conversations and even some spirited dancing.

Early Career Researchers Scavenger Hunt

On Wednesday evening, almost 2 dozen early career researchers gathered at the Treasury Building Plaza in DC for a scavenger hunt. The main "hunt" part was a set of 10 clues that had a question associated with it. The clue would lead you to a certain area around the white house and something within that area would answer the question. For example, they had to find the "inspiration bench" and explain what would make them nervous about sitting on the bench (it was a cannon). The other two parts of the hunt included picture (e.g., team interacting with someone in uniform) and object challenges (e.g., red rose, DC quarter) that could earn extra points. The evening ended at Blackfinn Ameripub in DC for dinner and drinks.

Winning Team: "Gin and CATatonics" Maik Sliepen, Whitney Welch, Shelby Francis, Elisabeth Winkler, and Bronwyn Clark

Student Presentation Awards (ICAMPAM2017)

Thomas White

University of Cambridge

Outstanding Oral Presentation:

"Absolute Validity of Activity Energy Expenditure Estimates from Wrist Accelerometry"

Hala Abdul Rahman

Ecole Normale Supérieure - Rennes

Honorable Mention - Oral Presentation:

"From Bounded to Pragmatic Data Collection: Validity of State of the Art Activity Recognition in Daily Life Context"
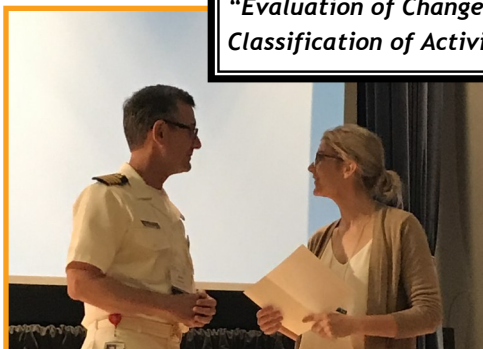

Joshua Twaites

University of Exeter

Outstanding Poster Presentation:

"Evaluation of Change Point Detection in the Classification of Activity Transitions"

Michelle Trevenen

The University Western Australia

Honorable mention - Poster Presentation:

"Sleep Pattern Detection Using Raw Tri-Axial Wrist and Hip Actigraphy in the Raine Study"

Cormac Powell

University of Limerick

Honorable Mention - Poster Presentation:

"Influence of All Aspects of Physical Activity on Cardiometabolic Health in an Irish Adult Population"

Coming Soon!!

This fall expect to see the release of the website for the official journal of the International Society of the Measurement of Physical Behavior. The endeavor has been arduous but successful. Working closely with Human Kinetics publishing, the Journal Operations Committee (*Patty Freedson, Ben Stansfield, Alex Rowlands, and Rita van der Berg-Emons*) expects the submission website will be live on September 1, 2017 with the 1st issue published in early spring of 2018.

Journal for the Measurement of Physical Behaviours

Editor in Chief:
Patty S. Freedson

Mission:

The *Journal of the Measurement of Physical Behaviour* publishes high quality research papers that employ and/or apply sensor-based measures of physical activity, movement disorders, sedentary behaviour and sleep.

Topics:

- Novel methods for sensor calibration and validation
- New sensor technology
- Innovative self-report validation and calibration studies
- Analytic advances in measurement and interpretation
- New sensor-based outcomes for clinical sciences
- Applications of wearables for assessing exposure and outcomes
- Evidence-based papers leading to best practices for use of wearables in research and clinical settings

Types of Papers:

- Experimental Studies
- Reviews
- Cross-sectional and longitudinal studies
- Brief reports
- Technical notes
- Evidence-based best practices or opinion papers

Specifics:

- Online journal (hard copies available for fee)
- Open access possible ($2,000 charge)
- No page charges
- No paper submission charges for members of ISMPB

HUMAN KINETICS

Member activity

What's new in the world of measurement? Look what some of our members have been up to.
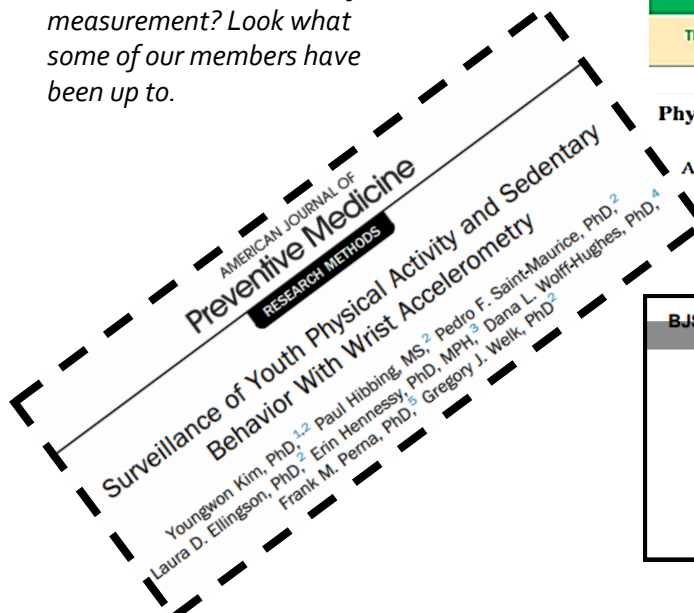
Medicine & Science IN Sports & Exercise

The Official Journal of the American College of Sports Medicine
www.acsm-msse.org

. . . Published ahead of Print

Physical Activity Assessment with the ActiGraph GT3X and Doubly Labeled Water

Andrea K. Chomistek[1], Changzheng Yuan[2,3], Charles E. Matthews[4], Richard P. Troiano[5], Heather R. Bowles[6], Jennifer Rood[7], Junaidah B. Barnett[2,8,9], Walter C. Willett[2,3,10], Eric B. Rimm[2,3,10], and David R. Bassett, Jr.[11]

AMERICAN JOURNAL OF
Preventive Medicine
RESEARCH METHODS

Surveillance of Youth Physical Activity and Sedentary Behavior With Wrist Accelerometry

Youngwon Kim, PhD,[1,2] Paul Hibbing, MS,[2] Pedro F. Saint-Maurice, PhD,[2] Laura D. Ellingson, PhD,[2] Erin Hennessy, PhD, MPH,[3] Dana L. Wolff-Hughes, PhD,[1] Frank M. Perna, PhD,[5] Gregory J. Welk, PhD[2]

BJSM Online First, published on May 8, 2017 as 10.1136/bjsports-2016-096990

Original Article

Comparison of four Fitbit and Jawbone activity monitors with a research-grade ActiGraph accelerometer for estimating physical activity and energy expenditure

Mary T Imboden,[1] Michael B Nelson,[1] Leonard A Kaminsky,[2] Alexander HK Montoye[1]

The activPAL™ Accurately Classifies Activity Intensity Categories in Healthy Adults

KATE LYDEN[1], SARAH KOZEY KEADLE[1], JOHN STAUDENMAYER[2], and PATTY S. FREEDSON[1]

[1]Department of Kinesiology, University of Massachusetts, Amherst, MA; and [2]Department of Mathematics and Statistics, University of Massachusetts, Amherst, MA

IOP Publishing | Institute of Physics and Engineering in Medicine

Physiological Measurement

PhysioL. Meas. 37 (2016) 1715–1727   doi:10.1088/0967-3334/37/10/1715

The accuracy of the SenseWear Pro3 and the activPAL3 Micro devices for measurement of energy expenditure

Cormac Powell[1], Brian P Carson[1,2], Kieran P [...] and Alan E Donnelly[1,2]

Eur J Appl Physiol (2017) 117:1277–1285
DOI 10.1007/s00421-017-3641-x

INVITED REVIEW

Doubly labelled water assessment of energy expenditure: principle, practice, and promise

Klaas R. Westerterp[1]

Sports Med (2017) 47:1303–1315
DOI 10.1007/s40279-016-0663-1

REVIEW ARTICLE

Step Counting: A Review of Measurement Considerations and Health-Related Applications

David R. Bassett Jr.[1] · Lindsay P. Toth[1] · Samuel R. LaMunion[1] · Scott E. Crouter[1]

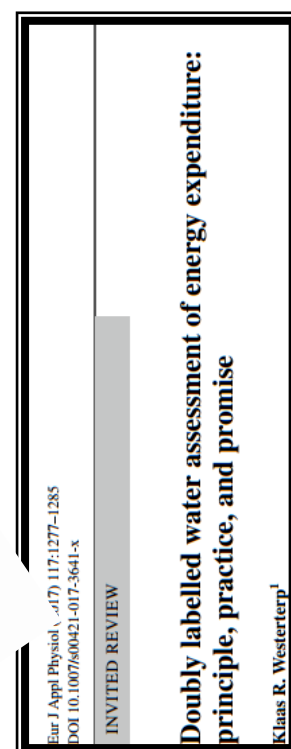Contents lists available at ScienceDirect

Journal of Science and Medicine in Sport

journal homepage: www.elsevier.com/locate/jsams

Original research

Evaluation of the activPAL accelerometer for physical activity and energy expenditure estimation in a semi-structured setting

Alexander H.K. Montoye[a,*,1], James M. Pivarnik[b], Lanay M. Mudd[c], Subir Biswas[d], Karin A. Pfeiffer[b]

What's happening for ISMPB on social media?

Physics Toolbox @physicstoolbox · Jun 7
Human activity recognition using Physics Toolbox #accelerometer data analysis in this thesis: lup.lub.lu.se/luur/download?…

UFRO Actívate
June 28 at 12:10am · 🌐

#ICAMPAM2017 nos plantea un nuevo desafío: promover más investigación y generación de capacidades en Latino América. Tenemos muy poca representación a nivel global, pero el potencial de desarrollo es enorme. En esta oportunidad fuimos la única institución sudamericana y una de las dos latinas junto a una universidad mexicana.

#Icampam2017 presents us with a new challenge: promoting more research and generation of skills in Latin America. We have very little representation on the global level, but the development potential is enormous. At this time we were the only south American institution and one of the two latin alongside a Mexican University.
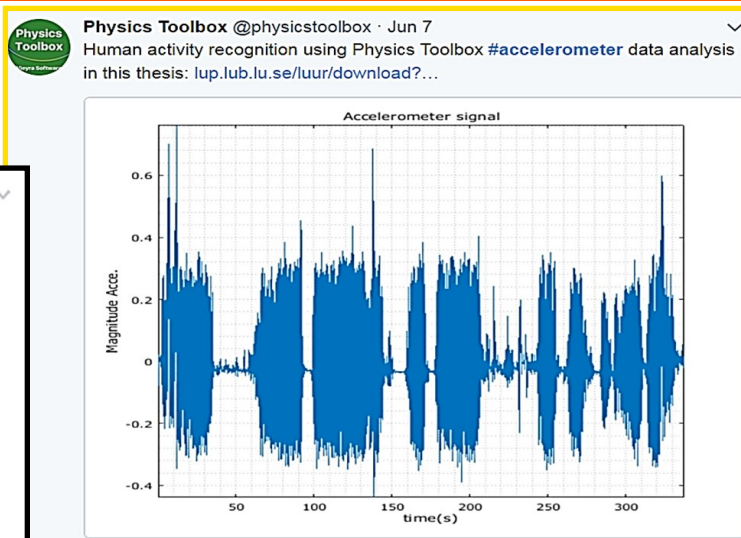
Nicolas Aguilar @nicolasaguilar · Jun 21
Nice slide to clarify some points about Compositional analysis 😊 @sittonomy #ICAMPAM2017 – at National Institutes of Health (NIH)

MISCONCEPTIONS
- Not a technique
- Not a method
- Not a software
- Not a data analysis package
- Not a data transformation
- *Not* THE alternative to ISOTEMPORAL SUBSTITUTION

ismpb @ismpb_org · Jun 20
A big shout out to the #ICAMPAM2017 Gold & Silver sponsors & exhibitors: @paltechnologies @actigraph @Activinsights @Fitabase & @cosmedhq
♡ 4   ⟲ 1

International Society for the Measurement of Physical Behaviour
8 hrs · 🌐

Retweeted Alix Chadwell (@AlixChadwell):

For anyone who saw my spiral poster/spoke to @barmyalex about it at #ICAMPAM2017 the associated paper is now online. https://t.co/rQPC2d11li

GPS-HRN @gps_hrn · Apr 11
Deriving a #GPS Monitoring Time Recommendation for #physical_activity Studies of Adults ncbi.nlm.nih.gov/pubmed/28009791

PAL Technologies @paltechnologies · Jun 22
With apologies to Mae West "Is that an iPhone in your pocket or are you just pleased to see me?" @DougieMaxwell vendor talks #ICAMPAM2017

The PAL family...

Activator 6800GB
Upright   140 mins
Steps   3596
Sedentary   0%
Hour
Day   16%

PAL Technologies
PROVIDING THE EVIDENCE

#WNPC

Upcoming Webinar

A Recipe for Success: Exploring the ingredients of successful data collection of objective sedentary behaviour in large scale cohort.

Seb Chastin[1,2], Philippa Dall[1], Manon Dontje[1,3], Victoria Palmer[4,5]

1. Institute of Applied Health Research, Glasgow Caledonian University
2. Department of Movement and Sports Sciences, Faculty of Medicine and Health Science, Ghent University, Ghent, Belgium.
3. School of Population and Global Health, University of Western Australia, Perth, Australia.
4. Sport, Physical Education and health Sciences Institute, University of Edinburgh, Edinburgh, UK
5. Institute of Health and Wellbeing, University of Glasgow, Glasgow, UK.

This webinar is aimed at **researchers** who are interested in **measuring physical activity and sedentary behaviour**, especially in large-scale cohort studies. Unashamedly focused on **methodological aspects**, this mixed methods seminar covers both objective and self-report measurement of sedentary behaviour, and the use of such measures in qualitative research with examples from the **Seniors USP (understanding sedentary patterns) study**. We shed light on the key methodological ingredients responsible for the successful (>90%) collection of a full seven days of objective activPAL data from 750+ older adults. We also introduce the innovative, systematic and comprehensive approach taken towards validation of self-report measurement tools for sedentary behaviour, and explore how objectively measured feedback can be integrated into qualitative interviews to generate rich insights into the sedentary behaviour of older adults.
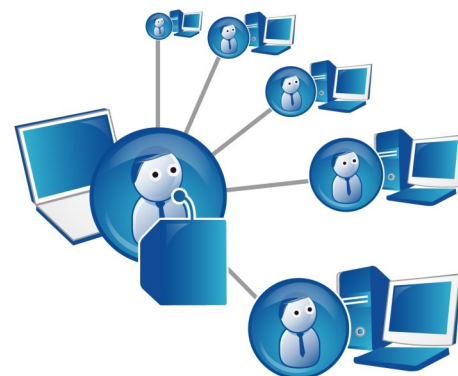
Thursday 20th September 2017. 17:30-18:30 [British Summer Time; GMT+1]

"One of the key challenges in collecting objective data on physical behaviours in large studies is to balance the desire for quality data and participant adherence to protocol with the demands of cost and time. Sharing methodological details of data collection from successful studies can contribute to raising standards across the sector, increasing the potential for data sharing, and should be encouraged."
-- Professor. Malcolm Granat, Salford University, President of the ISMPB (International Society for Measurement of Physical Behaviours)

For more information, contact:

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GCU
Glasgow Caledonian University

University for the Common Good

ICAMPAM 2019 Meeting

How that we have concluded another successful ICAMPAM meeting, it is time to start planning for future meetings. It was announced last week during closing ceremonies that the 2019 ICAMPAM meeting will take place in Maastricht, Holland.

Maastricht, one of the oldest cities in Holland and capital city of the province Limburg, has over 120,000 inhabitants and is a real tourist city. Yearly it attracts over 3 million tourists to the city. Explore the canals, walk through the inner city and eat one of Limurg's famous pies. Or maybe have a look inside the Saint Peter's Church or visit the limestone mines, Maastricht has a lot to offer.

See you all in 2019!

Museum aan het Vrijthof
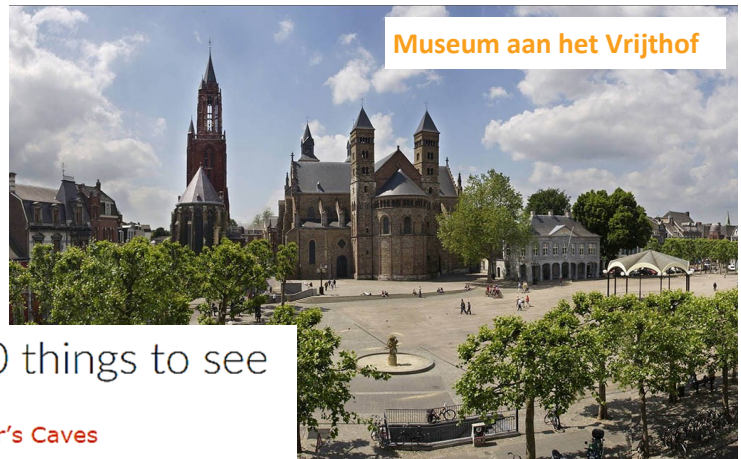
Top 10 things to see

1. St. Peter's Caves
2. Maastricht cruise
3. Maastricht walking tours
4. Bisschopsmolen
5. Bonnefantenmuseum Maastricht
6. Casemates of Maastricht
7. Saint Peter's Fortress
8. Museum aan het Vrijthof
9. NAiM/Bureau Europa
10. Brouwerij Bosch

Become a member of ISMPB

Who can become a member?

Membership in ISMPB is open to everyone from around the world involved in the measurement of free-living physical behaviour.

Membership fees support the mission of ISMPB in creating a vibrant community bringing together people from a wide variety of backgrounds and expertise, including researchers, clinicians, therapists, signal analysts, computational scientists and commercial companies.

Link http://www.ismpb.org/membership/

Newsletter
ISMPB

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https://twitter.com/ismpb_org