

ISMPB

International Society for the
Measurement of Physical Behaviour



www.ismpb.org

Message from the President

We have now reached a significant milestone for the Society, the publication of the first issue of our new journal, the Journal for the Measurement of Physical Behaviour - your new journal. The number of submissions to our journal is showing a steady month-on-month increase and this will filter through to an increasing number of papers per issue. [See a preview of the titles for issue 2 listed on page 5] The submissions to JMPB has already demonstrated how we are filling a much-needed gap.

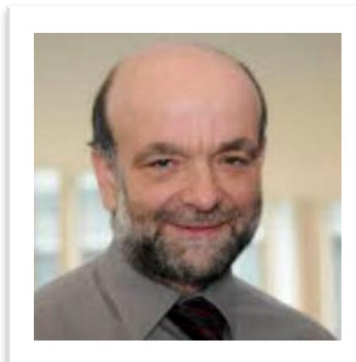
There is a continued unprecedented growth in the measurement of physical behaviour using wearable technologies. This growth is seen not only in the number of publications in this area but also in the number of smaller meetings we have seen which have measurement of physical behaviour as a focus. If you are part of any of the meetings, or even are

thinking of hosting one, please let us know. ISMPB is keen to link up and support these meetings.

As the number of activities of the Society continues to grow we are setting up committees to support these and we will be looking for members to become involved. Further details will be sent out, however if you wish to become more involved with Society's activities, or have some comment or idea, please feel free to contact us at any time.

As a final note we will be holding our annual General Membership Meeting on the 27th of September, details will be sent out later.

Malcolm Granat



ISMPB Newsletter

June, 2018



[Follow us on Facebook](#)



[Follow us on Twitter](#)

KEEP UP TO DATE ON OUR WEBSITE
<http://www.ismpb.org/>

CONTRIBUTIONS CONTACT:

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

CHERYL HOWE: howec@ohio.edu

IN THIS ISSUE

<i>Message from the President</i>	1
<i>Member Profile</i>	2
<i>News</i>	3
<i>Journal</i>	4
<i>Physical Activity Guidelines</i>	6
<i>Events / Meetings</i>	8
<i>Member Activity</i>	9
<i>Social Media</i>	10
<i>Research Monitor Update</i>	11
<i>Membership</i>	12

Member Profile

Matthew Buman

matthew.buman@asu.edu

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

My path, like most, has been non-linear. I was fortunate early on in my education to recognize that an academic career was the trajectory I wanted to pursue. During my undergraduate years (University of Utah, Salt Lake City, UT, USA) I had some great professors who took an interest in me and encouraged me into research. My MSc (Springfield College, Springfield, MA, USA) and PhD (University of Florida, Gainesville, FL, USA) degrees were highly interdisciplinary with training in exercise science, psychology, and public health. I really enjoyed the flexibility in these programs as I developed the kind of scientist I wanted to become, as they allowed me to get the type of training I needed. Finally, I did my postdoctoral training at the Stanford Prevention Research Center (Stanford, CA, USA) under the mentorship of Dr. Abby King. This was the single most impactful moment in my training, as I learned how to truly be and act like a professional scientist.

Tell us about a current project you are working on.

We have developed SleepWell24, which is a multicomponent behavioural smartphone application with the primary goal of improving adherence to continuous positive airway pressure (CPAP) therapy in individuals with obstructive sleep apnea. The app delivers evidence-based behavioural strategies to improve adherence and leverages the technology to deliver related interventions for sleep quality, sedentary behaviour, and moderate-vigorous physical activity. The app connects wirelessly to a consumer-based wearable device and a CPAP machine to provide real-time feedback on relevant lifestyle behaviours. We see this study as an important advance in understanding how objective feedback can be harnessed optimally for behaviour change.



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

We are just beginning to understand how consumer- and research-grade wearable devices can be used for health promotion. It's relatively clear that existing consumer-based devices and their associated apps provided only minimal improvements in health behaviours. However, when paired with evidence-based programs, they can be potent motivators for health behaviour change. The field is rapidly advancing in how we can best leverage these "gadgets."

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

I have attended the last 3 ICAMPAM sessions in Amherst, Limerick, and Bethesda. These meetings are some of the most enriching professional moments for me over the last 6 or so years. It is wonderful to see colleagues that are focused on tackling some of the same issues that I am working on, and each time I attend I learn an incredible amount and am invigorated to keep pushing the boundaries of what I am doing.

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

More of the same!!! ISMBP has rapidly become the "go to" organization for measurement of physical behaviours. We have so much to offer. I think the challenge ahead is how do we make ourselves more known among other professional organizations. What we offer is so needed by so many other organizations.

NEWS

ACSM's 65th Annual Meeting

ISMPB membership represented in Minneapolis earlier this month. A highlight of the Annual ACSM Meeting:



David R. Bassett, Jr., from the University of Tennessee Knoxville was awarded the 2018 ACSM Citation Award. The Citation Award is one of ACSM's most prestigious awards, which recognizes individuals who have made outstanding contributions to the fields of sports medicine and/or exercise science. **Congratulations, Dr. Bassett!!**



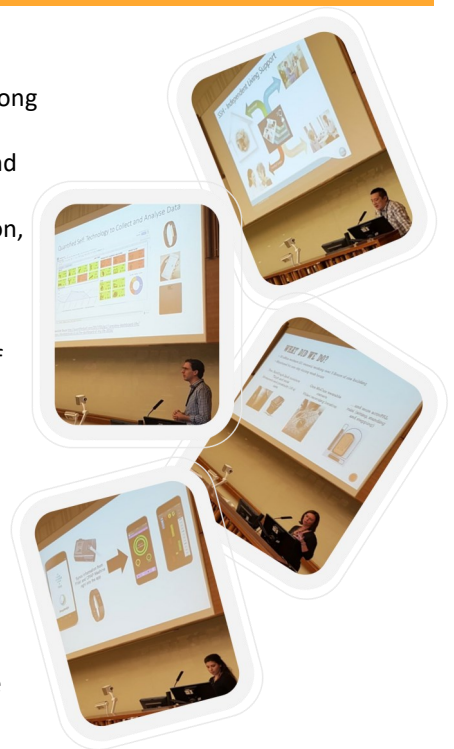
Matthew Johnson, General Manager

Portland's APDM Wearables Technology gets \$1.6M grant for a Physical Therapy system to develop the industry's first over-ground gait biofeedback rehabilitation system using both visual and auditory biofeedback. The project marks APDM's first foray into intervention, as opposed to assessment, said APDM's General Manager, Matthew Johnson. "Now we're making a natural progression into how do we intervene through the therapeutic process, instead of objectively assessing where the patient is..."



M-Health Symposium, Brisbane *by Bronwyn Clark*

On 14th May 2018, I had the pleasure of attending an M-Health symposium in Brisbane. Among the organisers of this event were several ISMPB members (Paul Gardiner, Matt Buman, Gen Healy and myself). This daylong event brought together researchers, clinicians, engineers, and consumers from Australia and the US to discover more about mobile-health. Presentations covered a wide range of mobile health topics from population surveillance, health promotion, use in clinical settings and the future of m-health. A number of these were applicable to the measurement of physical behaviour including data linkage of wearables, use of apps to measure behaviour including ecological momentary sampling, using Bluetooth to identify where physical activity occurs, bringing together data from multiple sources (the internet of things) and using these technologies to intervene on behaviour and encourage compliance (text, mobile apps). There were many excellent and innovative ideas presented. One of the presentations that particularly captured my attention was ResApp, which is an app analysing cough sounds for accurate diagnosis of respiratory disease using machine learning algorithms in much the same way the app Shazam identifies songs. There was also an excellent presentation on the 'quantified self' and this stimulated great discussion on how we as researchers can make use of m-health methods that are agile enough to suit individuals. The day finished off with some presentations on how to develop and commercialise new ideas. After all the wonderful presentations and informal discussions, I was left with the feeling that there is currently exponential growth in the methods available to measure and change human behaviour – a space in which ISMPB is well positioned.



1st Issue is available online!!

Our inaugural issue of the **Journal for the Measurement of Physical Behavior (JMPB)** is currently available online to ISMPB members and other subscribers. Thanks to authors, reviewers and associate editors for their hard work so that we were able to produce our first issue on time (almost on time, just a month late). Our members can access JMPB at <https://journals.humankinetics.com/loi/jmpb>. Issue 2 should be published sometime in late June or early July. Our first issue contained four papers and the upcoming second issue will contain five papers. Over time, as more papers are submitted and reviewed, we anticipate having 7-10 papers published in each issue.



We invite you to submit manuscripts for consideration for publication. Details about the journal and instructions for submitting papers can be found at https://mc.manuscriptcentral.com/hk_jmpb. The success of our new journal is highly dependent on receipt and publication of high quality papers and we encourage our members to submit papers to our journal. High quality papers are published fairly rapidly. Turn around time between initial paper submission and final acceptance is currently 77 days. This is a fairly quick review process and the actual publication occurs shortly after final acceptance.

If you have ideas for special issues or a few papers on specific topics of interest from a seminar, workshop, symposium etc., please prepare a short proposal that includes name of guest editor, description of the general content of the special issue, authors and working paper titles and timeline. Submit these proposals to me at psf@kin.umass.edu. Our journal operations committee will review these special issue proposals for consideration for publication.

Enjoy your summer.

Patty Freedson
Editor, **Journal for the Measurement of Physical Behavior**

Submit Manuscript to JMPB

<https://journals.humankinetics.com/page/authors/jmpb>

To subscribe to JMPB

<https://journals.humankinetics.com/page/subscribe/jmpb>



ABOUT JMPB

- ⇒ Publisher: [Human Kinetics](#)
- ⇒ On-line journal (hard copies available upon request for extra charge)
- ⇒ 4 issues per year
- ⇒ Open access publishing possible (fees range from US\$2000 – \$2950)
- ⇒ No page charges
- ⇒ Web portal is open here: https://mc.manuscriptcentral.com/hk_jmpb
- ⇒ 1st issue to be published in March 2018
- ⇒ Novel methods for sensor calibration and validation
- ⇒ New sensor technology

Types of papers

- Experimental studies
- Reviews
- Cross-sectional / longitudinal studies
- Brief reports
- Technical notes
- Evidence based best practices

TOPICS IN JMPB

- ⇒ 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

PAPERS IN VOLUME 1, ISSUE 2 (in press)

- ⇒ ***Using Devices to Assess Physical Activity and Sedentary Behavior in a Large Cohort Study, the Women's Health Study.*** I-Min Lee, Eric J. Shiroma, Kelly Evenson, Masamitsu Kamada, Andrea LaCroix and Julie Buring
- ⇒ ***Measurement of Sitting Time in Older Adults with and without Alzheimer's Disease.*** Amer Watts, Mauricio Garnier-Villarreal and Paul Gardiner
- ⇒ ***Wearable Device Validity in Determining Step Count During Hiking and Trail Running.*** James W. Navalta, Jeffrey Montes, Nathaniel Bodell, Charli D. Aguilar, Ana Lujan, Gabriela Guzman, Brandi K. Kam, Jacob W. Manning and Mark DeBeliso
- ⇒ ***Classification and Processing of 24-hr Wrist Accelerometer Data.*** Anna Pulakka, Eric J. Shiroma, Tamara B. Harris, Jaana Pentti, Jussi Vahtera and Sari Stenholm
- ⇒ ***Estimating Resting Core Temperature Using Heart Rate.*** David P. Looney, Mark J. Buller, Andrei Gribok, Jayme L. Leger, Adam W. Potter, William V. Rumpler, William J. Tharion, Alexander P. Welles, Karl E. Friedl and Reed W. Hoyt

***Did you
present at
ICAMPAM?***

Keynote & invited speakers, podium & poster presenters are encouraged to submit papers to JMPB adapted from their ICAMPAM 2017 presentations.

2018 Physical Activity Guidelines Advisory Committee Scientific Report



Here are important excerpts from the Scientific Report released in February 2018 with respect to measurement of physical behavior:

Page F1-2: *"The conclusions of the 2008 Scientific Report were solidly based on the existing scientific information, and the findings and conclusions of the 2018 Physical Activity Guidelines Advisory Committee Report mostly extend the range of beneficial outcomes described in the 2008 Scientific Report. However, 10 additional years of scientific inquiry, aided by substantial advances in measuring physical activity, have improved and refined the understanding of the types of physical activity that influence health outcomes."*

Page F2-2: *"Given that much of the scientific evidence for an association between sedentary behavior and health has been published after 2008, the 2008 Physical Activity Guidelines Advisory Committee did not systematically assess the effects of sedentary behavior on health outcomes. Since then, a considerable amount of research has been conducted, and the 2018 Physical Activity Guidelines Advisory Committee decided to systematically review this literature to assess the effect of sedentary behavior on health outcomes."*

"The Sedentary Behavior Subcommittee operationalized the definition of sedentary behavior to include self-reported sitting (leisure-time, occupational, total), television (TV) viewing or screen time, and data from objective, device-based assessments (accelerometry or inclinometry). Although these operational definitions do not capture all aspects of the definition of sedentary behavior (i.e., both posture and energy expenditure), they are widely used in the scientific literature as measures of time spent in sedentary behavior."

KEEP UP TO DATE ON OUR WEBSITE
<http://www.ismpb.org/>

CONTRIBUTIONS CONTACT:

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

CHERYL HOWE: howec@ohio.edu



THE FUTURE

“The Committee recognized that important gaps in knowledge still remain. It prepared a substantial list of topic-specific research recommendations. Six overarching recommendations are provided here:

- *Determine the independent and interactive effects of physical activity and sedentary behavior on multiple health outcomes in youth, adults, and older adults.*
- *Determine the role and contribution of light-intensity physical activity alone or in combination with moderate-to-vigorous physical activity to health outcomes.*
- *Identify effective intervention strategies for increasing physical activity through actions in multiple settings in youth, adults, and older adults. Determine how the effectiveness of interventions differs by sex, age, race, ethnicity, socioeconomic status, and other factors.*
- *Strengthen the understanding of dose-response relationships between physical activity and multiple health outcomes in youth, adults, and older adults, and especially during the life transitions between these categories.*
- *Expand knowledge of the extent to which the relationships between physical activity and health outcomes are modified by demographic factors, including sex and race/ethnicity.*
- **Develop instrumentation and data collection systems that will enhance physical activity surveillance systems in the United States.”**

Late 2018

HHS releases the Physical Activity Guidelines for Americans, 2nd edition

2018 and Beyond

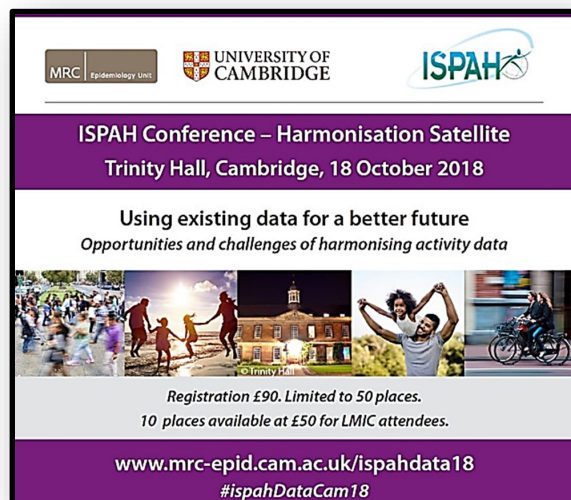
The updated recommendations from the second edition of the Guidelines are implemented in federal initiatives, programs, and resources such as the PALA+, I Can Do It!, and Presidential Youth Fitness Programs; physical activity data collection and monitoring; and Healthy People national public health objectives

Website:

<https://health.gov/paguidelines/second-edition/report.aspx>




Upcoming Meetings



MRC Epidemiology Unit | UNIVERSITY OF CAMBRIDGE | ISPAH

ISPAH Conference – Harmonisation Satellite
Trinity Hall, Cambridge, 18 October 2018

Using existing data for a better future
Opportunities and challenges of harmonising activity data



Registration £90. Limited to 50 places.
10 places available at £50 for LMIC attendees.

www.mrc-epid.cam.ac.uk/ispahdata18
#ispahDataCam18

Following the **2018 ISPAH Conference in London 15-17 October**, this 1-day meeting will create a platform for discussions about retrospective harmonisation of physical activity and sedentary behaviour data globally.

Speakers include:

- Professor Fiona Bull, WHO
- Dr Søren Brage, University of Cambridge
- Professor Ulf Ekelund, Norwegian School of Sports Sciences
- Dr Andrew Atkin, University of East Anglia
- Dr Esther van Sluijs, University of Cambridge

**** Registration is open!! ****



ICAMPAM
MAASTRICHT, NETHERLANDS 2019

Save the Date!

JUNE 26 – 28, 2019
Maastricht, Netherlands

Key Dates:
Abstract Submission open – October 25, 2018
Symposia Submission open – October 25, 2018
Pre-conference Workshop Submission open – October 25, 2018

Physical Activity Measurement Seminar
10th September – 14th September 2018
Møller Centre, Cambridge, UK



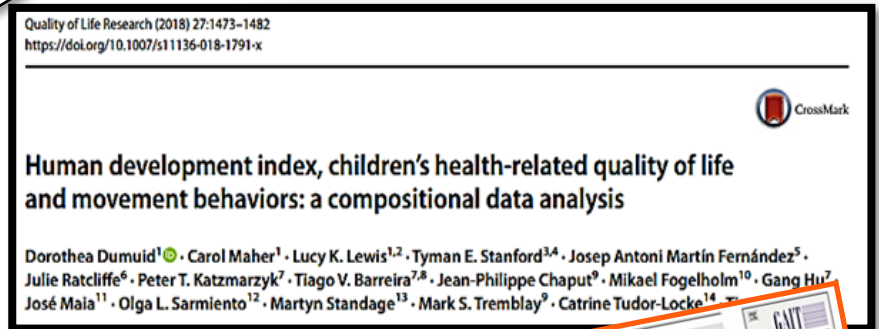
MOVEMENT
BRAIN • BODY • COGNITION

INTERNATIONAL CONFERENCE
at the Joseph B. Martin Conference Center
at
HARVARD
Medical School
27-29 July 2018

Member Activity

What's new in the world of measurement? Look what our members have been up to.

J Sports Sci. 2018 Jun 18;1-8. doi: 10.1080/02640414.2018.1488437. [Epub ahead of print]
Comparing ActiGraph equations for estimating energy expenditure in older adults.
 Aguilar-Farias N¹, Peeters GMEG², Brychta RJ³, Chen KY³, Brown WJ⁴.



J Gastrointest Cancer. 2018 Jun 18. [Epub ahead of print]

Physical Activity and Sedentary Behavior in Older Gastrointestinal Cancer Survivors: Need and Acceptability of Digital Health Interventions.

Sanders AB¹, Conroy DE^{2,3}, Schmitz KH⁴, Gusani N^{4,5}.



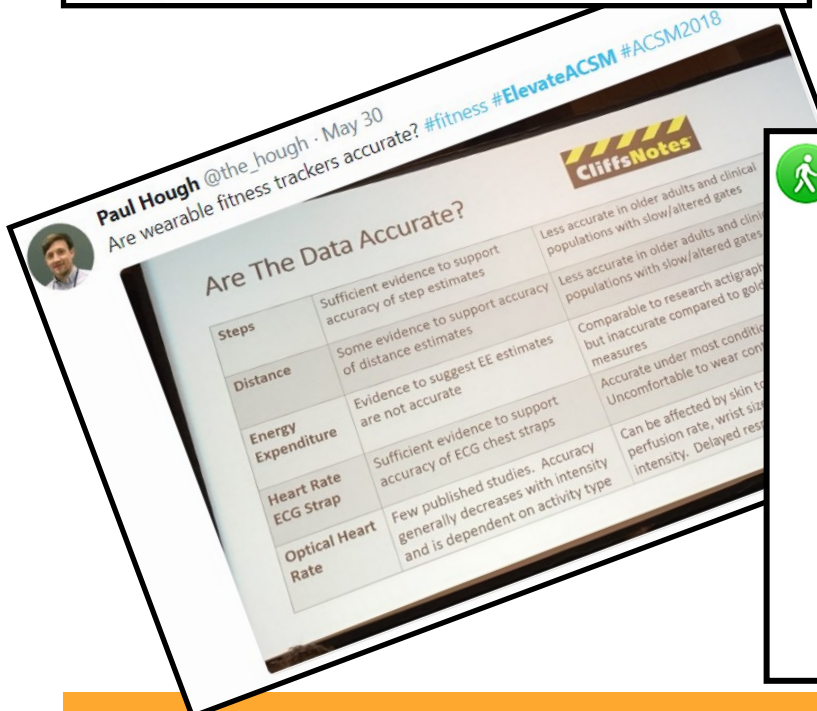
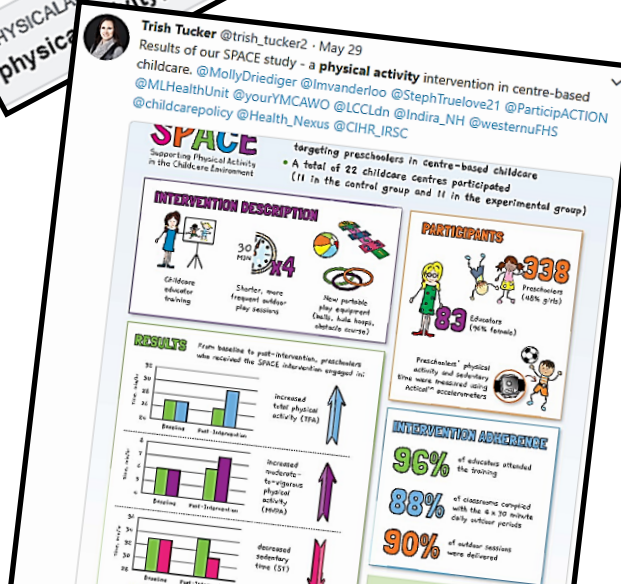
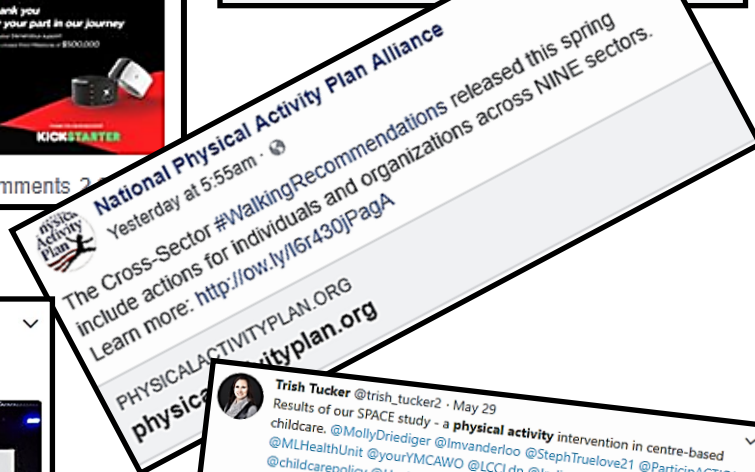
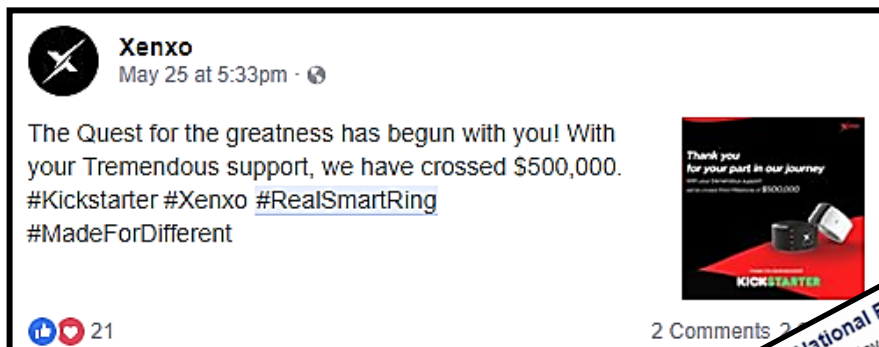
Do you tweet, snap, post? Have you heard of Bitly and Bio? Can you tell a handle from a hashtag? ISMPB needs you!

ISMPB now has an active social media group. We currently have **seven** excellent members tweeting and posting (but know there are many more members interacting with ISMPB and liking our tweets). If you are interested in being involved, contact **GREG PETRUCCI** at: gpetrucci@umass.edu

Communications Committee

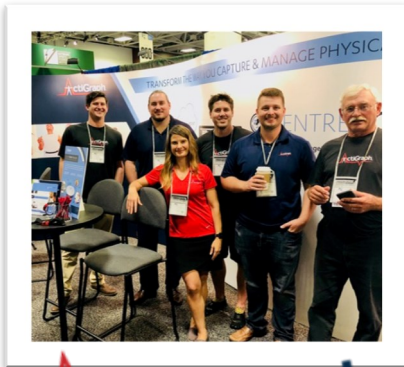
We are also seeking members to be involved in our communications committee. Currently our communications activities include the website, social media (separate committee), newsletter and advising on future activities such as journal club and blogging. This is a good way to be involved in your society where the work load will not be high. If you are interested please contact **BRONWYN CLARK** at: b.clark3@uq.edu.au

What's happening for ISMPB on social media?



What's new in Research-Grade Wearables?

ActiGraph, LLC.



ActiGraph's new CentrePoint Insight Watch, in conjunction with the CentrePoint software platform, captures and delivers high quality, real-world physical activity and sleep outcomes, while providing research subjects with a simple, comfortable experience during lengthy periods of data collection.

With its unique raw data capture platform, Bluetooth LE wireless connectivity, and seamless integration with the CentrePoint software ecosystem, the CentrePoint Insight Watch records and transfers high resolution, raw actigraphy data to our secure cloud database during data collection. Investigators can instantly access customized physical activity and sleep outcomes, while high resolution raw data files are securely stored for processing and analysis.

Activinsights, Ltd.

Activinsights are committed to providing wearable technology solutions to monitor lifestyle and bring insight to the research and healthcare market. We are excited to announce the imminent release of a set of new R Markdown analysis tools to allow our GENEActiv customers to simply create data reports for everyday lifestyle and sleep, removing the need to create epoch files, whilst maximising the benefits of raw, unfiltered data analysis within this arena. This will enhance our existing range of open source analytics available on CRAN.

New to market in 2018 is the Activinsights Band; a low risk, cost-effective diagnostic tool to assist in the management of lifestyle via monitoring of daily activities through to the diagnosis and management of specific conditions such as obesity, diabetes and circadian rhythm disorders. The device is waterproof, wireless and uniquely has 12 month battery life (no charging required), and therefore excellent wear compliancy. This device abolishes the need for hands-on data analysis; using our validated algorithms, the Activinsights Band provides comprehensive lifestyle reports via data upload, immediately available for discussion and intervention planning.



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.

Member Benefits

- ⇒ Register for Society Meetings at reduced registration rates
- ⇒ Support a new, young and independent Society
- ⇒ Become connected with leading experts in the field
- ⇒ Opportunity to get involved as an ISMPB Committee member
- ⇒ Vote in annual elections for the Board of Directors
- ⇒ Stand for election to the Board of Directors
- ⇒ Eligible for student awards at the Society Meetings (best oral and best poster)
- ⇒ Access to online resources and conference proceedings
- ⇒ Opportunity to post news and information on related events

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



Newsletter
ISMPB

www.ismpb.org

www.facebook.com/ISMPB.org

https://twitter.com/ismpb_org

