

# ISMPB

International Society for the  
Measurement of Physical Behaviour

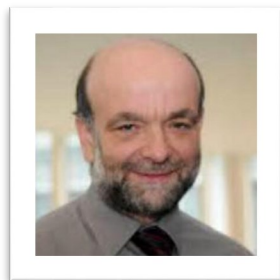


## ISMPB Newsletter

March, 2018

[www.ismpb.org](http://www.ismpb.org)

### Message from the President



It is only three months since our last Newsletter and although there is no ICAMPAM this year, there has been no slow-down in activity. Our recent focus has been our new Journal, the first issue due out soon. Also planning for ICAMPAM 2019 proceeds apace, there being much behind-the-scenes activity.

Stay tuned for key dates and further information!

Recently we have been reaching out to groups who are hosting meetings that have a strong connection with the aims of the Society. Early in February a meeting was held in Copenhagen, "Technical Measurements of Physical Activity and Sedentary Behavior Among Adults" where groups mainly from Scandinavia focused on issues related to cohort studies, attended by approximately 80 people. On the 7th of March "The Human Motion Project" hosted its 5th Winter Symposium in Munich. The activities of these meetings are being highlighted in our Social Media posts and will

feature on our website. The Society plans to expand this type of engagement as this will strengthen our community and be of benefit to the research in our field.

Active involvement of our members is vital to the Society and we have seen a number of people step forward to support Bronwyn and the activities of the Communications Committee. This committee will play a vital role in the success of our Society. A new initiative is coming from this group, the "one-hour tweeting with the expert" series. It is an exciting stage for our Society, and I look forward to seeing you engage in our activities over the next year.

*Malcolm Granat*



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# Member Profile

**Greg Petrucci** [gpetrucci@umass.edu](mailto:gpetrucci@umass.edu)



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

During the second year of my undergraduate degree in Kinesiology at the University of Massachusetts I blindly reached out to Dr. Patty Freedson to see if she would consider having me help out in her lab. At the time, I had no idea that she was a world-renowned researcher in physical activity measurement. As I started to get my bearings in the field, I realized what a great opportunity I had in front of me. I began to take the work very seriously and Patty invested loads of time and energy into teaching me. I was also fortunate to be trained by several of Patty's great graduate students, including Kate Lyden, Amanda Hickey and Albert Mendoza. I'm now a graduate student at UMass working with Dr. John Sirard's awesome team where I now get to train students. I work on the Movement and Observation in Children and Adolescents (MOCA) study.

***Tell us about a current project you are working on.***

The purpose of the MOCA study is to validate existing and develop novel physical activity and sedentary behavior classification algorithms using hip and wrist-worn Acti-Graph accelerometers. Our team has been working on a direct observation coding scheme using the Noldus Observer<sup>TM</sup> software for coding behaviors and activity type. In all, we will be observing 300 children and adolescents aged 1.5 to 18 years old in school, home, exercise, and community sessions (free-living environments). Some of our early work on this project will be published this year. Stay tuned!

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

Over the last several years there has been growing interest from researchers across diverse academic back-

grounds to explore objective measurement of physical activity and sedentary behavior. Moreover, new consumer devices are being manufactured every year. I believe that the Journal for the Measurement of Physical Behaviour will be instrumental in evaluating and centralizing high quality work being done in this area. The journal's audience and members of ISMPB will stay highly up to date with the latest research, which will lend itself to proper implementation of novel measurement methods in other areas. Being a young researcher, I am extremely excited to be going through my training while this journal is starting out and look forward to seeing where it takes the field in years to come!

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

I think that the Society has done a great job promoting various meetings and presentations related to measurement that are going on around the world. This is helpful in keeping researchers connected in between ICAMPAM meetings. It could be nice to schedule socials for ISMPB members that will be at other conferences, such as ACSM, ISPAH, etc. I know especially for younger members it is exciting to be able to meet fellow ISMPB members as often as possible.

## NEWS

### ***Nordic Seminar on Technical Measurements of Physical Activity (PA) and Sedentary Behavior (SB) Among Adults***

On 8-9 February 2018, the National Research Centre for the Working Environment at Copenhagen Denmark hosted a two-day seminar on objective measurements of physical activity and sedentary behavior where approximately 80 researchers from more than 7 countries participated. The aim of the seminar was to share current knowledge related to objective measurements of physical activities and sedentary behaviors and to motivate and facilitate researchers for potential collaborations.

One of the main highlights of the seminar were the introduction of the current and future cohorts/projects/datasets on objective measurements of physical activity and sedentary behavior at work and leisure such as SCAPIS, Health 2016 Study from Sweden, Copenhagen City Heart Study, Doetinchem Cohort Study, Klokwerk+ study from Netherlands and HUNT cohort from Norway etc. This session updated everyone regarding which kind of data are available in Nordic/European countries. It was noted that more and more upcoming cohorts are placing accelerometers on the thigh for detection of posture as well as physical activity type. Researchers also presented on the advancements in technical measurements of physical activity and sedentary behaviors. For example, researchers presented on how a machine-learning approach in identifying the postures and physical activities is better than rule-based approach.

In addition, new ways to determine sleep using accelerometers were also explained. There were interesting sessions on novel findings from accelerometer-based data on physical activities and sedentary behaviour. For example, researchers presented on differential effects of occupational and leisure-time physical activity on the autonomic regulation in blue-

collar workers. One another session aimed to update researchers regarding new innovative methods to analyse objectively measured data on physical activity and sedentary behavior. Researchers presented on compositional data analysis, a new perspective to analyse 24 hours data on physical activity, sedentary time and sleep. Additionally, a special focus on determining groups of homogenous workers with respect to their physical activities and sedentary behavior, ultimately helping to determine 'just-right' time composition of physical activity, sedentary behavior and sleep to improve the health of the individuals was presented. At the end, a special session was conducted on how to facilitate future collaborations, for example by merging cohorts or sharing common software to process objectively measured data.

To facilitate future collaborations, another interesting concept of a speed-dating session for research collaboration, was conducted where researchers had an opportunity to talk to at least five researchers in a one-to-one session. This helped young researchers to introduce themselves and hopefully will facilitate potential collaboration in the future.

*Nidhi Gupta*



## Journal Update

The Journal for the Measurement of Physical Behaviour publishes high-quality research papers that employ and/or apply sensor-based measures of physical activity, movement disorders, sedentary behavior, and sleep. JMPB will publish its first volume this year.

The JMPB is a peer-reviewed journal focusing on the publication of innovative and impactful research on wearable monitors to assess such behaviours as physical activity, sedentary behaviour, movement disorders, and sleep. This topic area is multidisciplinary and includes research from several disciplines such as kinesiology, psychology, computer science, engineering, statistics, public health, and clinical sciences.

- ⇒ 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](https://mc.manuscriptcentral.com/hk_jmpb)



Editor: Patty Freedson

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## Upcoming Meetings

Physical Activity Measurement Seminar

10<sup>th</sup> September – 14<sup>th</sup> September 2018

Møller Centre, Cambridge, UK

*“The primary objective of the seminar is to promote high quality field work in epidemiological studies through understanding of the underlying measurement principles and methods of data analysis.”*

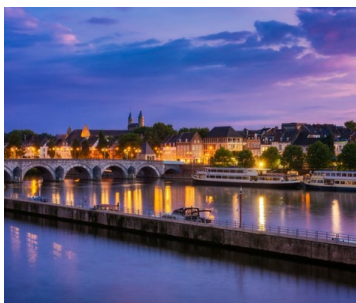
<http://www.mrc-epid.cam.ac.uk/pa-seminar/>



### *Presenting at a conference this year?*

*Consider adding one of our ICAMPAM 2019 save-the-date slides at the end of your conference. There are a few to chose from. If you would like to do this please contact:*

[pam@podiumconferences.com](mailto:pam@podiumconferences.com)



## ***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 five 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 [gpetrucci@umass.edu](mailto: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:

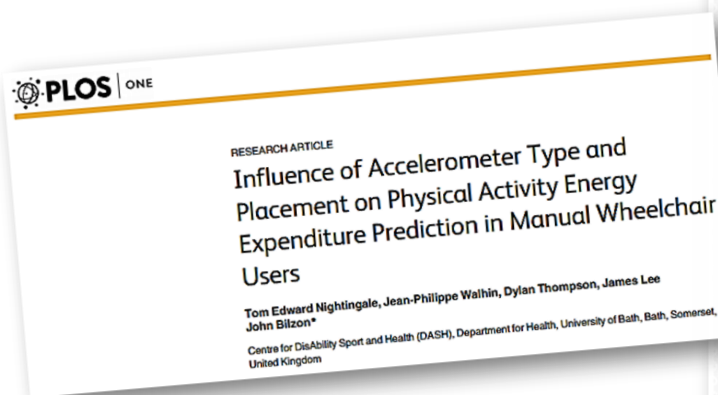
BRONWYN CLARK:

[b.clark3@uq.edu.au](mailto:b.clark3@uq.edu.au)



# Member Activity

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



Gait & Posture 61 (2018) 98-110



Contents lists available at ScienceDirect

Gait & Posture

journal homepage: [www.elsevier.com/locate/gaitpost](http://www.elsevier.com/locate/gaitpost)

## Review

### Calibration of raw accelerometer data to measure physical activity: A systematic review

Márcio de Almeida Mendes<sup>a,\*</sup>, Inácio C.M. da Silva<sup>a</sup>, Virgílio V. Ramires<sup>a</sup>, Felipe F. Reichert<sup>b</sup>, Rafaela C. Martins<sup>a</sup>, Elaine Tomasi<sup>a,\*</sup>

<sup>a</sup> Post-Graduate Program in Epidemiology, Federal University of Pelotas, Brazil

<sup>b</sup> School of Physical Education, Federal University of Pelotas, Brazil



*Pediatr Exerc Sci*. 2017 Dec 23:1-8. doi: 10.1123/pes.2017-0132. [Epub ahead of print]

### Defining Accelerometer Nonwear Time to Maximize Detection of Sedentary Time in Youth.

Cain KL<sup>1</sup>, Bonilla E<sup>1</sup>, Conway TL<sup>1</sup>, Schipperijn J<sup>2</sup>, Geremia CM<sup>3</sup>, Mignano A<sup>3</sup>, Kerr J<sup>3</sup>, Sallis JF<sup>3</sup>.

## Measurement of Active and Sedentary Behavior in Context of Large Epidemiologic Studies

CHARLES E. MATTHEWS<sup>1</sup>, SARAH KOZEY KEADLE<sup>1,2</sup>, STEVEN C. MOORE<sup>1</sup>, DALE S. SCHOELLER<sup>3</sup>, RAYMOND J. CARROLL<sup>4,5</sup>, RICHARD P. TROIANO<sup>6</sup>, and JOSHUA N. SAMPSON<sup>7</sup>

<sup>1</sup>Metabolic Epidemiology Branch, Division of Cancer Epidemiology and Genetics, National Cancer Institute, Rockville, MD; <sup>2</sup>Kinesiology Department, California Polytechnic State University, San Luis Obispo, CA; <sup>3</sup>University of Wisconsin, Biotech Center and Nutritional Sciences, Madison, WI; <sup>4</sup>Department of Statistics, Texas A&M University, College Station, TX; <sup>5</sup>School of Mathematical and Physical Sciences, University of Technology Sydney, AUSTRALIA; <sup>6</sup>Risk Factor Assessment Branch, Division of Cancer Control and Population Sciences, National Cancer Institute, Rockville, MD; and <sup>7</sup>Biostatistics Branch, Division of Cancer Epidemiology and Genetics, National Cancer Institute, Rockville, MD



# Top 10 Twitter Tips from the Social Media Sub-Committee



1. Include a biography in your profile that is interesting and to the point. Let people know what you're interested in, where you are based, and who you are (include a profile picture – anything is better than the default Twitter egg!).
2. Make a decision about whether you are going to keep things professional or talk about personal things as well. It's up to you and people often seem more human when they share their non-academic interests. But if you're uncomfortable doing that, keep it strictly professional. Either way, manage your professional online reputation. Think before you tweet, and if you tweet something personal, make sure you think about whether you would be happy for your work colleague to see it. If in doubt, have separate accounts.
3. Get some experience with a lab group/research team if possible. If you're anxious about getting started with Twitter, setting up an account with your lab group/research team, or ask if you can get involved with a pre-existing one; this can be a great way to introduce yourself with the landscape, without the burden of coming up with content on your own.
4. Twitter has a 'like' function – the 'heart' icon that is displayed with Tweets. Use 'likes' to show you like something but to also save the tweet for later. All your likes show up on your profile so it's a good place to check later if you want to follow up on anything. Word of caution – these are publicly viewable. So make sure anything you are liking is work appropriate (although of course doesn't have to be exclusively work related).
5. Try and Tweet regularly – it is frustrating to find someone you think you might like and then find they haven't tweeted since 2014. Some suggestions for tweeting:
  - (i) Keep tweets short and to the point and include a picture wherever you can;
  - (ii) Tweet about your publications both when they are published and occasionally after that too, there will be a proportion of your followers that would have missed it the first time;
  - (iii) If tweeting about a paper, include the authors and the journals Twitter handle;
  - (iv) Let your followers know when you will be at academic conferences;
  - (v) Know your hashtags – do some exploring and work out which ones are used most commonly with the type of content you will be tweeting;
  - (vi) Use conference hashtags to either tweet proceedings if you're there, or follow proceedings if you aren't. Although remember to respect other authors' privacy at conferences – if they state they do not want their work tweeted then don't tweet it.
  - (vi) Use conference hashtags to either tweet proceedings if you're there, or follow proceedings if you aren't. Although remember to respect other authors' privacy at conferences – if they state they do not want their work tweeted then don't tweet it.



6. Retweeting (the arrows icon) will help you to share other users' content that you find interesting. Some suggestions for retweeting:

(i) After clicking the arrows icon, use 'quote tweet' rather than 'retweet' – this allows you to add some of your own commentary when you retweet (maybe what you found interesting about the article?);

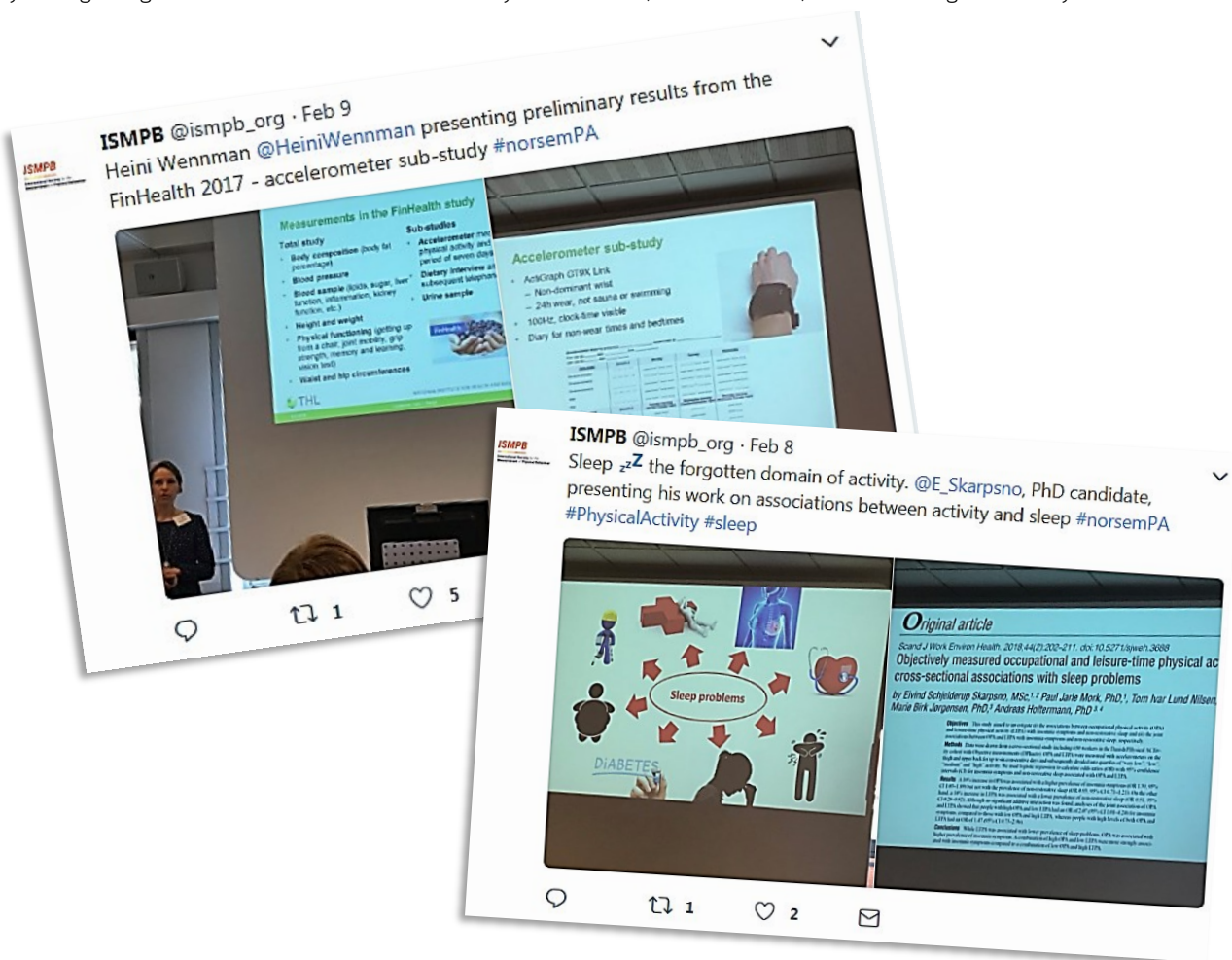
(ii) don't mindlessly retweet - it is good practice to read the article attached to a tweet (or at least the abstract) before you retweet.

7. Use Twitter Lists to your advantage. Create lists of Twitter handles to organise researchers by theme or to separate out research and non-research content. You can then explore tweets from users on that list alone.

8. Use search engines to problem solve technical difficulties. It's unlikely you're the first person to not know how to do something! Try putting in 'how do I' e.g. retweet, like on Twitter, create lists on Twitter etc. in a search engine and you will find a multitude of step-by-step instructions, blogs, tutorials etc.

9. Make sure you follow [@ismpb\\_org](https://twitter.com/ismpb_org) for all the latest news and research on measurement of physical behaviours.

10. Manage your 'Twitter' boundaries Turn off push notifications so you are not always getting alerts, use public transport time (if you use it) to catch up/tweet - Twitter uses less data than you think (turning off autoplay for videos will help to keep data usage down), don't be afraid to admit defeat – after a few months have a think about what you're getting out of it and reconsider whether you need to a) continue or b) do something differently.



# What's happening for ISMPB on social media?



**JMPB** @JMPBjournal · Feb 23

We're excited to provide an exclusive outlet for research on wearable monitors. JMPB Editor-in-Chief Patty Freedson shares her vision for the journal in this Open Access editorial: [journals.humankinetics.com/doi/pdf/10.1122/00000001803111111](https://journals.humankinetics.com/doi/pdf/10.1122/00000001803111111) @ismpb\_org #wearabletech #wearables #healthcaredevices #PhysicalActivity

1 5 9

ISMPB Retweeted



**Joyce Obeid** @ObeidJ · Jan 26

Please RT! Looking for a PhD student to study fitness, physical activity, and ultrasound-based measures of heart health in kids with a chronic condition. Know any great MSc's who might be interested in working on the CHAMPION Study? Contact me! [fhs.mcmaster.ca/chemp/champion...](https://fhs.mcmaster.ca/chemp/champion...)

2 61 35

**ISPAH**  
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7th International Congress on Physical Activity and Health - London - October 2018! Abstract deadline is Friday 16 Feb. Come join us and see the worlds best research in [#physicalactivity](https://twitter.com/physicalactivity) and [#health](https://twitter.com/health) [bit.ly/2BBLCVp](https://bit.ly/2BBLCVp)



**International Society for th Behaviour**

January 27 at 11:08am · 🌐

Interesting new paper by Montoye et al. 9:41 AM - 14 Feb 2018  
learning and random forest classifiers for predicting PA intensity, using out-of-sample testing. <https://t.co/7y0aAa31wj>



Cross-validation and out-of-sample testing of physical activity intensity predictions using a wrist-worn accelerometer. - PubMed - NCBI

J Appl Physiol (1985). 2018 Jan 25. doi:...

NCBI.NLM.NIH.GOV

Like Comment Share

# Wearables in the Consumer Sphere

Curated by Kelsey Milano, Ohio University

Due to much of the work of our ISMPB membership on measurement of physical activity, the markets are flooding with a sundry of wearable devices, such that it is becoming difficult to keep up. Here is a short list of the commercial brands that are out on the market today.

Device	Fitbit Surge	fitbit charge 2	Fitbit Alta HR	Fitbit Ionic	Garmin Forerunner 35	Lumo Run	Mistfit Ray	Motiv ring
Picture								
Device Type	Band, Watch, GPS	Wrist Band	Wrist Band	Wrist Band	Sports Watch, GPS	Run Tracker	Wrist Band	Ring
Display Type	Monochrome LCD	OLED	OLED	Color LCD	Monochrome LCD	None	LED indicator lights	None
Compatibility	Windows, Mac, Android, iOS, Web	Windows, Android, iOS	Windows, Android, iOS	Windows, Mac, Android, iOS, Web	Windows, Android, iOS	iOS	Android, iOS	iOS
Heart Rate Monitor	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Sleep Tracker	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Calories Burned	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Distance Traveled	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Steps Taken	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Battery Life	5 hours to 5 days	5 days	7 days	4 days; 10 hours w/ GPS	9 days	1 week	Up to 6 months	3 days
Price	\$149.95	\$149.95	\$149.95	\$299.95	\$187.10	\$99.48	\$64.00	\$199.00
Device	Samsung gear fit2	TomTom Spark 3 Cardio + Music	Garmin VivoFit	Up Move: Jawbone	Polar Loop	Polar A370	Movesense	Activo
Picture								
Device Type	Wrist Band	Sports Watch	Wrist Band	Wrist or hip Band	Wrist Band	Wrist Band	Chest Band	Chest Band
Display Type	OLED	Monochrome LCD	LCD	LED Display	LED Display	Full color TFT display	n/a	n/a
Compatibility	Android	Windows, Android, iOS	iOS and Android	iOS and Android	iOS and Android	Windows, Mac, Android, iOS	Android	iOS and Android
Heart Rate Monitor	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sleep Tracker	No	Yes	Yes	Yes	Yes	Yes		no
Calories Burned	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Distance Traveled	Yes	Yes	Yes	Yes	Yes	Yes		
Steps Taken	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Battery Life	3-4 days	3 weeks	5-day battery life	Up to 6 months	6 Days	4 Days		
Price	\$149.99	\$89.99	\$80.00	\$15.00-\$25.00	\$59.95	\$179.95	39,50 Euro	175.00 SEK
Device	Wavelet	AGPtek	Zunammy	Alvita Ultimate Pedometer	North Activity Tracker	huawei	Lintele	Suunto Spartan Trainer
Picture								
Device Type	Wrist Band	Wrist Band	Wrist Band	Waist Clip	Wristband	wrist watch	wristband	Wristband
Display Type	n/a	OLED	Digital	Digital	Digital	LCD touchscreen	digital	LED
Compatibility	iOS & Android	iOS & Android	iOS & Android	-			Android and iOS	iOS & Android
Heart Rate Monitor	Yes	Yes	No	No	No	Yes	Yes	Yes
Sleep Tracker	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Calories Burned	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Distance Traveled		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Steps Taken		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Battery Life	5 Days	7 Days	-	-	5 Days	6 days	5-10 days	18 hours
Price	\$500.00	\$32.99	\$18.99	\$29.99	\$7.55	\$50-\$100	\$35.98	\$329.00

# 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/>

## 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



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