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Message from the President

We are now in our final run-up, or count down, to ICAMPAM 2021. Over the past few months, most of the Board's efforts have focused on the final preparations for this, our first online conference. Going online has not been without its challenges, particularly around arranging the timing of the sessions. As a result, we have had to make some compromises, but I hope that most of the programme will be accessible to all.

The new online ICAMPAM format has allowed us to try out new ideas. We have 20 invited speakers giving talks on a wide range of topics, including a major collaborative venture between pharma and academia. Your poster abstracts are out for review as I write this, and decisions will be made on these very soon. At the conference we will be using a platform, "Gathertown", that will allow you to "wander around" during the poster sessions and have conversations with those you "meet", and we are also using this platform for a social function.

As centre stage to the conference, we have our first debate (*Is it time to wave goodbye to accelerometer thresholds?*). This will feature online voting, both before and after the



debate. Stewart Trost and Mai Chin a Paw are keen to demonstrate their powers of persuasion, using whatever scientific and perhaps non-scientific arguments they can muster. It promises to be a lively exchange with much audience participation.

I can say much more about ICAMPAM 2021, but this is covered elsewhere in the newsletter and through our social media communications. I want to thank the ICAMPAM 2021 organising committee, particularly Martina Mancini and Jeff Hausdorff, for their hard work, enthusiasm and creativity.

I am very much looking forward to "meeting" you in June!

Malcolm Granat

Newsletter

May, 2021

SOCIAL MEDIA

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WEBSITE

KEEP UP TO DATE ON OUR WEBSITE

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

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JOURNAL FOR THE MEASUREMENT OF PHYSICAL BEHAVIOUR



Message from Philippa Dall, the Editor-in-Chief!

The March 2021 issue of JMPB contains eleven original articles which demonstrate the width of topics covered by the Society. There are articles across a range of wearable devices including commercial devices, wearable cameras, GPS devices and accelerometers; diverse physical behaviours including time in bed; and different populations, including older adults, office workers, and people with long-term conditions.

I am very excited that JMPB will be bringing out its first special issue later in the year – covering the 2021 virtual ICAMPAM conference. The **special issue** will publish all of the abstracts accepted into the conference, and will be released later in the summer. Moving forward, I hope to see work featured in ICAMPAM submitted to and published in JMPB.

Finally, a reminder to take advantage of your membership benefits if you want to publish **open access** in JMPB. Authors can opt in to open access and **ISMPB members get a 50% discount**.



LATEST RESEARCH ON WEARABLE TECH

MEASURING SEDENTARY BEHAVIOUR



[Link to article](#)

The 100 counts per minute metric for the ActiGraph (AG_{100cpm}) might overestimate breaks in sedentary time

- High correlations AG_{100cpm} with ActivPAL (AP)
- AG_{100cpm} & AP associations with health outcomes



John Bellettiere
@JohnBellettiere

[Read tweet here](#)

*'Whether using hip-worn or thigh-worn accelerometers, if you are studying patterns of **sedentary behaviour**, please read this paper, especially the **Conclusion**.'*

HOW MANY DAYS OF EVALUATION ARE ENOUGH?



[Barboza et al. \(2021\)](#)

- A study in elementary school children
- PA & SB during school hours
- **1 day** may be enough for **sedentary/stationary** behaviour
- **2 days** may be needed for **PA indicators**

[Read tweet-thread on this topic here](#)



Follow @JMPBjournal

Journal for the Measurement of Physical Behaviour

Volume 4, Issue 1 (March 2021)



ORIGINAL RESEARCH

- [Concurrent Validity of ActiGraph GT3X+ and Axivity AX3 Accelerometers for Estimating Physical Activity and Sedentary Behavior](#)
Leila Hedayatrad, Tom Stewart, and Scott Duncan
- [Concurrent Measurement of Global Positioning System and Event-Based Physical Activity Data: A Methodological Framework for Integration](#)
Anna Iveson, Malcolm Granat, Brian Ellis, and Phillipa Dall
- [Translation of the International Physical Activity Questionnaire to Maltese and Reliability Testing](#)
Karl Spiteri, Kate Grafton, John Xerri de Caro, and David Broom
- [Validity and Interinstrument Reliability of a Medical Grade Physical Activity Monitor in Older Adults](#)
Myles O'Brien, William Wojcik, and Jonathon Fowles
- [Convergent Validity of the Fitbit Charge 2 to Measure Sedentary Behavior and Physical Activity in Overweight and Obese Adults](#)
Joanne McVeigh, Jennifer Ellis, Caitlin Ross, Kim Tang, Phoebe Wan, Rhiannon Halse, Satvinder Singh Dhaliwal, Deborah Kerr, Leon Straker
- [Validation of Wearable Camera Still Images to Assess Posture in Free-Living Conditions](#)
Julian Martinez, Autumn Decker, Chi Cho, Aiden Doherty, Ann Swartz, John Staudenmayer, and Scott Strath
- [Does Preoperative Pain Catastrophizing Influence Objectively Measured Physical Activity Before and After Total Knee Arthroplasty: A Prospective Cohort Study](#)
Sara Birch, Torben Hansen, Maiken Stilling, and Inger Mechlenburg
- [Comparison of a Thigh-Worn Accelerometer Algorithm With Diary Estimates of Time in Bed and Time Asleep: The 1970 British Cohort Study](#)
Elif Inan-Eroglu, Bo-Huei Huang, Leah Shepherd, Natalia Pearson, Annemarie Koster, Peter Palm, Peter Cistulli, Mark Hamer, and Emmanuel Stamatakis
- [Accelerometer Calibration: The Importance of Considering Functionality](#)
Kevin Keenan, Julian Martinez, and John Staudenmayer
- [Agreement of Sedentary Behavior Metrics Derived From Hip- and Thigh-Worn Accelerometers Among Older Adults: With Implications for Studying Physical and Cognitive Health](#)
John Bellettiere, Fatima Tuz-Zahra, Jordan Carlson, Nicola Ridgers, Sandy Liles, Mikael Anne Greenwood-Hickman, Rod Walker, Andrea LaCroix, Marta Jankowska, and Loki Natarajan
- [Comparison of Three Algorithms Using Thigh-Worn Accelerometers for Classifying Sitting, Standing, and Stepping in Free-Living Office Workers](#)
Bronwyn Clark, Elisabeth Winkler, Matthew Ahmadi, and Stewart Trost

For ISMPB Members:

Click here to login to member area of the ISMPB website



Click here to access your online subscription to the journal



ICAMPAM 2021

June 23-24, 2021
Virtual Conference

[WEBSITE](#) [PROGRAM](#) [SPEAKERS](#)

GET READY FOR THE FIRST VIRTUAL ICAMPAM!

- >10 hours of content
- Live & On-Demand
- 8 Plenary Sessions
- 3 Live Poster Sessions
- 17 Keynote Lectures
- 1 Interactive Debate
- 6 Poster prizes
- Virtual Poster Hall



Poster Awards for Students

3* x \$500 (Best) 3* x \$250 (Runner-up)

*One for each theme:

1. Applications
2. Technology & Algorithm development
3. Measurement & Analysis

Based on: Creativity and originality of research, clarity of presentation, and level of understanding.

[Keynote presentation guidelines](#)

[Poster presentation guidelines](#)

- Conference hosted via **Whova**
- **Web app & Mobile app**
- Main Conference Lobby
 - Agenda (can be personalized)
 - View & Message Attendees directly
 - **Community Chat Spaces**
 - View all Posters and Recordings
- **Q&A Sessions (Zoom) WITHIN platform**
- **Poster Hall** (available anytime during conference)

Whova

* Applications will be launched prior to conference and all registered attendees will receive notice by email



Gather

Attend a **Social Event** and walk through the poster hall and **interact (LIVE)** with poster presenters in **GATHERTOWN**

ICAMPAM 2021 KEYNOTE SPEAKERS



Lynn Rochester
Newcastle
University (UK)

Digital mobility outcomes for assessing clinical outcomes: The mobilise-D experience as viewed from pharma and academia



Ronenn Roubenoff
Novartis Biomedical
Research (Switzerland)

Digital mobility outcomes for assessing clinical outcomes: The mobilise-D experience as viewed from pharma and academia



Alex Clarke Cornwell
University of Salford (UK)

Get up, stand up: The new normal of home working



Jacob Sosnoff
University of Kansas
Medical Centre
(USA)

Smartphones for community-based fall risk assessment



Jaap van Dieën
Vrije Universiteit,
Amsterdam (NL)

Ambulatory measurement and feedback of low-back load in occupational settings



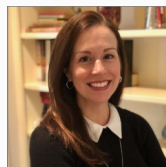
Giorgio Quer
Scripps Research
Translational
Institute (USA)

Detect COVID-19 with wearable sensor data



Aiden Doherty
University of Oxford
(UK) *Big Data/Cohorts*

Reproducible machine learning of movement behaviours in UK biobank: What to do when you have 100,000 participants?



Jennifer Schrack
John Hopkins
University (USA)

Novel application of wearable device data to enhance PA research in older adults: Is it time to go beyond summary metrics?



Masi Mohammadi
Eindhoven University
(NL)

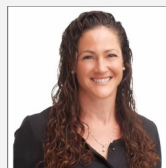
House as carer

DAY 1



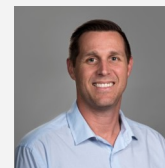
Andreas Holtermann
Research Centre for the
Working Environment
(Denmark)

Measurement systems of physical behaviour for surveillance and cohorts: In the making of dreams come true



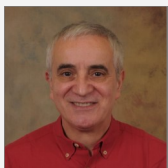
Jennifer Goldsack
Digital Medicine Society
(USA)

Measuring physical behaviour using digital sensors: Current state and future promise



Matthew Buman
Arizona State University
(USA)

Sit less, move more, sleep better: Using research and consumer wearables in 24-hour behaviour change interventions



Luigi Ferrucci
National Institute on
Aging (USA)

Wearable devices in epidemiological studies of aging: Current evidence and future potential



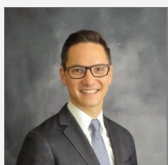
Anat Mirelman
Tel Aviv Souraski Medical
Center (Israel)

Tossing and turning in bed: insights into Parkinson's disease and nocturnal behaviour using an IMU and novel EEG "tattoo"



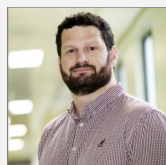
Joanne McVeigh
Curtin University
(Australia)

Longitudinal measurements of PA, SB, and sleep over critical developmental life stages: Novel insights from RAINE study



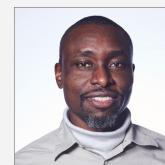
John Omura
Centers for Disease
Control & Prevention
(USA)

Progress in modernizing physical activity surveillance data in the US



**Inácio Crochemore
M Da Silva**
Federal University of
Pelotas (Brazil)

Objectively measured PA during early life transitions in low and middle income setting: Brazilian birth cohorts



Toyin Ajisafe
NCMRR & NICHD
(USA)

Diversity of opinion as a starting point for increased transparency and accessibility in science

DAY 2

ICAMPAM 2021

LIVE DEBATE (Session V, Thursday, June 24)

IS IT TIME TO WAVE GOODBYE TO ACCELEROMETER THRESHOLDS?

Stewart Trost (Queensland University of Technology, Australia) and Mai Chin A Paw (Amsterdam University Medical Centre, the Netherlands) will be holding a live debate to discuss whether we should continue to use accelerometer thresholds for measurement of physical activity and sedentary behaviour.



Stewart Trost: “The significant measurement error associated with accelerometer thresholds has significantly hindered research efforts to quantify, understand, and intervene on physical activity (PA). The relationship between accelerometer output and energy expenditure is highly dependent on the activities in the calibration study; and thresholds derived from a single regression model or ROC curve cannot adequately characterize PA intensity across a wide range of free-living activities. Moreover, thresholds applied to wrist accelerometer output do not account for upper limb movements during sedentary activities or light-intensity movement. Studies involving independent samples indicate that threshold approaches misclassify PA intensity 35% to 45% of the time.”



Mai Chin A Paw: “Most users know the limitations of using accelerometer thresholds for physical activity intensity classification. Yet, it remains a popular approach because it is easy to apply and reproduce, while the results are easy to interpret and directly linked to physical activity recommendations. My presentation will elaborate on advantages and challenges of accelerometer thresholds, concluding with recommendations for future research.”

SESSION VII,
THURSDAY, JUNE 24

UNITE

A new NIH Initiative

Diversity, Equity &
Inclusion



Toyin Ajisafe (USA) National Center for Medical Rehabilitation Research (NCMRR) & Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)

The advisory Committee to the National Institutes of Health (NIH) Director convened a public forum on February 26, 2021. At the meeting, a new NIH initiative, UNITE, aimed at strengthening diversity, equity, and inclusion was launched.

Recommendations included directly engaging stakeholder, e.g., Minority Serving Institutions, and releasing a series of Funding Opportunity Announcements to help address infrastructure needs and develop progress evaluation tools. This talk will describe the UNITE initiative and present considerations, including health inequities-driving issues around ethical AI and COVID-19 vaccine hesitancy, to underscore why diversity in the biomedical research enterprise cannot be merely aspirational.

<https://www.nichd.nih.gov/about/org/ncmrr/ajisafe>

ICAMPAM 2021 SCHOLARSHIPS AND REGISTRATION

Did you know you can apply for assistance to attend ICAMPAM?

APPLY BEFORE JUNE 15

[Society Diversity Scholarships](#)

Researchers who come from a background that is underrepresented in our field can request a reduction in registration for the 2021 Virtual Meeting, subject to the availability of funds. Applications will be reviewed by the Diversity, Equity, and Inclusion Committee.

[Society Pandemic Relief Scholarships](#)

Students can request a waiver for the registration fee for the 2021 Virtual meeting. This is applicable to people whose university will not cover their expenses this year due to COVID-19-related expense freeze. Subject to the availability of funds.

REGISTRATION RATES



**EARLY BIRD
REGISTRATION
RATES ENDS**

JUNE 15, 2021

Members	Prior to June 15	After June 15
Scientist / PI	\$150	\$250
Post-Doc / Student	\$100	\$200
Non-Members		
	Prior to June 15	After June 15
Scientist / PI	\$350	\$400
Post-Doc / Student	\$200	\$250

REGISTER HERE



THANK YOU for Organizing:

Conference Chairs
Conference Organizing Committee
Scientific Program Committee



ISMPB
@ismpb_org

A big thumbs up to Martina Mancini @martima80 and Jeff Hausdorff for all their work coordinating the organization of #ICAMPAM2021. We look forward to virtually see you all on June 23rd-24th 🌟

7:03 AM · May 1, 2021 · TweetDeck

ISMPB AROUND THE WORLD

Highlighted region: *Sub-Saharan Africa*



As part of our Diversity, Equity and Inclusion activities, we would like to highlight an underrepresented geographical region in the newsletter. For this issue, we have interviewed **Ayodeji Ayodele Fabunmi** who represents the Sub-Saharan Africa region. Ayodeji is a Senior Lecturer at the Physiotherapy Department at the University of Ibadan. He is also a specialist Adviser at the University College Hospital in Ibadan, Nigeria.



Tell us about current work regarding the measurement of physical behaviour in your region (issues and/or accomplishments)

The level of research is quite high in my region and I know a few researchers who are actively involved in research in the area of measurement of physical behaviour. A lot of the research work conducted involves the use of questionnaires for the evaluation and measurement of physical behaviour. Based on research outcomes, the awareness level is quite high with regard to participation in physical activity participation. However, participation is still very low. There will be the need to encourage and motivate people (community based) in participating in physical fitness activity towards improving health status. The use of objective measurement instruments apart from questionnaires will help in stimulating further research interest in physical behaviour measurement.

How have you personally been involved in the measurement of physical behaviour in your region?

I started my research interest in obesity, health implication and body composition measurement. Over time, my research focus changed to Physical activity and Physical Fitness, and I have published a few articles in the area of Physical activity, Sports Physiotherapy and Health Promotion. My research activities have focused on physical activity, physical fitness in health, disease and sports. Specifically, either alone or with co-researchers, I have studied the impacts of physical activity on the general well-being among various age groups, investigated the effects of gender, and performance-related physical fitness variables on physical activity. The overall aim was to underscore the important role of physiotherapy in the assessment and provision of necessary intervention towards ameliorating the negative impact of physical inactivity on the health of the population.

I collaborated with other researchers to study the epidemiology of obesity among secondary school students (adolescents) and their teachers, and our findings revealed that there is a high prevalence of obesity among the studied groups. This was associated with their low level of physical activity, age and reduced muscle strength. We also evaluated the effects of knowledge and attitude on physical activity. Our results indicated that high knowledge about exercise did not translate to a right attitude and participation in exercise and physical activity. Similarly, I have assessed physical activity levels among physiotherapists (Clinical Physiotherapist and Physiotherapy Educators), stroke survivors and older adults.

Additionally, my research looked into the effect of knee pain and low back pain on physical activity, among patients with knee osteoarthritis and low back pain. The importance of increasing physical activity across different age groups as a strategy to improve the clinical presentations observed in low back pain, obesity and stroke was established through my research activities. —>

ISMPB AROUND THE WORLD

The pattern of sports injuries in selected sports and the important roles of the physiotherapist in prevention of these injuries by increasing physical fitness training, also received a significant focused attention from my research endeavours.

I have the interest of introducing a physical fitness programme tailored towards improving physical activity and physical fitness of elderly in my community where I reside.

How can ISMPB support researchers in your region?

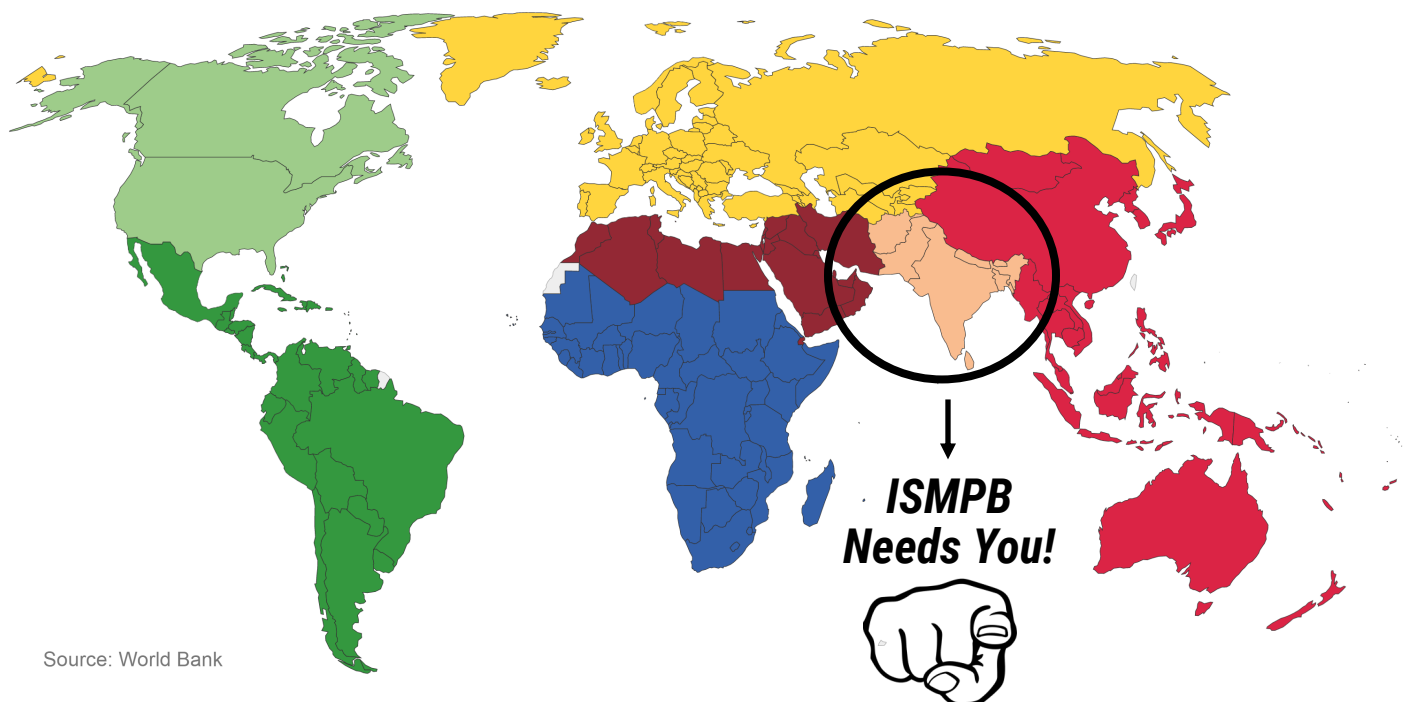
Many of my colleagues in Nigeria are very interested in Research but there are a few challenges:

Creating a platform for research collaboration: A platform like this would allow collaboration between researchers from my region and other international members of ISMPB. A special consideration should be given to young researchers for mentorship.

Encourage participation in Conferences: In the time of COVID-19, many conferences were conveyed on virtual platforms. I am of the opinion that maintaining this virtual format after the COVID era will encourage a lot of researchers from my region to maintain participation in conferences without having to travel physically to present their research work. This will reduce the cost of conference participation. I would like to suggest that a combination of a physical and virtual platform (hybrid) format should be maintained for subsequent conferences.

Reduced rate of registration: Membership fees and conference registration fees for low income regions like mine will encourage researchers from my region. Furthermore, organising training programmes virtually will be of benefit for the researchers in my region.

Looking for: Representation from South Asia Region



Contact Miriam Cabrita: MCabrita@innovationsprint.eu

RECENT PUBLICATIONS IN PHYSICAL BEHAVIOR MEASUREMENT



10:09 PM · Mar 25, 2021 · Twitter Web App

Catherine Draper
@DrCathD

6 Retweets 1 Quote Tweet 30 Likes

Our paper on objectively measured SLEEP in  preschoolers is out! Shorter sleep associated with higher BMI z-score. Much more work to be done to promote sleep for little ones, especially where environmental constraints make this a challenge

@sim_tomaz

Rae et al. BMC Public Health (2021) 21:571
https://doi.org/10.1186/s12889-021-10591-5

BMC Public Health

RESEARCH ARTICLE

Open Access

Sleep and BMI in South African urban and rural, high and low-income preschool children

Dale E. Rae^{1*}, Simone A. Tomaz^{1†}, Rachel A. Jones², Trina Hinkley³, Rhian Twine⁴, Kathleen Kahn^{4,5,6}, Shane A. Norris⁷ and Catherine E. Draper^{1,7}

6:34 PM · Apr 15, 2021 · Hootsuite Inc.

Antônio L Palmeira
@Antoniopalmeira

24 Retweets 48 Likes

Physical inactivity linked to more severe COVID-19 infection and death. See the latest evidence from 48440 adults, recently published in @BJSM_BMJ (Sallis et al, 2021) @cidefes @ISBNPA


Physical inactivity is associated with a higher risk for severe COVID-19 outcomes: a study in 48 440

Original research

Robert Sallis¹, Deborah Rohm Young², Sara Y Tartof², James F Sallis³, Jeevan Sall¹, Qiaowu Li², Gary N Smith⁴, Deborah A Cohen²

British Journal of Sports Medicine

Reproducible machine learning of movement behaviours in UK biobank: What to do when you have 100.000 participants? Curious? Take a look at the open software.



Extracting meaningful health information from large accelerometer datasets

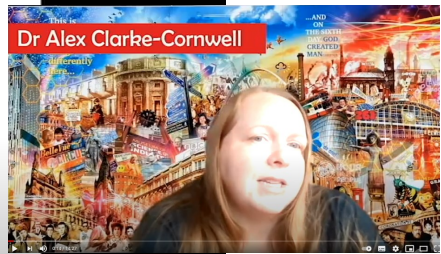
release v3.1 build passing gt3x passing cwa_regression passing

A tool to extract meaningful health information from large accelerometer datasets. The software generates time-series and summary metrics useful for answering key questions such as how much time is spent in sleep, sedentary behaviour, or doing physical activity.

Conclusions - Is there a sedentary behaviour paradox?

- Previous studies have found associations between **total** sedentary time and **leisure-time** sedentary behaviour, and health-related outcomes...however,
- *Objectively* derived occupational sedentary time is not associated with cardiometabolic markers
- What's next?
 - To develop methods to take into account the complex interactions between physical behaviour, BMI, sleep, diet, and health-related outcomes

[Click here to listen to this interesting talk about sedentary behaviour](#)



ISMPB ON SOCIAL MEDIA



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1,401 Followers

Since February 2021

163 New followers **50** ↑

3,969 Profile visits **1820** ↓

52 Tweets **25** ↑

Feb - March - April 2021:
On average 1100 impressions per day!

Top Tweet earned 5,771 impressions

Always wondered how to make surveillance and population-based cohorts less costly and with less participant burden? Join us **#ICAMPAM2021** and listen **@profHoltermann** presentation on "In the making of dreams come true". A collaboration with the **@ProPASSProject**

2 5

Top Tweet!

And this is the mood of the ISMPB Board while discussing the last details for the upcoming virtual **#ICAMPAM2021!** We can't wait to meet you all on June 23/24. See u there 🙌 w/ **@MalcolmGranat @pfeif51 @kozey_keadle @miriamcabrita @martima80 @bron_clark @DallPhilippa** & many others



ICAMPAM 2021

Top Follower followed by 8,657 people

ISPAH
@ISPAH FOLLOWS YOU

International Society for Physical Activity and Health - Promoting research and action for physical activity and health. **#8Investments**

ISMPB @ismpb_org · Feb 6
ISMPB January Newsletter Now Available! - mailchi.mp/c84afee0ecb2/i...

12,390 impressions!

ISMPB @ismpb_org · Feb 25
Congratulations **@GrainneHayes89!** Excellent news!!

Grainne Hayes @GrainneHayes89 · Feb 24
I am delighted to share that I successfully passed my PhD viva examination this morning. Sincere thanks to all of you who have contributed....my school days are nearly over **@PessLimerick @RedDowdy84 @AlanDonnelly1 @CiaranMacDonncha @HRI_UL @PAfH_UL**

Well done, Dr Hayes

MEMBERSHIP



For MEMBERS:

Please check if you receive ISMPB emails, and that they are not going to your **SPAM folder**. Make sure that the email address: lauren@podiumconferences.com is marked as **SAFE senders** list.

ISMPB MEMBERSHIP

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



The current ISMPB membership term runs from **October 1, 2020 to September 30, 2022**

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/>

- ✓ Reduced registration rates at meetings/conferences (incl. ICAMPAM)
- ✓ Access to online JMPB
- ✓ Join committees
- ✓ Vote on Society matters and elections
- ✓ Join and create global network
- ✓ Quarterly newsletter

Fees:

Category	Dues
Student	\$75
Regular / Post Doc	\$150
All dues are in <u>USD</u>	

Newsletter
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