Australian Physiological Society

THE PROFESSIONAL ASSOCIATION FOR AUSTRALIAN PHYSIOLOGISTS

AuPS News – March 2026

Member Profile: Sarah Etherington

Murdoch University

Winner of the 2025 Michael Roberts Excellence in Physiology Education Award

Can you tell us about your career in Physiology Research and Education to date?

I originally studied neuroscience at UWA and went on to do Honours and a PhD with Associate Professor Alan Everett, investigating synaptic plasticity at the somatic neuromuscular junction. Enrolled through the physiology department, I was fortunate to work in an environment that was as scientifically rigorous as it was collegial. Many of the people who shaped my education would be known to members – Don Roberston, Shane Maloney, Tony Bakker, Gavin Pinniger and of course Livia Hool. I completed a brief postdoc with Professor Stephen Williams at the Laboratory of Molecular Biology in Cambridge, but returned to Perth eleven months later to care for my father. Fortunately, as is often the case with academic careers, a lectureship in physiology at Murdoch University was advertised on the same day as I resigned from my position in Cambridge. I started at Murdoch in 2008 and have been there nearly 20 years, shifting to an education-focused role in 2018. The University's social justice foundations are deeply aligned with my personal values and the diversity of the students is a constant source of motivation, even after all this time.

Can you describe your achievements and teaching innovations for which you received the award?

The award recognises my work over many years in developing engaging, inclusive and evidence-based approaches to teaching physiology, particularly in large undergraduate units. This has included creating interactive online modules to support mastery of challenging concepts (such as membrane potential and acid–base balance), and more recently leading a major curriculum redesign that embeds physiology core concepts in a highly scaffolded, signposted way to build confidence among first-year students.

What does the Society and award mean to you?

It is an enormous honour to be recognised through the Michael Roberts Award, particularly having engaged in physiology education symposia at the Society for many years and having seen the quality of work from previous recipients. For me personally, the award also reflects the

Society's ongoing commitment to welcoming and supporting people who want to engage.

Participating in national societies can be challenging from the west coast, especially when travel is affected by health or caring commitments, as it was in my case. Early in my career, I was involved with several societies but never felt a strong sense of connection. The warmth and mentorship I've experienced since my first AuPS meeting — from education leaders such as Professor Julia Choate and Professor Andrew Moorhouse, and through the community-building work of Professor Tangalakis — completely changed that experience.
The connection I now feel to the Society, and my gratitude for the support and mentorship it has provided, make this award especially meaningful.

What are your plans for teaching practice in the future?

This is an interesting time to work at a university, particularly with generative artificial intelligence prompting challenging questions about our role as educators, and the role of our graduates, in society. I've been reflecting a lot on the unique value we bring to the classroom — value that can't easily be replicated elsewhere.

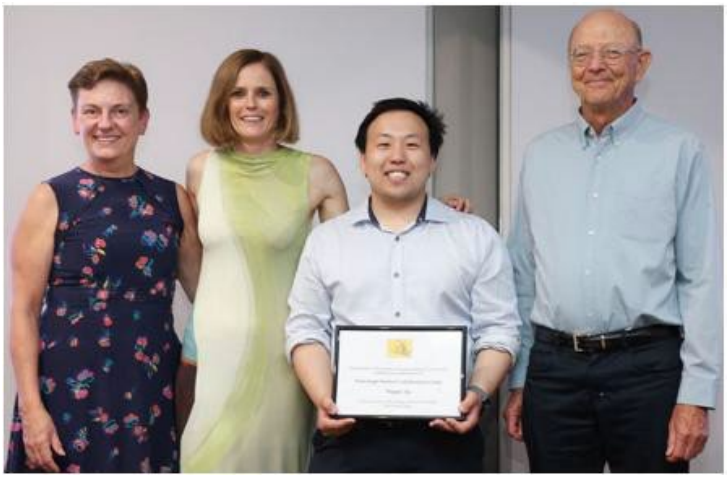
What has resonated most with me is the importance of curation in a world overwhelmed by information of variable quality; of human connection; and the possibility of curricula shaped around transformative learning experiences. At a national level, much of my current focus is on the real-world implications of government targets for increased higher education participation, and what these mean for how we teach and how we structure learning to support an increasingly diverse student cohort.

Member Profile: PhD Candidate

Wayne Du

University of Melbourne

Winner of the Peter Gage Student Collaborative Grant



Wayne Du receiving his award from President Prof Livia Hool, Secretary Prof Severine Lamon and Prof Dirk van Helden

Congratulations on winning the grant. Can you tell us about your research project and its significance?

As part of my PhD studies, I have conducted research in skeletal muscle with a focus on ubiquitin biology, specifically the role of USP15 – a deubiquitinase that removes ubiquitin from target proteins. I have discovered that the overexpression of USP15 in skeletal muscle increases the abundance of the E3 Ligase MuRF1, an 'atrogene' that is elevated in many atrophy models such as cancer cachexia and denervation and is involved in tagging proteins with ubiquitin. Interestingly, despite this increase in MuRF1, USP15 overexpression does not affect muscle mass. This

finding contrasts with previous studies which show that MuRF1 overexpression alone is sufficient to induce muscle wasting.

How do you plan to use the grant funds to further your research?

I will be using the grant funds to collaborate with Prof. Sue Bodine, a world-renowned pioneer in MuRF1 research and Asst. Prof. David Hughes, an emerging leader in the field, at the Oklahoma Medical Research Foundation, USA. I plan to travel to their laboratories and use Prof. Bodine's constitutive and inducible muscle-specific MuRF1 knockout mouse models. With these models, I aim to test whether the absence of MuRF1 will unmask a pro-growth role of USP15 that is otherwise inhibited by the upregulation of MuRF1 when USP15 is overexpressed.

What inspired you to apply for this grant?

Throughout my PhD, my supervisors Prof. Paul Gregorevic and Dr. Craig Goodman have encouraged the idea of travelling overseas to collaborate with academics and experts within the field of muscle biology, specifically, Prof. Bodine. While this prospect was incredibly exciting, I had assumed it would be unattainable due to financial constraints. Two months after these conversations, I came across an email from AuPS advertising this grant. Although I doubted my chances, I applied, and now here I am, writing this piece for the AuPS newsletter.

How do you think this grant will impact your academic and professional development?

This grant will not only enable a collaboration with Prof. Sue Bodine and Asst. Prof. David Hughes but will also provide me with the chance to travel internationally and gain insight into how research is conducted outside of Australia. This opportunity will broaden my scientific skill set, expand my professional network with scientists at OMRF and other collaborating laboratories, and contribute significantly to my growth as an early-career researcher.

How has the support from your supervisors and peers contributed to your success?

The support from my supervisors and peers has been central to my development and success. I first joined the Gregorevic Lab in 2020 to begin my Master of Biomedical Science, and just two weeks later Melbourne entered what became an extended lockdown. Despite the challenges of that period, my supervisors were consistently present, guiding my learning, helping me adapt, and ensuring my scientific progress never stalled. Now, six years on, I'm still part of the team. Watching my peers graduate from PhD students to postdoctoral researchers has also been incredibly inspiring. Their achievements, along with the encouragement from my supervisors, continue to motivate me to push forward in my own research journey. The inspiration and mentorship that I have received are qualities I hope to one day pass on to future emerging scientists.

What are your long-term goals for your research and career?

My long-term goals for my research and career include pursuing postdoctoral studies after completing my PhD. Through the opportunity to travel internationally and to network with researchers overseas, I hope to strengthen these connections and potentially secure a postdoctoral position abroad.

It is a great honour to have been the inaugural winner of the Peter Gage Student Collaborative Grant. I would like to sincerely thank AuPS for this generous grant and for their support of early-career researchers like me. This opportunity would not have been possible without their commitment to fostering scientific development and collaboration.

Congratulations!

Congratulations to the Monash University Virtual Physiology Laboratory (MVPL) platform being acknowledged by the Winners of the 2025 The Australian Awards for University Teaching (AAUT)!

Insights shared by AuPS member Professor Julia Choate

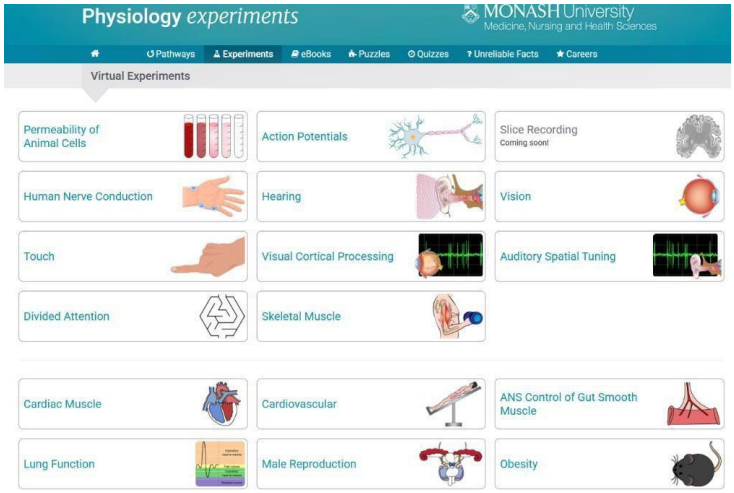


Figure 1. Image of the Monash University Virtual Physiology Laboratory platform with icons linking to the 16 virtual labs.
Experiments - Monash Department of Physiology

Amidst the backdrop of financial constraints, ethical challenges and the stressful environment of running physical physiology laboratory classes, the Monash University Virtual Physiology Laboratory (MVPL) team, led by Professor Ramesh Rajan and including AuPS member Professor Julia Choate, developed an innovative solution of open-access, virtual laboratories (Figure 1). This initiative has unlocked Physiology experiments inaccessible to students due to the high costs of specialised equipment, the need for highly-skilled staff, and the ethical implications surrounding animal use, and it has enabled the development of a blended 'virtual + physical' laboratory model that allows direct experiential learning under conditions that model real-life experiments. To ensure these virtual labs authentically modelled teaching processes and learning outcomes, they mimic as nearly as possible the technically-sophisticated equipment used in the physical labs, with real experimental data that contains built-in variability. The virtual labs are self-paced, promoting autonomous, student-centred learning, with student progress hurdles built for adaptive learning. A major design feature is that the learning experience is scalable and flexible (i.e., large student cohorts, multiple degree programs), offered at no cost, with global access across diverse sectors and devices.

The MVPL comprises 16 open-access virtual labs (Figure 1) that complement and enhance and can, if desired, replace live physical labs. At Monash, the virtual laboratories have been embedded across multiple health sciences degree-programs, leading to enhanced student engagement and learning, and reducing animal use. Beyond Monash, the virtual labs suite has been globally embraced in the tertiary sector, with over 400,000 students and educators using them across 166 countries in the last 12 months. The positive educational impacts of the MVPL platform were recognised by the team receiving the 2025 AAUT Award for a Program that makes innovative and outstanding contributions to student learning.

Join Us for the 2026 Physiology Education Webinar Series

We are excited to promote the Education-focussed series of webinars in 2026, in collaboration with the American Physiological Society's Center for Physiology Education (CPE). Throughout the year, the CPE will have guest speakers discussing hot topics and educational research published in *Advances in Physiology Education*. Due to the time difference between the USA and Australia, the webinars are rebroadcast in Australia on the fourth Thursday at 4 PM (Melbourne time), with a local facilitator to focus the discussion on the Australian context.

Join from Zoom Workplace app - Zoom
Meeting ID: 842 2366 8947; **Passcode:** 553130

Upcoming webinar – Australian rebroadcast:
March 26th – Professor Josef Brandauer – Teaching in an era of Generative Artificial Intelligence

For more information and enquiries please contact Professor Kathy Tangalakis or Dr Suzanne Estaphan.

Keep up-to-date with AuPS news and events by following us on:

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AuPS SCIENTIFIC MEETING

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University of Queensland,
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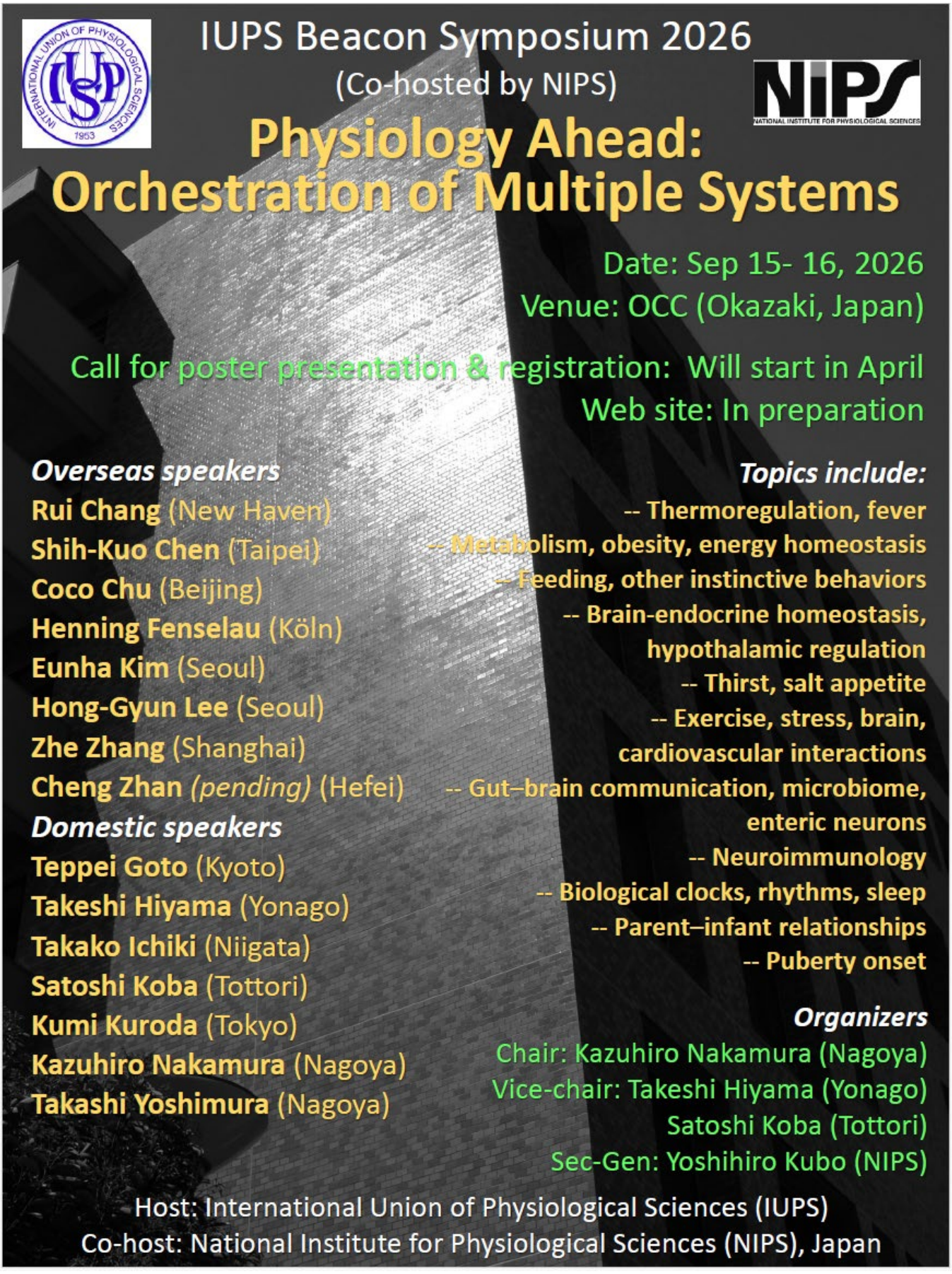
IUPS Beacon Symposium 2026
(Co-hosted by NIPS)
Physiology Ahead:
Orchestration of Multiple Systems
Date: Sep 15- 16, 2026
Venue: OCC (Okazaki, Japan)
Call for poster presentation & registration: Will start in April
Web site: In preparation
Overseas speakers
Rui Chang (New Haven)
Shih-Kuo Chen (Taipei)
Coco Chu (Beijing)
Henning Fenselau (Köln)
Eunha Kim (Seoul)
Hong-Gyun Lee (Seoul)
Zhe Zhang (Shanghai)
Cheng Zhan (pending) (Hefei)
Domestic speakers
Teppei Goto (Kyoto)
Takeshi Hiyama (Yonago)
Takako Ichiki (Niigata)
Satoshi Koba (Tottori)
Kumi Kuroda (Tokyo)
Kazuhiro Nakamura (Nagoya)
Takashi Yoshimura (Nagoya)
Topics include:
-- Thermoregulation, fever
-- Metabolism, obesity, energy homeostasis
-- Feeding, other instinctive behaviors
-- Brain-endocrine homeostasis, hypothalamic regulation
-- Thirst, salt appetite
-- Exercise, stress, brain, cardiovascular interactions
-- Gut–brain communication, microbiome, enteric neurons
-- Neuroimmunology
-- Biological clocks, rhythms, sleep
-- Parent–infant relationships
-- Puberty onset
Organizers
Chair: Kazuhiro Nakamura (Nagoya)
Vice-chair: Takeshi Hiyama (Yonago)
Satoshi Koba (Tottori)
Sec-Gen: Yoshihiro Kubo (NIPS)
Host: International Union of Physiological Sciences (IUPS)
Co-host: National Institute for Physiological Sciences (NIPS), Japan

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The next issue of AuPS News will be distributed to members in June 2026.
All contributions for AuPS News should be sent to: **suzanne.estaphan@anu.edu.au** before the end of May.

Thank you to the supporters of AuPS

The Journal of Physiology

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