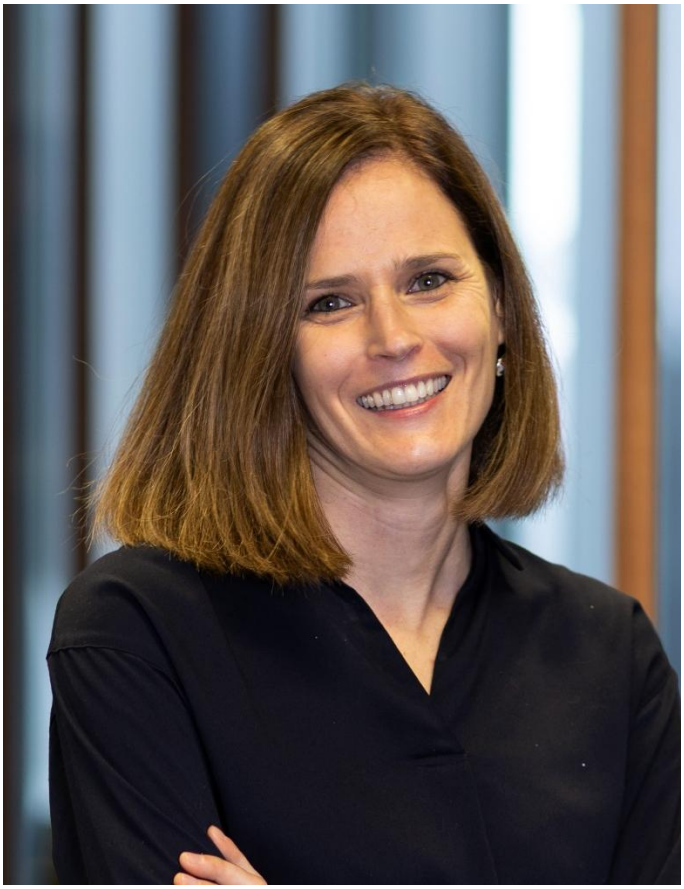
Australian Physiological Society

THE PROFESSIONAL ASSOCIATION FOR AUSTRALIAN PHYSIOLOGISTS

AuPS News – June 2025

Mid-Year Update from the National Secretary

Prof. Severine Lamon



This year 2025 marks a significant milestone for the AuPS as we celebrate its 65th anniversary. Such occasions provide more than a just a reason to celebrate; they offer a chance to reflect on our history, appreciate the progress we have made, and recognize the challenges we have overcome. This reflection deepens our understanding of the values that continue to guide us forward. From a personal perspective, 2025 also marks my 10th consecutive year on the AuPS council. I can only speak about the time I have spent serving the Society, but what a journey it has been!

The past decade has been incredibly fast paced, in an environment that is inherently dynamic. I am proud of the achievements of the AuPS, which has seamlessly adapted to the myriad of challenges presented to us by the research and academic world, as well as a global pandemic. Researchers in Australia face unprecedented precariousness, and Australian universities are grappling with a crisis characterised by heightened competition for funding and shifts in higher education priorities. Despite these challenges, the AuPS continues to thrive, showcasing the essential and multifaceted role our Society plays. First and foremost, the AuPS offers an essential platform for physiologists to connect, collaborate, and share their research in a collegial and supportive environment. In an era when scientific work can often feel fragmented or isolated, the Society fosters a sense of community and continuity across different career stages, institutions and countries. The success of both our traditional meetings and larger events, such as the Biomedical Horizons Conference in 2024, are a testimony to the crucial role our Society plays in connecting us on both national and international levels.

Second, the AuPS stands as a robust advocate for the field of physiology, ensuring its visibility and relevance in a research landscape where major health challenges often overshadow fundamental science. Our Society fosters both curiosity-driven and applied research, reinforcing the foundational importance of physiology in medical and life sciences. This year, we will once again host a historical symposium at our scientific meeting in Paramatta, paying a tribute to the contributions of Australian physiologists to the

broader discipline. Our impressive line-up of speakers, all members of our Society, includes experts in neurophysiology, maternal and foetal physiology, muscle physiology, cardiovascular physiology, and physiology education, to name a few. This line-up would make any international conference organisers envious, showcasing the high quality of physiological science our country has produced over almost seven decades.

Finally, and this is my greatest pride, the AuPS plays a crucial role in mentoring and supporting students and early-career researchers. In times of uncertainty, institutional changes and a vagarious funding situation, the continuity of this support is more important than ever for building bright and resilient careers. This year has been outstanding for AuPS students and early-career researchers, thanks to two significant

contributions that will directly benefit their development and engagement within our community. The generous donation of the profits from the late GAGE conference, through AuPS Honorary member Em/Prof. Angela Dulhunty, will be matched by AuPS to offer up to two student grants per year to our most outstanding young physiologists. These additional resources will enable them to establish new collaborations with members of other physiological societies in Australia or internationally, providing a launching pad for their future careers that, more than ever, will need to be outward facing.
Additionally, the solid profits from the BMH 2024 meeting, a tribute to the organising committee and our AuPS representatives Robyn Murphy and Adam Rose, have provided the Society with additional funds. All of these funds will be reinvested into student and ECR-focused initiatives. These initiatives represent more than just financial support; they reflect our shared commitment to nurturing the next generation of physiologists and ensuring they have the opportunities, mentorship, and platforms needed to thrive.

For me personally, serving on the Council over the past decade has been a journey of growth and learning. An international ECR still finding her footing in the Australian physiology landscape when former National Secretary Prof. Matthew Watt tapped me on the shoulder, the opportunities that have arisen from my successive roles within the AuPS Council have far exceeded my expectations. The time and effort I have invested have returned a thousandfold in terms of personal growth, professional development, and the relationships that have continued to shape my career.

My personal highlights of the last decade include the recruitment of a young and dynamic Council, filling new roles created to keep up with our changing environment, leaving me with no doubt about the bright future of our Society. From one of the youngest members 10 years ago, I am now close to being the oldest, indicating that it is time for me to make room for others. Contributing to the creation of new initiatives to support our younger membership has always been at the forefront of my mission within the Council. Finally, the growing recognition of the vital role physiology educators play in our community truly sets AuPS apart from other scientific societies. By actively supporting and elevating the contributions of educators — alongside researchers — through the creation of an Education Officer role and multiple initiatives targeting physiology educators, we strengthen not only our discipline but also its future. This inclusive approach ensures that excellence in teaching is valued as highly as excellence in research, reinforcing our commitment to a well-rounded and sustainable physiological sciences community. All of this has deepened my appreciation for the society's rich legacy — the scientific contributions, collegial spirit, and enduring commitment to advancing physiology in Australia and beyond that began 65 years ago.

As we look to the future, I am confident that AuPS will continue to evolve while staying true to its core values. By building on our strong foundations,

embracing innovation, and fostering inclusivity, we can ensure that our society remains a vibrant and relevant force in shaping the future of physiology. On a personal note, I want to express my gratitude for your trust, support, mentoring and friendship. My success is our success, and making Australia my professional home would not have been possible without the warm welcome I received 15 years ago, when I crossed the pond to complete my first one-year early-career fellowship.

I look forward to seeing you in Parramatta in November for well-deserved celebrations. It will be a fantastic opportunity to reflect on our achievements and enjoy the company of our wonderful community
Séverine

Member Profile: Postdoctoral Research Fellow Dr. Danielle Hiam

Deakin University

Winner of the AuPS postdoctoral publication prize

Congratulations on the prize!
Can you tell us about your award-winning publication?
Firstly, I would like to thank the Australian Physiological Society for the honour of receiving the 2024 postdoctoral publication award.
Sex as a biological variable has long been underrepresented in physiology and muscle research, with much of the existing knowledge derived from male-dominated datasets. In our recent publication in BMC Biology, we aimed to address this imbalance by exploring how sex influences microRNA dynamics and skeletal muscle phenotype programming. We profiled the skeletal muscle miRNAome in a relatively large cohort of healthy individuals (23 males and 19 females). At baseline, we identified 148 miRNAs that were differentially expressed between sexes and conducted interaction analyses, revealing 111 miRNAs with sex-specific expression changes following acute high-intensity interval exercise. Pathway analysis revealed that these sex-biased miRNAs are enriched in muscle-related biological processes, including cell proliferation, differentiation, and key metabolic pathways. Notably, we observed that these miRNAs not only regulate skeletal muscle development but also display sex-specific gene-targeting patterns. To further explore the underlying mechanisms, we overexpressed two sex-biased miRNAs (miR-30a and miR-30c) in human primary skeletal muscle cells and performed transcriptome sequencing. This approach uncovered significant, sex-specific changes in gene expression, providing valuable mechanistic insight into how these miRNAs may contribute to differences in muscle development and function between males and females. Overall, our findings highlight the importance of including sex as a biological variable in muscle research. Importantly our findings highlight the important role that miRNAs play in programming sex differences in the skeletal muscle phenotype.

What is your current position/role?
I work as a postdoctoral researcher within Professor Severine Lamon's lab at Institute of Physical Activity and Nutrition, Deakin University. My work spans the fields of skeletal muscle physiology, epigenetics, endocrinology utilising advanced bioinformatic approaches.

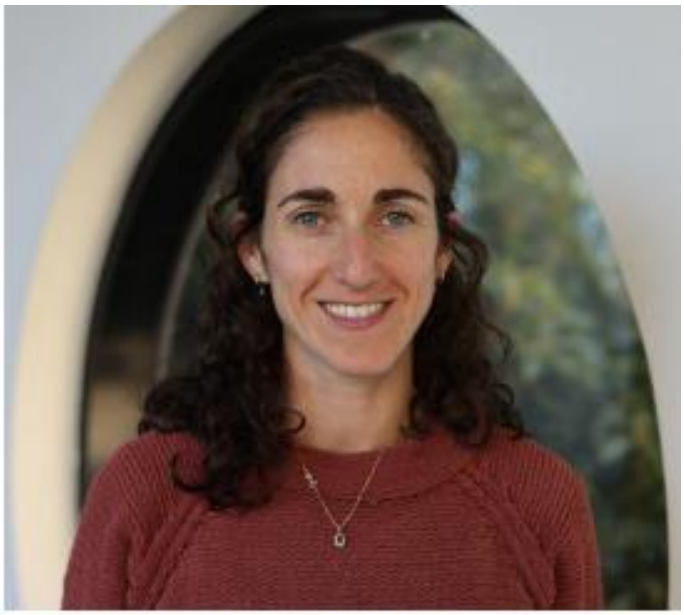
What made you want to follow a career in research, and where do you see yourself heading professionally?
Aside from being able to contribute meaningfully to the well-being of others I've always been extremely curious about the complexity of the human body. This curiosity naturally led me into scientific research.
During my first postdoctoral position, I became increasingly interested in bioinformatics, largely thanks to the mentorship of a senior bioinformatician, Dr Sarah Voisin, in our research team, led by Prof. Nir Eynon. Her passion for the field was contagious, and I soon
found myself wanting to learn more and more. Since then, I've spent countless hours expanding my knowledge by attending lectures, seminars, and workshops. Most recently, I completed a Graduate Certificate in Data Science with UNSW. Looking ahead, I am eager to transition into a full-time career in bioinformatics.

Outside of work/research, what do you do to relax?
With a toddler I go to work to relax!

Member Profile: Dr Shanie Landen

Hudson Institute of Medical Research

Winner of the Weary Dunlop funding for CERH project



Dr Shanie Landen has received a 2025 Weary Dunlop Foundation grant worth $50,000 to pursue her latest project: "A genetic approach to understand sex differences in musculoskeletal ageing" Females live longer than males, but are more susceptible to the functional and metabolic consequences of ageing, yet our knowledge of and clinical approaches to age-related conditions overwhelmingly inferred from findings from male cohorts. Maintaining muscle and bone function is essential to healthy ageing. Focus on osteoporosis and sarcopenia Two of the most prominent age-related musculoskeletal conditions, osteoporosis and sarcopenia, are more prevalent in females than in males. This project aims to explore the genetic origins of sex differences in muscle and bone to understand how two severe musculoskeletal

age-related conditions leading to increased mortality and morbidity differentially affect males and females. In this project, we will use a combination of novel human and animal models allowing us to isolate the differential and interactive effects of ovarian and testicular hormones and the sex-chromosome complement on the age-related deterioration of muscle and bone function. Hudson-developed animal model The novel SRY-modified animal model we are applying was co-developed in our lab by Prof Vincent Harley and Janelle Ryan at Hudson Institute with UCLA and MCW. This project is in collaboration with Prof. Severine Lamon from Deakin University and was a near-miss in the last NHMRC ideas grant round. This funding will allow us to obtain substantial data from our animal model to begin elucidating the drivers of sex differences in ageing.

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@AUPS-physiology

Congratulations!

Congratulations to the Winners of the 2025 Australian Physiology Competition!

Congratulations to all participants and organisers of the **2025 Australian Physiology Competition**, held at the **University of New South Wales** on **Saturday, 10 May**. This national competition brought together over 50 medical and science students from universities across Australia to compete in a dynamic series of team-based and individual physiology challenges.

We are especially proud to acknowledge the **winning team**, all third-year students from the **University of Sydney**, who have been selected to represent Australia at the **International Medical Sciences Physiology Quiz (IMSPQ)** in Thailand later this year:

- **Oliver Hervir**
- **Louisa Leone**
- **Shayan Lahijanian**
- **Eleanor Lawton-Wade**

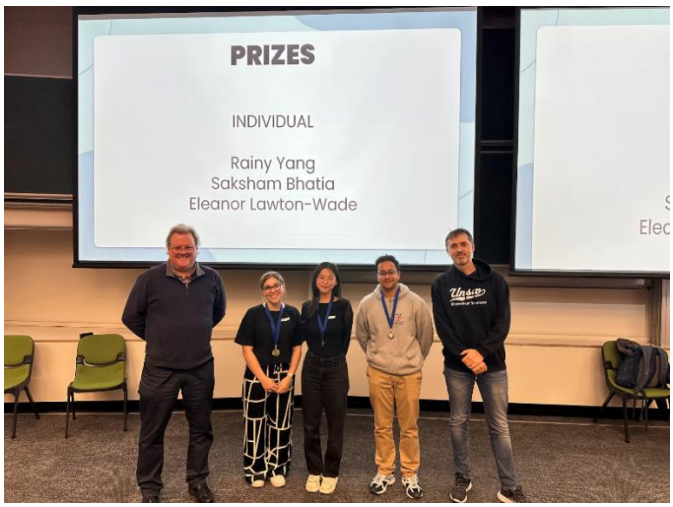
Top scorers in the **individual competition** were:

- 🥇 **Rainy Yang** (2nd year, University of Sydney) – *Score: 101/120*
- 🥈 **Saksham Bhatia** (4th year, UNSW) – *Score: 100/120*
- 🥉 **Eleanor Lawton-Wade** (3rd year, University of Sydney) – *Score: 95/120*

The **Australian Physiological Society** was delighted to support this initiative by providing sponsorship to recognise the outstanding achievements of the top performers and contribute to the team's registration fees for the upcoming international competition.

Thank you to the organising team for their efforts in making this a successful and inspiring event. We wish the Australian team all the best as they prepare to compete on the world stage.

Photo below shared with permission from the event organisers.



2025 marks the 65th anniversary of the AuPS and we are looking forward to celebrating at our annual meeting to be hold at the University of Western Sydney (Parramatta) on 23 - 26 November 2025.

Registration and abstract submissions open in August 2025!

The Australian Physiological Society is planning to introduce Interest Groups to help members connect, collaborate, and co-create the future of physiology in Australia. These groups will be informal, inclusive, and driven by your interests. Please complete this short survey to guide our next steps.

https://form.jotform.com/251720950910856

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A.K. McIntyre Award

Sponsored by AuPS

*The **A K McIntyre Prize** is named in honour of the Society's first President.*

The Prize shall be awarded periodically to members of the Society who are judged to have made significant contributions to Australian physiological science and to AuPS over their pre-doctoral and early post-doctoral years.

Application & Eligibility:

To be considered for this award, nominees must:

- *be proposed by two financial members of the Society, who should provide a statement of not more than 500 words summarising the nominee's achievements.*
- *provide a curriculum vitae and a list of published works, including conference proceedings and citations. Include a specific section that provides details of any contributions to scientific meetings of the Society.*
- *normally have graduated from their PhD or equivalent doctoral degree by 1st November not more than seven years before the year of application. Where the time exceeds seven years, please include details of relative to opportunity.*
- *be current financial Ordinary Members of the Society (note: provisional members* are not eligible to apply)*

In considering nominations, the judges will take into account the nominee's contributions to scientific meetings of the Society. No individual may be awarded the prize more than once.

The judging committee shall consist of members of the Executive Committee of Council (except that any member with a conflict of interest shall be replaced with another Councillor), together with up to two additional members of Council and/or up to three past McIntyre award winners from outside of Council who shall be appointed for each specific round of nominations.

The Prize:

The Prize consists of a medal and the sum of $1000.
The winner will be invited to present their work at the Physiological Society of New Zealand meeting in Queenstown in the following year, travel costs will be supported#.

When awarded, the winner will be announced during the conference dinner at the following AuPS meeting, and in the December Newsletter.

Email applications to the AuPS National Secretary

Prof Severine Lamon: severine.lamon@deakin.edu.au

Closing date:

Applications close 5pm (AEST), 12th September 2025.
*Past winners can be viewed in the **archive***

#In a reciprocal agreement, The winner of the PSNZ New & Emerging Researcher Award will be invited to present at the AuPS meeting in the following year (Nov/Dec). AuPS will provide the PSNZ winner with complimentary registration including dinner ticket plus reasonable travel expenses up to AUD$1500 upon provision of receipts for flights and 3 nights' accommodation.

**Provisional membership. Applicants who apply for AuPS membership and pay their subscription fees have the status of provisional member until their application is ratified by a vote of the Society members at the Annual General Meeting (AGM) in November/December each year. In practical terms, this means anyone who applies for AuPS membership after the 2025 AGM won't be eligible for AuPS grants and awards until 2027. If you would like to be eligible for next year's awards you will need to apply for membership before the AGM this year.*

The Michael Roberts Excellence in Physiology Education Award

Sponsored by ADInstruments

The Michael Roberts Excellence in Physiology Education Award is an award bestowed periodically by the Australian Physiological Society in memory of Michael Roberts, who was a lifelong passionate and dedicated advocate of physiology teaching and education.

The award is intended to recognise AuPS members who have demonstrated a sustained performance of excellence in the delivery of physiology education at the tertiary level, and make a contribution to the teaching activities of AuPS.

Application & Eligibility:
The award is open to current ordinary financial members of the Australian Physiological Society who are actively engaged in physiology education (note: provisional members are not eligible to apply).*

Candidates should provide a single page argued case for their nomination. In addition, candidates must provide evidence of achievement and impact which could include any of the following: letters of support from colleagues familiar with the teaching environment, detail of sustained high level teaching evaluation, student recognition, awards, success in obtaining substantial educational research funding and publications. Applications containing a brief Curriculum Vitae and evidence of achievement should be a ***maximum*** *of three pages****, plus a single page argument for their nomination****.*

In considering nominations, the judges will take into account the nominee's contributions to scientific meetings of the Society.

Prize:
The recipient of this award will be presented with a medal and a cash award, at the conference dinner in the year of the award, and will be invited to deliver a keynote lecture at the Educational Symposium in the following year's AuPS conference.

Email applications to the AuPS National Secretary
A/Prof Severine Lamon: severine.lamon@deakin.edu.au

Closing date:
Applications close 5pm (AEST), 12th September 2025.
*Past winners can be viewed in the **archive***

AuPS Postdoctoral Publication Prize

Sponsored by AuPS

An annual award for the best original paper published by an AuPS member during their first seven postdoctoral years.

Eligibility:
To be considered for this award:

- *The paper must be based on work carried out and published during your first seven postdoctoral years.*
- *The paper must have been published (either on paper or online) in the 12 month period between 30th September to the 1st October in the year of application.*
- *Applicants must be current financial Members of the Society (provisional members* are not eligible to apply)*
-

Application:
Applications should include:

- *A pdf of the publication*
- *A statement of date of award of your PhD*
- *A short statement on the paper's impact*
- *An explanation of your contribution (to multi-author papers only)*

Assessment Criteria:
Applications will be ranked by a committee of AuPS Council members according to the following criteria:

1. *Impact on the field*
2. *Applicant's contribution to the publication, endorsed by the supervisor and/or senior author of the paper*
3. *Innovation and originality*
4. *Technical difficulty*
5. *Scientific rigour*
6. *Clarity of organization and writing style*
7. *The prize will only be awarded once to a given individual*

Prize:
The Prize consists of a $500 award, to be used to present work at a conference. (Note: winners will be reimbursed after providing a copy of an invoice of conference expenses). Winners will be announced during the conference at the AGM and in the December AuPS newsletter.

Email applications to the AuPS National Secretary
Prof Severine Lamon: severine.lamon@deakin.edu.au

Closing date:
Applications close 5pm (AEST), 15th October 2025.

*Past winners can be viewed in the **archive***

AuPS PhD Student Publication Prize

Sponsored by AuPS

An annual award for the best original paper published by an AuPS member during the course of their PhD studies.

Eligibility:
To be considered for this award:

- *The paper must be based on work carried out during your PhD and accepted for publication during your PhD or up to one year after the acceptance of your PhD.*
- *The paper must have been published (either on paper or online) in the 12 month period between 30th September to the 1st October in the year of application.*
- *Applicants must be current financial Members of the Society (provisional members* are not eligible to apply)*

Application:
Applications should include:

- *A pdf of the publication*
- *A statement of date of award of your PhD*
- *A short statement on the paper's impact*
- *An explanation of your contribution (to multi-author papers only)*

Assessment Criteria:
Applications will be ranked by a committee of AuPS Council members according to the following criteria:

1. *Impact on the field*
2. *Applicant's contribution to the publication, endorsed by the supervisor and/or senior author of the paper*
3. *Innovation and originality*
4. *Technical difficulty*
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The Prize consist of a $500 award, to be used to present work at a conference. (Note: winners will be

reimbursed after providing a copy of an invoice of conference expenses). Winners will be announced during the conference at the AGM and in the December AuPS newsletter.

Email applications to the AuPS National Secretary
Prof Severine Lamon: severine.lamon@deakin.edu.au

Closing date:
Applications close 5pm (AEST), 15th October 2025.

*Past winners can be viewed in the **archive***

AuPS Student Presentation Prizes

Sponsored by AuPS

In 1990, the Society instituted the awarding of prizes at each meeting for the best presentations (oral and poster) by graduate students in physiology and related disciplines. First and second prizes in both categories are normally awarded.

Prize:
The first prize winners in each category will receive $250, and the second prize winner in each category will receive $100 sponsored by AuPS

Eligibilty:
Only persons who have been approved as Student Members will be eligible for Student Prizes.

Application:
Student presenting authors need only indicate they wish to be considered for the presentation prizes when they submit their abstract through the on-line system.

*Past winners can be viewed in the **archive***

Peter Gage Student Collaborative Grant and AuPS Student Collaborative Grant

Sponsored by AuPS

AuPS has developed a competitive grant scheme for student members to help establish new independent collaborations, develop the student's CV and provide experience in preparing grant applications.

In 2025, up to two x $4000 AUD grants will be available to support a student's visit to a host lab, in Australia or internationally, to further the development of students' Masters or PhD research programmes.

*The **Peter Gage Student Collaborative Grant** will be awarded to an outstanding research proposal in basic physiology. The **AuPS Student Collaborative Grant** will be awarded to an outstanding research proposal in any field of physiology.*

Eligibilty:
To be eligible for this grant, applicants must:

- *Be currently enrolled in a physiology-related Masters or PhD programme at an Australian University/Research Institute*
- *Have been a member of the Society for at least one year in November 2025*
- *Not be already involved in the host group's work in any way*
-

Application:
The application should include:

- *Research proposal including background, rationale and aims (300 words).*
- *Significance of the research and expected outcomes of the funding (200 words).*
- *Value of the new collaboration and future collaborative plans (300 words).*
- *References (maximum of 10, Vancouver reference style)*
- *Letter of support from primary supervisor (1 page limit)*
- *Letter of support from host (1 page limit)*
- *Curriculum Vitae (maximum of 2 pages)*

The application will be assessed on the scientific merit of the project, the value of the new collaboration and the CV of the student. Early PhD candidates are encouraged to apply as CVs will be judged relative to opportunity. The application will NOT be assessed on the basis of the host's track record, or on the basis of existing collaborations between the primary supervisor and the host. The most highly ranked applicants will be asked to attend a short interview with the AuPS Council Executive.
The winner will be asked to deliver a webinar presentation to AuPS students and ECR members after their visit.

Email applications to the AuPS National Secretary
Prof Severine Lamon: severine.lamon@deakin.edu.au

Closing date: Applications close 5pm (AEST), 12th September 2025.
Winners will be announced at the AGM

AuPS Physiology Education Grant Scheme

Sponsored by AuPS

The AuPS Physiology Education Grant scheme aims to support an education-based research project that has the potential to benefit physiology education and /or student engagement in Physiology. A condition of the grant is that the research outcomes of the funded project must be presented at the AuPS meeting the following year, and it is expected that they will be suitable for publication over the subsequent 1-2 years. The recipient(s) will be mentored by a senior physiology education researcher appointed by the AuPS council, typically a former recipient of the Michael Roberts Prize.

One $3 000 AUD grant is available, awarded to the best application from members of the AuPS.

Application & Eligibility:
*The scheme is **open to all current ordinary financial members** of the Australian Physiological Society (Provisional members* are not eligible to apply). Note: eligibility has been expanded to include ALL academics regardless of career stage.*

Individuals or Teams may apply, but all team members should adhere to these eligibility criteria and a Chief and Associate Investigator should be identified.
The application is assessed on the significance, innovation, clarity and feasibility of the proposal; justification of the budget; potential benefits for physiology education and/or engaging students in Physiology including breadth of potential impact across institutions. Applications will be ranked by at least two selected members of the AuPS Council, and the successful applicant will be announced at the annual AGM.

Note that funds will not be provided for conference attendance or travel (unless an integral part of the proposal). Applications should be written in Times New Roman 12 point, justified formatting, 1.5 line spacing using the following headings, adhering to word counts:

- *Chief Investigator, including institutional address*
- *Associate Investigator(s) and role in project (if relevant)*
- *Research Proposal (including background, innovation, rationale, aims and timeline: 500 words)*
- *Budget and Justification (200 words)*
- *References (maximum of 10)*
- *Brief CV of Chief Investigator and each Associate Investigator (1 page limit per person)*

Applications should be written in Times New Roman 12 point, justified formatting, 1.5 line spacing and adhere to word limits.

Successful applicant(s) must provide a half -page report the following year to the AuPS Council, describing how funds were spent, and the outcomes of the project (including presentation at the meeting and publication plans). The report may be published in the AuPS Newsletter.

Email applications to the AuPS National Secretary
Prof Severine Lamon: severine.lamon@deakin.edu.au

Closing date:
Applications close 5pm (AEST), 12th September 2025.

Winners will be announced at the AGM

AuPS Council

President
Prof Livia Hool
The University of Western Australia
president@aups.org.au

National Secretary
Prof Séverine Lamon
Deakin University
secretary@aups.org.au

National Secretary Elect
Webmaster
Dr Renee Ross
University of Tasmania
webmaster@aups.org.au

Treasurer
Dr Dino Premilovac
University of Tasmania
treasurer@aups.org.au

Production Editor
Dr Craig Goodman
University of Melbourne
editor@aups.org.au

Associate Editor
Dr Suzanne Estaphan
The Australian National University
associateeditor@aups.org.au

Membership Officer
Dr Adam Hagg
University of Queensland
membershipofficer@aups.org.au

Education Officer
A/Prof Kay Colthrope
University of Queensland
educationofficer@aups.org.au

Sponsorship Officer
Dr Nolan Hoffman
Australian Catholic University

Social Media Coordinator
Dr Noni Frankenberg
La Trobe University
n.frankenberg@latrobe.edu.au

IT Manager
Dr Erin Lloyd
The University of Western Australia

Dr Nathan Absalom
Western Sydney University
ITmanager@aups.org.au

Student Representatives
Carlie Bauer
Victoria University

Matthew Gedye
Deakin University

This issue of AuPS News was compiled by Suzanne Estaphan with many thanks to the generous contributors.
The next issue of AuPS News will be distributed to members in September 2025.
All contributions for AuPS News should be sent to: suzanne.estaphan@anu.edu.au before the end of August.

Thank you to AD Instruments for your continuing support of AuPS