



# AuPS News

March 2016

## Member Profile - Dr Nolan Hoffman The University of Sydney

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### Public Officer

AuPS Secretary

Dr. Nolan Hoffman completed his Bachelor of Science in Biology at Butler University located in his hometown of Indianapolis, Indiana in the USA. He spent a semester in Australia studying zoology as an international exchange student at the University of Tasmania. Nolan first became interested in physiology as a means to merge his interests in biology and medicine and translate his biological research to promote human health. Nolan earned his PhD in Cellular and Integrative Physiology in 2012 from Indiana University School of Medicine, where he also received postgraduate training in the business of life sciences. Nolan returned to Sydney, Australia in 2012 to undertake his postdoctoral research at the Garvan Institute of Medical Research and the University of Sydney Charles Perkins Centre. He was awarded the Australian Physiological Society's Postdoctoral Research Publication Prize in 2015 for research that uncovered the first blueprint of the human skeletal muscle exercise-regulated signal transduction network, including over 1,000 protein modifications induced by a single bout of exercise. The paper was titled [Global Phosphoproteomic Analysis of Human Skeletal Muscle Reveals a Network of Exercise-Regulated Kinases and AMPK Substrates](#). Furthermore, this study identified and validated several novel substrates of the energy-sensing AMP-activated protein kinase (AMPK).



Nolan's research is focused on the regulation of metabolism and interrogation of skeletal muscle metabolic signalling pathways such as AMPK using cellular, animal and human systems. In February 2016 Nolan relocated from Sydney to Melbourne to join Australian Catholic University's Mary MacKillop Institute for Health Research as a Postdoctoral Research Fellow in the Centre for Exercise and Nutrition. The direction of Nolan's research in the next three years is to understand how exercise and dietary intervention impacts skeletal muscle metabolic signalling in health and disease. Outside of research Nolan enjoys the outdoors, travelling, running, playing baseball, cooking, and exploring the café culture and culinary diversity around Melbourne.

***The best original paper published by an AuPS member during their first 4 postdoctoral years was proudly sponsored by SDR Scientific.***

## Student Member Profile – Anthony May Deakin University

**What is your research background – how did you get interested in Physiology?** My research background is in blood flow restriction exercise. My research mainly focuses on musculoskeletal adaptations and cardiovascular safety. I had been interested in physiology since high school and really grew to enjoy the field during my Honours degree in exercise physiology.

**What was your award winning talk?** We investigated whether blood flow restriction training in the legs could have an additive effect on muscle adaptations in a lightly trained arm without blood flow restriction applied. We found that there was an additive effect for muscle strength in the trained arm but not for muscle hypertrophy. This suggests that a neural mechanism is driving this strength adaptation and that the lower body and upper body are interrelated. This may have implications in strength training for low physical functioning clinical populations.



**What do you do to relax?**

I made the mistake a while back of subscribing to Netflix. The large amount of low-grade television is a good distraction. Otherwise I like to keep active. I play football for a local club and surf when I get the chance.

**What is the research direction you would like to take in the next 3-5 years?**

I would like to keep my focus on skeletal muscle and the vasculature in the near future. However, I would be interested in research with a more clinical focus. If results from my current research remain consistent then it may be worth utilising blood flow restriction training to improve physical function, especially for those undergoing musculoskeletal rehabilitation.

***Anthony was awarded the AuPS prize for his oral presentation at the 2015 Scientific Meeting in Hobart. The prize was proudly sponsored by Wiley Blackwell.***

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# AuPS/ASB Adelaide 2016



Australian Physiological Society &  
Australian Society for Biophysics  
City West Campus,  
University of South Australia,  
Adelaide, Dec 4-7, 2016

## ***Provisional Research Symposia***

- A placenta for life
- Cardiomyocyte mechano- and myofilament dysfunction in heart failure progression
- Developmental origins of health and disease: metabolism and exercise
- Enteric neural functional circuits of intestinal motility
- New paradigms in myocardial metabolism and pathogenesis
- Recent advances in the understanding adipose tissue development and function
- Skeletal muscle physiology in health, disease and ageing
- The many pathways of gut control of metabolism
- Transporters and channels as drug targets in cancer

## ***Physiology Education Symposium***

- Transforming the classroom and helping others to adopt teaching innovations

•  
*Michael Roberts Excellence in Physiology Education Award Lecture:*

- **Dr Julia Choate, Monash University**

## ***Conference Dinner: The Adelaide Oval***

Local Contact: Prof Janna Morrison [janna.morrison@unisa.edu.au](mailto:janna.morrison@unisa.edu.au)

[Meeting website now open](#)



Do you want to influence policy and have your say on the future of your field?  
Would you like a sponsored opportunity to network with the nation's next generation of science leaders?  
Do you have an interest in the science of risk and uncertainty?

Then [apply to take part](#) in the 2016 Theo Murphy High Flyers Think Tank *An interdisciplinary approach to living in a risky world* to be held in Canberra on 20-22 July by the Australian Academy of Science.

**What previous attendees of Theo Murphy High Flyers Think Tanks have said:**

*"I feel like I developed 10 years of industry-relevant knowledge in three days."*

*"I was offered a guest lecturing job, I was asked to collaborate on two new papers and I walked away with 4 business cards for future work."*

*"I gained experience in negotiating/navigating large and complex issues with an interdisciplinary group. We rarely get the opportunity to develop or practice skills required to develop interdisciplinary projects - this Think Tank provided a unique and valuable experience."*

*"I came away with a lot of enthusiasm and bubbling with ideas. Thank you."*

Approximately 60 early- and mid-career researchers (up to 15 years post-PhD, excluding career interruptions) will be chosen from a diverse range of science and social science disciplines. Together they will discuss how we assess, understand and address risk in relation to real world events. Internationally renowned senior scientists will also provide insights into current perspectives in the field.

[Find out more](#) and [apply to attend](#) this year's Think Tank by **31 March**. Applicants will be notified of the selection outcomes by 30 April.

If you require any further information please contact Sandra Gardam on 02 6201 9426 or via email [emcr@science.org.au](mailto:emcr@science.org.au).





**aps** Intersociety Meeting:  
The Integrative  
Biology of Exercise VII

*November 2-4, 2016 • Phoenix, AZ*

## **PURPOSE**

Join us for the seventh APS Intersociety Meeting: The Integrative Biology of Exercise which is held in conjunction with the American College of Sport Medicine (ACSM) every four years for researchers interested in exercise physiology. Connect with peers at this exciting meeting to discuss exercise physiology as it relates to topics including brain cell stress responses, metabolic diseases, mitochondrial signaling, sedentary behavior, exercise and pregnancy, cardiovascular disease, aging, and stem cells.

## **DEADLINES**

Abstract: June 30

Registration: October 3

Housing: October 18

**LOCATION:** Phoenix, Arizona

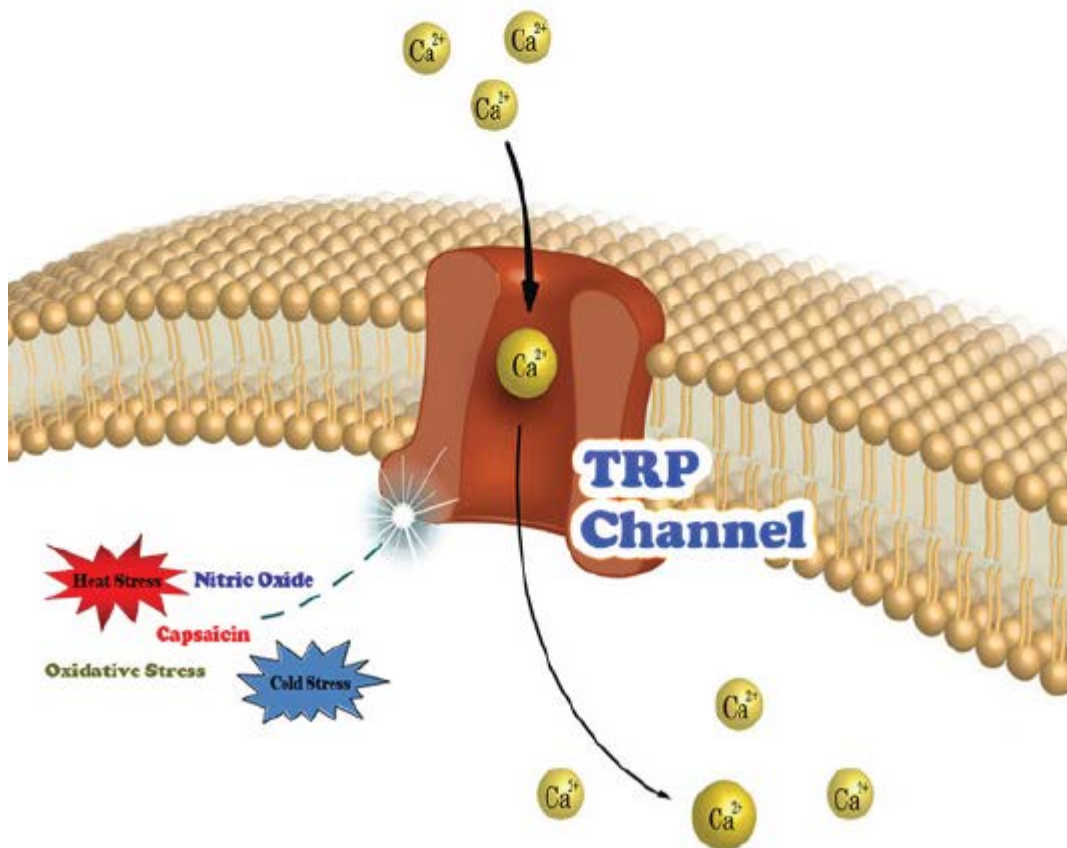
<http://www.the-aps.org/exercise>

# 6<sup>th</sup> World Congress of Oxidative Stress, Calcium Signaling and TRP Channels

[www.cmos.org.tr](http://www.cmos.org.tr)

24 - 27 May 2016

Isparta / Turkey



<http://www.cmos.org.tr/2016/en/>



## [38th World Congress of the International Union of Physiological Sciences, Brazil, 2017](#)

Dear Student Members,

We are excited to connect with you through social media!! A new student and early career researchers member page has been developed on Facebook! The page is titled: **Australian Physiological Society - Students and Early Career Researchers.**

The aim of this page is to provide another means to inform our student members and

ECR's about upcoming events, awards/scholarships that are available and also important registration and submission dates. We will also aim to post new information about jobs and postdoc positions that are circulated to members, as well as highlight our student member of the month with some information about their area of research and accomplishments!



**Privacy:** It is important to note that, as Facebook is a social media page, your profile will be accessible to the page administrators, Tahnee Kennedy and Nicole Vargas (your current student representatives). The page will, in no way, be used for determining awards/scholarships, council positions and the like. Also, note that while your profile will be open to page administrators, other individuals who like the page will not have access to your page, unless your privacy settings allow it.

At this time, we would love to ask you to 'like' our Facebook page if you are a student member or early career researcher!! We are very excited to open these lines of communication and hope that they will keep everyone in the loop!

Thanks for your support and we'll see you on Facebook!!

Kind Regards,  
Tahnee Kennedy and Nicole Vargas  
AuPS student representatives



## AUSTRALIAN MUSEUM EUREKA PRIZES

Presented annually by the Australian Museum, the Australian Museum Eureka Prizes reward excellence in the fields of research & innovation, leadership, science communication and school science.

### Entries close 7pm AEST Friday 6 May 2016

#### Fast facts

- Established in 1990 to reward outstanding achievements in Australian science and science communication.
- Australia's most comprehensive national science awards.
- A unique co-operative partnership between government, education and research institutions, private sector companies, organisations and individuals. See our Sponsors.
- Each prize is judged by a panel of eminent and qualified individuals, whose contribution of expertise and time helps support the credibility of the Eureka Prizes.
- The Australian Museum Eureka Prizes culminates in a gala Award Dinner, which celebrates and rewards Australian science.
- The 2015 Award Dinner was attended by 660 guests, with MCs Adam Spencer and Bernie Hobbs.
- In 2015, 16 prizes were awarded in four categories - Research & Innovation, Leadership, Science Communication & Journalism and School Science.

See more at: [the website](#)

The advertisement features a black background. On the left, there is a white stylized signature. In the center, there is a red square containing the white letters "Lt" and a white stylized signature. To the right of the red square, the text "CREATE SHARE INSPIRE." is written in white, bold, uppercase letters. Below this, the text "After 27 years at the cutting edge of life science education, ADInstruments is bringing a new element to the table." is written in white. At the bottom left, there is a white stylized signature and the text "Learn more at [www.adinstruments.com/lt](http://www.adinstruments.com/lt)". At the bottom right, there is a white stylized signature and the text "ADINSTRUMENTS making science easier".



# Heroes come in many forms

## Professor Damian Bailey

Director of the Research Institute of Science and Health,  
University of South Wales, UK

“We are interested in how the ageing human brain functions across the spectrum of health and disease, from super-fit athletes to super-sick patients.

Our research focuses on the mechanisms that control oxygen transport to the brain, quite simply how we get the most important molecule in the world to the most important organ in the body.”

Pushing the limits of human performance to understand the ageing brain.



Read Damian's story to find out more at  
[www.adinstruments.com/heroes](http://www.adinstruments.com/heroes)

Photo: Normobaric chamber, University of South Wales

**ADINSTRUMENTS**  
making science easier

ADInstruments design and build high-performance data acquisition systems, trusted for a wide range of life science research and teaching applications. PowerLab hardware has provided reliable and sensitive data acquisition for an entire generation of scientists and educators, and combines with LabChart analysis software and a huge range of signal transducers to offer a flexible solution for almost all types of acquisition and analysis. Typical applications include human and animal physiology, pharmacology, neurophysiology, biology, zoology, biochemistry, and biomedical engineering.

## AuPS Supporters



This issue of AuPS News was compiled by Glenn Wadley and with many thanks to the generous contributors.

The next issue of AuPS News will be distributed to members in June 2016.  
All contributions for AuPS News should be sent to: [newsletter@aps.org.au](mailto:newsletter@aps.org.au) before the end of May.