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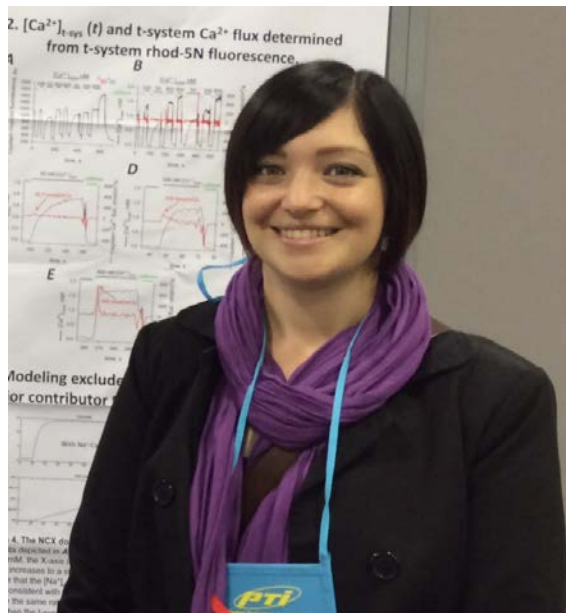
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[AuPS Website](http://www.auaps.org.au)

Member profile: Dr Tanya Cully, The University of Queensland



What is your research background – how did you get interested in Physiology?

I received my bachelor's degree in Biomolecular Science from Griffith University. As an undergraduate I really enjoyed studying molecular biology and physiology subjects, so much so that I undertook a 3rd year and honours research project in the laboratory of our anatomy and physiology lecturer.

After my time at Griffith University I initially worked with Dr Bradley Launikonis at the University of Queensland as a research

assistant, but after a year I knew wanted to pursue a PhD working on calcium handling in healthy and dystrophic skeletal muscle. My PhD project utilised adeno- associated viruses in adult mice with calcium imaging and was an ideal combination of molecular biology and physiology for me. Currently I am employed as a postdoc with Dr Launikonis working on many different projects focusing on skeletal muscle physiology.

What was your award winning publication?

The publication was titled, "[Activation and propagation of Ca²⁺ release from inside the sarcoplasmic reticulum network of mammalian skeletal muscle](#)" and was published in the Journal of Physiology last year. In this publication we showed the calcium store of the muscle (sarcoplasmic reticulum, SR) is a completely connected network along the length of the fibre. We found that local, non-physiological releases of calcium can disrupt the normal Ca²⁺-buffering power inside the SR to initiate a Ca²⁺ wave along the fibre that is driven by the increase in luminal Ca²⁺. These events could provide a mechanism for malignant hyperthermia episodes, which are events initiated in patients undergoing surgical procedures with gas based anaesthetics.

What do you do to relax?

I enjoy reading, Pilates and hiking/trekking.

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

I find molecular interventions and how they alter physiology very interesting, whether it is targeting a particular gene or protein in a disease or used as a

tool to better understand certain aspects of function. This is an area of expertise I would like to build upon further into my postdoctoral training.

Tanya was awarded the SDR publication prize at the AuPS 2014 Scientific Meeting in Brisbane. The prize is for best original paper published by an AuPS member during their first 4 postdoctoral years.

Member Profile - Dr Michaela Yuen The Children's Hospital at Westmead



What is your research background – how did you get interested in Physiology?

I completed my undergraduate studies of Biomedicine and Biotechnology at the University of Veterinary Medicine Vienna, Austria. During a one year research project at the Institute for Neuroscience and Muscle research (INMR) in Sydney I found my passion for muscle research, more specifically muscle pathophysiology in congenital myopathies. Thus in 2011 I returned to Sydney to do a PhD at the INMR which I recently completed.

What I particularly enjoy about my work at the INMR is the close collaboration between medical staff and research staff, aiming to provide patients with a genetic diagnosis and to understand the underlying mechanism of muscle dysfunction. I was always intrigued by the delicate complexity of physiology, but

I got particularly interested in physiology through my work at the INMR which involves understanding how muscle disease disrupts physiological processes.

What was your award winning publication?

The title of the publication was "[Leiomodin-3 dysfunction results in thin filament disorganization and nemaline myopathy](#)" (Journal of Clinical Investigation 2014). In this study we identify 13 families (21 affected patients) which carry mutations in a novel disease gene for Nemaline myopathy – *LMOD3* (encodes for leiomodin-3). Most patients have severe, neonatally lethal muscle weakness and leiomodin-3 is completely absent from their skeletal muscle. Leiomodin-3 has not been associated with disease previously and its function in skeletal muscle was unclear prior to our study. By performing extensive descriptive and functional characterisation of leiomodin-3 we were able to proof pathogenesis of *LMOD3* mutations and to provide insights into the function of leiomodin-3 in skeletal muscle. The identification of *LMOD3* as a new cause for Nemaline myopathy allows us to provide better patient care and genetic counselling to families. This means that families can plan future pregnancies avoiding the birth of further children affected by this devastating (often lethal) condition. The biological implication of our work is that we identified leiomodin-3 as a novel player in skeletal muscle biology and provided a first description of leiomodin-3's potential function in muscle. This is the first step towards the development of therapeutic interventions for *LMOD3*-nemaline myopathy.

What do you do to relax?

I spend most of my free time rock climbing in Sydney and in the Blue Mountains. I also enjoy swimming and running. I love sports as a way to unwind after a hard day in the lab. Also, at times when the stack of papers on my desk becomes too overwhelming I enjoy reading the occasional fiction book or going to the movies for some mind numbing entertainment.

What is your current research interests?

Previously, I focused studying the pathophysiology of patients with mutations in *LMOD3* and *TPM3*. However, in our group we constantly discover novel genes that cause muscle pathologies and I am involved in multiple projects to study how these novel genes affect muscle function.

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

At present no treatments exists for many inherited muscle conditions. Discovering the pathophysiological basis of muscle dysfunction in congenital myopathies will hopefully allow us to develop treatment strategies for these diseases. In the future I would like to be involved in developing such treatment strategies as well as developing models that allow efficient testing of new therapeutics.

Michaela was awarded the SDR publication prize at the AuPS 2014 Scientific Meeting in Brisbane. The prize is for best original paper published by an AuPS member during the course of their PhD studies.

Student Profile – Mr Sean Notley University of Wollongong



What is your research background – how did you get interested in Physiology?

I first became curious about physiology during my undergraduate training at the University of Wollongong. I then completed a Master's degree in collaboration with the Defence Science and Technology Organisation, where I examined the influence of load carriage and thermal strain upon the validity of cardiorespiratory predictions of metabolic demand. This developed my interest in temperature regulation during exercise, and encouraged me to begin a PhD under the supervision of Assoc. Prof. Nigel Taylor. My current research will explore the interaction of body morphology and heat acclimation on thermoeffector function.

What was your award winning talk?

My talk, *An interaction of morphology in the modulation of evaporative heat loss during exercise* (<http://www.aups.org.au/Proceedings/45/75P/>), was the first product of my doctoral project. This work comes from extensive analyses of the mechanisms of heat loss in both men and women, and demonstrates that much of the intra-individual variability associated with these effector responses can be explained simply on the basis of variations in body size. It was particularly rewarding to present this work, as we had recently finalised data collection for these studies in the lead up to the Brisbane meeting.


What do you do to relax?

There are some great beaches near the campus in Wollongong, so I like to go surfing in my spare time. I also like to train regularly at a Muay Thai boxing gym, which may not seem like the most relaxing activity, but I find it's great for taking my mind off work.

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

I would like to continue working to broaden our understanding of the individual differences associated with thermoeffector function, and also undertake further research in environmental and exercise physiology in Australia and abroad.

Sean was awarded the SDR oral presentation prize at the AuPS 2014 Scientific Meeting in Brisbane.



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 & journalism and school science.

Entries close 7pm AEST Friday 1 May 2015

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.
 - 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 2014 Award Dinner was attended by 650 guests, with MCs Adam Spencer and Dr Graham Phillips.
 - In 2015, 16 prizes will be awarded in four categories - Research & Innovation, Leadership, Science Communication & Journalism and School Science.
- See more at: [the website](#)

AuPS CONFERENCE

29 NOV - 2 DEC 2015

Hosted by the University of Tasmania's
Faculty of Health and the
Menzies Institute for Medical Research



Image: Tourism Tasmania & Stuart Crosssett



Image: Willie Smiths Organic Apple Orchard, Grove, Tourism Tasmania & Nick Osborne

Research Symposia (with over 11 international speakers!)

- Stem Cells & Regenerative Medicine
- Novel mechanisms that regulate the physiological attributes of muscle
- The sarcoplasmic reticulum of skeletal muscle
- Linking mitochondria with health and disease
- Controlling the excitable heart
- SERCA and NaK properties and regulation in skeletal muscle
- Cardiovascular metabolo-pathology
- Age, sex and cardiovascular protection strategies
- New Insights into exercise-induced mitochondrial adaptations
- Sex-specific effects of programming: how your gender plays a role in determining your disease risk.
- Physiological mechanisms controlling microvascular flow and muscle metabolism
- Lipid Metabolism in Health & Disease – novel techniques to assess lipids



Physiology Education Symposium

- What do we want our physiology graduates to know and be able to do?

Conference Dinner: MONA: Museum of Old and New Art

Local contact: Prof Stephen Rattigan S.Rattigan@utas.edu.au

[Meeting website](#)

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 and awards/scholarships that are available. 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!

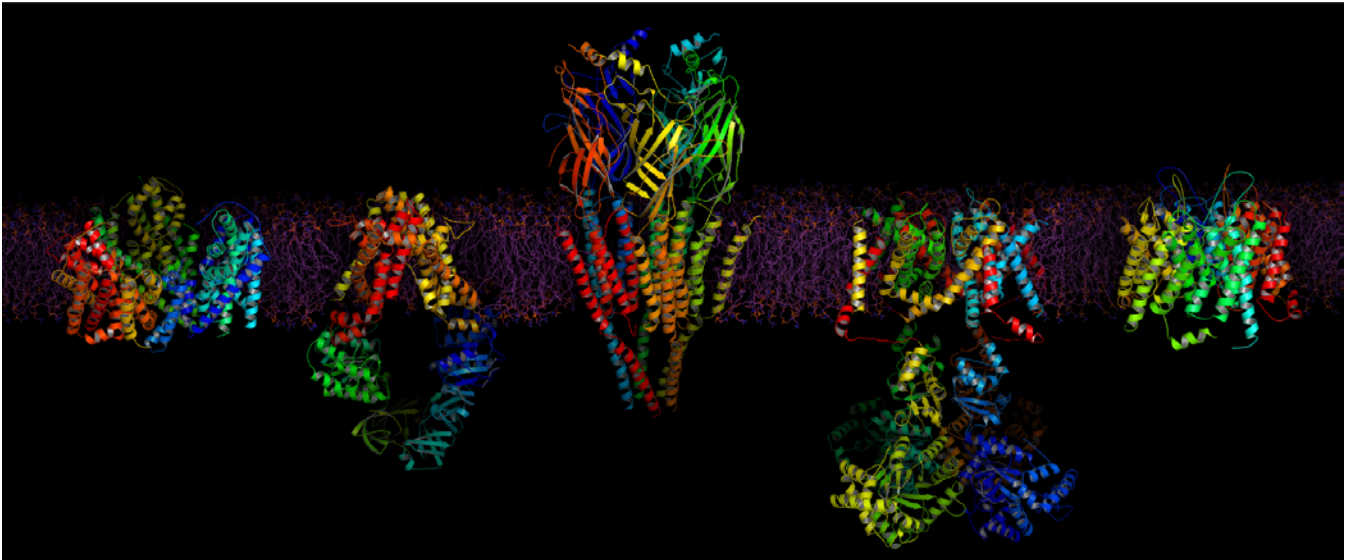
Thanks for your support and we'll see you on Facebook!!

Kind Regards,
Tahnee Kennedy and Nicole Vargas
AuPS student representatives



ATS 2015: Pulmonary, Critical Care, and Sleep Medicine;
May 15-20, Denver, USA.

[The American Thoracic Society's International Conference](http://conference.thoracic.org/2015/) features the latest scientific and medical advances in pulmonary, critical care, and sleep medicine. With more than 400 sessions, 800 speakers and, 5,700 research abstracts and case studies in 2014, the conference is recognized as the leader in the field.
Learn more at: <http://conference.thoracic.org/2015/>.



The Gage Conference on Ion Channels and Transporters

Canberra Boys Grammar School, ACT
15 - 17th April 2015

This is a biennial meeting, continuing the earlier series of Curtin Conferences organised by Peter Gage. It encompasses all aspects of the biology of ion channels and transporters - including molecular mechanisms, regulation, physiology, neurophysiology, pharmacology and pathology.

Deadline for registration and abstract submission is **Monday 24 March 2015**

Confirmed speakers:

Gage Lecturer: Prof. Pankaj Sah, University of Queensland

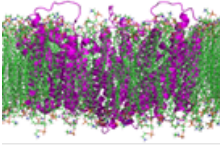
Prof. Steve Siegelbaum, Columbia University, NY

Prof. Paul Slesinger, Icahn School of Medicine at Mount Sinai, NY

Organising Committee

Brett Cromer, Angela Dulhunty, Stefan Broer, Andrea Yool,
Mary Collins, Pankaj Sah, Glenn King & David Adams

For further information: <http://gageconf.org.au/>
email: brett.cromer@rmit.edu.au



Brain Transporters: From Genes and Genetic Disorders to Function and Drug Discovery

We are pleased to announce that [Registration](#) and [Abstract submission](#) are open for;
Brain Transporters: From Genes and Genetic Disorders to Function and Drug Discovery.

This 3 day meeting will be held from Aug 20th -23rd in Palm Cove and is a satellite meeting to the International Society for Neurochemistry meeting in Cairns (23-27 August). This will be wonderful opportunity to see some of the leading researchers in the field of Brain Transporters speak in Australia. There are additional speaking slots reserved for Australian Speakers and also for Young Investigators. Students and Early Career Researchers are particularly encouraged to attend.

Confirmed speakers include:

Susan Amara	NIMH	Mike Kavanaugh	University of Montana
Phil Beart	University of Melbourne	Joe Mindell	NINDS/NIH
Randy Blakely	Vanderbilt University	Arturo Ortega	CINVESTAV-IPN Mexico City
Olga Boudker	Cornell University	Mike Robinson	University of Pennsylvania
Lynette Daws	University of Texas	Connie Sanchez	Lundbeck
Volker Eulenburg	University of Erlangen	Rebecca Seal	University of Pittsburgh
Ulrik Gether	University of Copenhagen	Ji Sze	Albert Einstein College of Medicine

Registration Fees: Before Mar 30, 2015

Researcher/Academic	\$250
Post Doc	\$225
Student	\$175
Social Guest	\$125

Registration Fees: After Mar 30, 2015

Researcher/Academic	\$350
Post Doc	\$325
Student	\$275

Palm Cove is situated 30 minutes north of Cairns and 40mins south of Port Douglas. It is approximately 20 minutes from Cairns International & Domestic Airport.

We hope to see you in Palm Cove.

Organising Committee: Robert Vandenberg, Renae Ryan and Stefan Broer. **Program Committee:** Rob Vandenberg, Renae Ryan, Stefan Broer, Randy Blakely, Mike Robinson, Arturo Ortega and Phil Beart



ISCCB 2015

18th International Symposium on Chromaffin Cell Biology
August 17-21, 2015 | The Pullman Reef Casino Hotel, Cairns

On behalf of the organising committee, it is our great pleasure to invite you to register for **ISCCB 2015**. [on-Line registration is now open](#).

Invited speakers include: **Nobel Laureate** Erwin Neher | Nils Brose | Mike Cousin | Peter Dunkley | Lee Eiden | Anna Fejtova | Volker Haucke | Ron Holz | Richard Huganir | Reinhard Jahn | Michael Kozlov | Manfred Lindau | Tom Martin | Jens Rettig | Josep Rizo | Phil Robinson | Ruediger Rudolf | Corey Smith | Jakob Sorensen | Matthijs Verhage | Ling-Gang Wu | Tao Xu | Robert Zorec and many more.

There are still plenty of slots available in sessions and in The famed "Wine and Cheese" sessions for talks selected from abstracts. Poster sessions will also be held and are classically highly interactive. Early Bird registration closes June 1 and please visit the [website](#) and register online as soon as possible to help us organise the event.

Exhibition and Sponsorship packages are noted on the [website](#). The Exhibition is held together with the Poster displays and refreshments in the Urchin Rooms. Exhibitors are invited to present in the Wine And Cheese Session. ISCCB 2015 precedes the ISN 2015 Meeting in Cairns.

Social events include a Welcome Reception and Conference Dinner. Excursions to the World Heritage listed Great Barrier Reef and Daintree Rainforest will be offered for the Thursday excursion day and as pre/post touring options. Note that the excursion is not included in the registration. However, an email with all the details of the excursion will be sent to you upon registration.

We look forward to welcoming you to beautiful Cairns for the exciting 18th ISCCB.

Best wishes

Fred Meunier and Damien Keating
Convenors

TOPICS INCLUDE

- exocytosis
- endocytosis
- neurotransmission
- secretory granule formation and trafficking
- calcium regulation
- stress signals and physiology
- hypertension and neuroendocrine tumor biology

SPEAKERS

Speakers are noted in the [program](#) and in the online [Speaker Blurbs](#).
We are delighted to welcome an eminent group of presenters to the Cairns Symposium.

REGISTRATION and ABSTRACTSUBMISSION

Submit your abstract [on-Line](#) with registration. Please **book your accommodation** at the conference hotel, on-Line **with registration**.

EXHIBITION and SPONSORSHIP

Invitation and exhibition options [here](#).

ISCCB 2015 SECRETARIAT

MTCi | PO Box 717 Caringbah, Sydney | NSW 1495 | Australia
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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 2015.
All contributions for AuPS News should be sent to: newsletter@ups.org.au before the end of May.