



AUPS SCIENTIFIC MEETING

Melbourne, VIC
19 -22 November 2017



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Institute of Pharmaceutical Sciences

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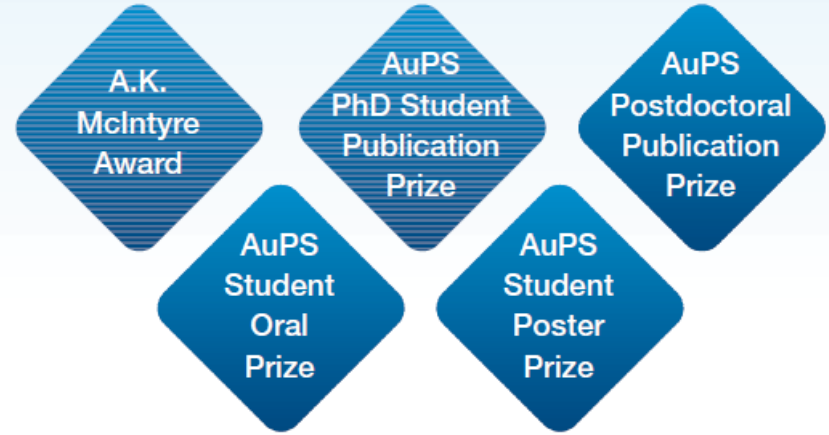
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LOCAL ORGANISING COMMITTEE

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- Ms Iasmin Inocencio
- Ms Ruby Kochappan
- Ms Alina Lam
- Ms Given Lee
- Dr Rachel McQuade
- Dr Dan Poole
- Ms Preeti Yadav

Images: Monash University: Parkville Campus and Sessions Mural

Cover Images: credit—VisitVictoria
Melbourne Sports Precinct: Impress Air
Flinders St Station by Robert Blackburn
Crown Casino, Southbank by Josie Withers



WELCOME

On behalf of the Australian Physiological Society (AuPS), we welcome you to the 2017 scientific meeting. This year, the meeting is hosted by the Monash Institute of Pharmaceutical Sciences at the Parkville campus in Melbourne, from 19th to 22nd November.

The meeting includes:

- Eleven symposia spanning a range of physiological sciences, including presentations from eleven international speakers.
- A Physiology Education Workshop.
- Free Communications and Poster Presentations.
- AuPS Invited Lecture by Prof Gary Housley (UNSW)
- AuPS Plenary Lecture by Prof David Eisner (University of Manchester, UK)
- Michael Roberts Prize Lecture by 2016 winner Dr Kathy Tangalakis (Victoria University)

The welcome reception on the Sunday night will feature the invited lecture by Prof Gary Housley, followed by food and drinks. The educational workshop will be on the Monday afternoon as well as the Michael Roberts lecture which will be presented by Dr Kathy Tangalakis.

The annual conference dinner on the Tuesday night will be held at the beautiful Melbourne Museum atrium and should not be missed. The student and early career researcher mixer is on Monday evening which should be a fantastic social event.



I look forward to meeting you at the conference and hope you enjoy the event.

Natalie

Natalie Trevaskis
Chair of AuPS Local Organizing Committee
natalie.trevaskis@monash.edu

PARKVILLE CAMPUS

381 Royal Parade, Parkville

The Monash Parkville campus - the home of the Faculty of Pharmacy and Pharmaceutical Sciences - is just 4 kilometres from the centre of Melbourne's CBD.

There's a tram stop at the entrance and it's a 15 minute ride into the city. (Travel 15 minutes in the other direction and you'll reach the trendy cafes, bars and shops of Brunswick.) Royal Park Railway Station is also within easy walking distance and is just a few stops from city stations.

You'll be located within Melbourne's main medical research precinct (both the Royal Melbourne and Children's hospitals are just down the road, while many major pharmaceutical and biomedical companies are headquartered nearby).

The campus is also surrounded by parks and gardens, including the Melbourne Zoo and Princes Park directly across the road, with its 3 kilometre jogging and cycling track, football ovals and gardens.

Images: Monash University, Opposite: Flinders Street Station by Robert Blackburn (credit: VisitVictoria)



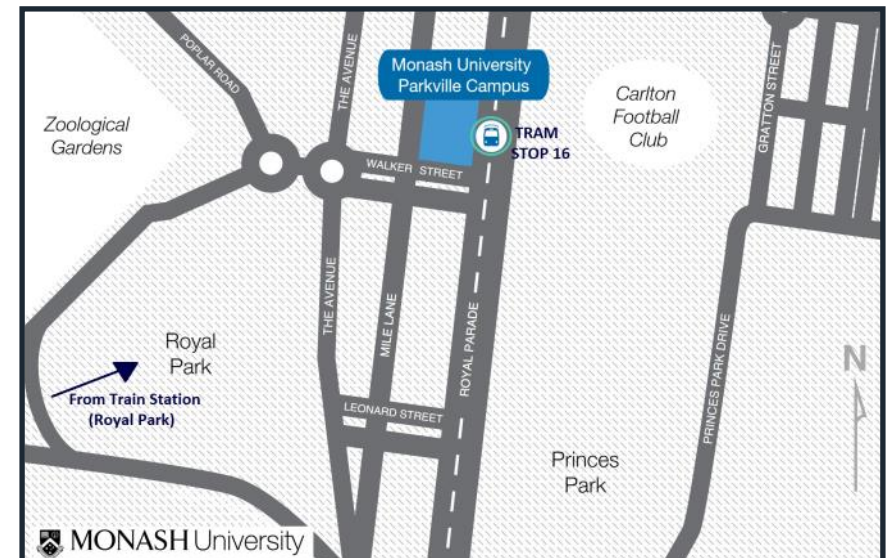
TRANSPORT

By Car: 381 Royal Parade is the extension of Elizabeth Street. Parking is not available on campus, but can be found on the surrounding streets (please take note of parking signs and restrictions).

By Taxi: Silvertop taxi service: Ph. 131 008
13Cabs: Ph. 132 227.
Uber also operates in Melbourne

By Tram: Take the number 19 (North Coburg) tram, which travels along Elizabeth Street, Royal Parade and Sydney Road. The trip from Melbourne takes about 15 minutes (Stop 16). The trip requires a myki card which can be purchased at any train station

By Train: Catch the Upfield line train from Flinders Street, Southern Cross or any of the City Loop stations to Royal Park Railway Station and walk through the park to the campus. The trip requires a myki card which can be purchased at any train station



CONFERENCE INFORMATION: GENERAL



Image: Monash University

EVENT ASSISTANCE

Should you require any assistance during the conference please look for staff and student wearing Monash University name badges. Alternatively, visit the registration desk in the Sissons building where staff will be available between 8am-5pm

NAME BADGES

Please wear your name badge at all times, as it is your entry into all sessions and enables security to identify you as a conference delegate.

CATERING

Lunch, Morning and Afternoon Tea will be available in the Cossar Hall. There are also three cafes on or near campus. The primary cafe is in building 4. LeZodiaque cafe is near the lecture theatres. Cafe Lunico is across the road on walker street (see campus map on page 11).

PRESENTATIONS

Oral Presentations:

All speakers must upload their presentations via USB in the lecture theatre where they will present. Please do so at least 30min before the start of your session. Files may be loaded between 8am—5pm each day. We recommend that you check any embedded videos or animated files at this time to ensure the file format is supported.

Poster Presentations:

Posters will be displayed in Cossar Hall for the duration of the conference.

Poster sessions will take place on Monday (odd numbered poster board authors in attendance) and Tuesday (even numbered poster board authors in attendance).

IT SUPPORT

Please contact the IT Service Desk team at servicedesk@monash.edu or ph. +61 3 9905 1777 (Mon–Fri: 8am – 6pm) for assistance

Monash Free wi-fi is available to the general public on all our Australian campuses. This free wifi is not encrypted so please consider the security of your device when connecting.

You may also connect via eduroam

EMERGENCY CONTACTS

Emergency assistance: 000 (police, fire, ambulance)

Closest hospital:

The Royal Melbourne Hospital, 300 Grattan Street (corner of Royal Parade), Parkville
Ph: +61 3 9342 7000

Campus security: Ph. 9905 3333 or dial 333 from a Monash phone.

CONFERENCE INFORMATION: VENUE



Image: Monash University

Registration and Welcome Reception

Registration will take place in the foyer near the main entrance of the Sissons Building. The Welcome Reception following the Invited Lecture on Sunday evening will be held in Cossar Hall

Presentations: Lectures, Symposia and Free Communications

Presentations will take place in the Sissons Building in one of the following lecture Theatres (as indicated in the programme):

- Lecture Theatre 1
- Lecture Theatre 2
- Lecture Theatre 3

Workshops and Discussions

Workshops will be held in the Scott Building in the Collaborative Learning Spaces (CLS) rooms (as indicated in the programme).

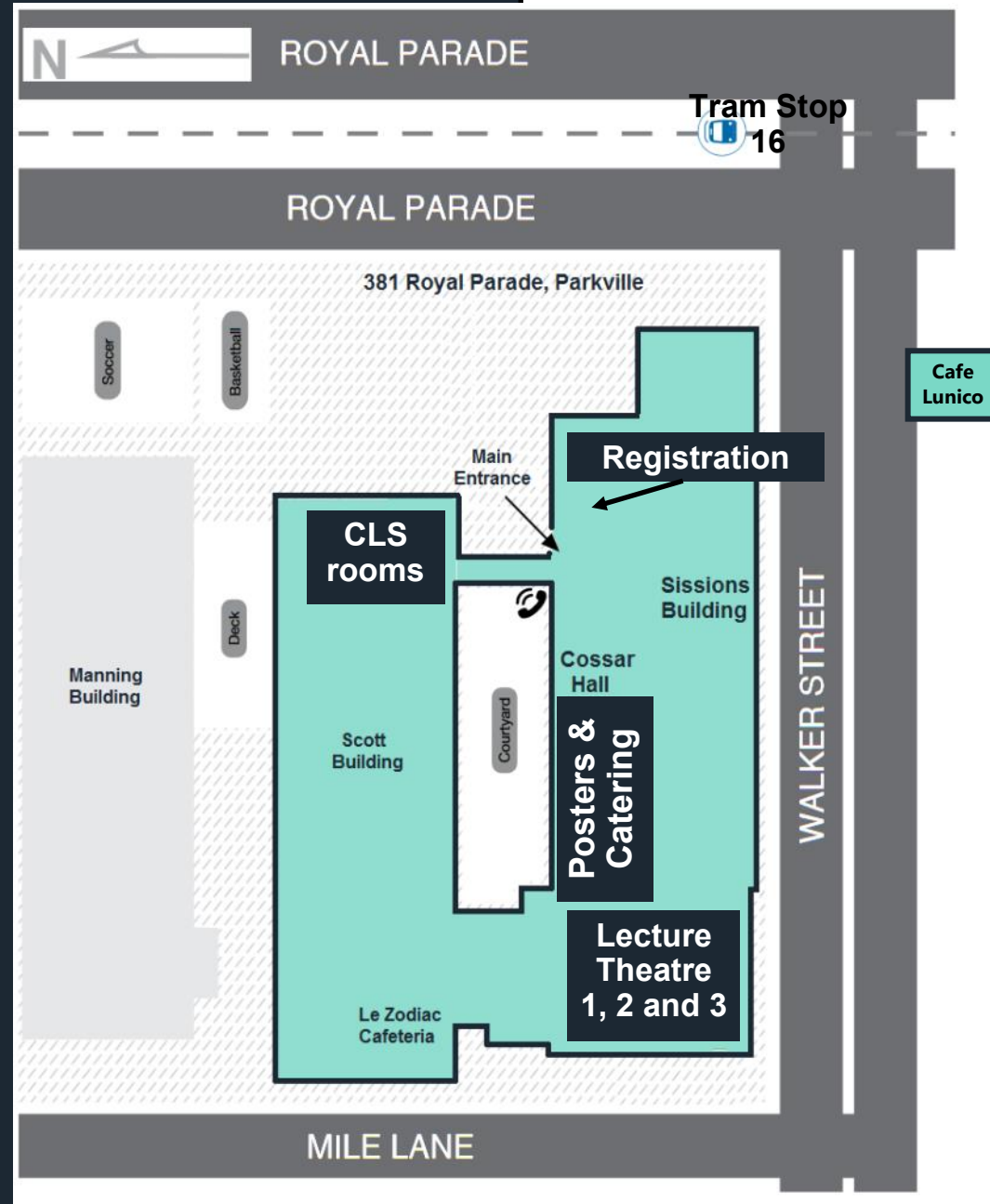
Posters

Posters will be displayed in Cossar Hall from Sunday evening.

Catering

Morning tea, Lunch and Afternoon tea will be available in Cossar Hall.

VENUES: FLOOR PLAN





STUDENT AND ECR MIXER

The Student and ECR function will start at 7pm following the ECR workshop on Monday.

Date: Monday, 20th November
Time: 7pm
Location: The Captain Melville
34 Franklin Street, Melbourne
Dress: Casual

Transport: If travelling from the Parkville campus, catch the No. 19 tram at the Walker St/Royal Pde stop (on Royal Parade, opposite the conference venue) to the Queen Victoria Market stop. The Captain Melville is a 300m walk from this stop (continue on Elizabeth St and turn left onto Franklin Street)



CONFERENCE DINNER

Date: Tuesday 21st November
Time: 6:30pm
Location: Melbourne Museum,
11 Nicholson St, Carlton VIC 3053
Dress: Lounge Suit

The conference dinner will be held at the beautiful Melbourne Museum Foyer and walk celebrated for its striking architecture. The surrounding exhibits are one-of-a-kind, with the lush Forest Gallery as an enchanting backdrop and the awe-inspiring blue whale skeleton at the west end of the Walk something to remember. The three course sit-down dinner (included in your registration) should not be missed!

There are a number of transport options to reach the venue:

- Taxi or car
- Tram route 86 or tram route 96 to corner of Nicholson and Gertrude Streets
- Free City Circle Tram to Victoria Parade
- City loop train to Parliament Station



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2017 CONFERENCE PROGRAMME



WELCOME RECEPTION

SUNDAY 19TH NOVEMBER

The Welcome Reception features Prof Housley's Invited Lecture in Lecture Theatre 1, Sissons Building. This lecture will be followed by a cocktail reception with finger food and refreshments in Cossar Hall where you can admire the beautiful Sissons Mural.

THE SISSONS MURAL

The Sissons Mural, completed in 1961 by the artist Leonard Annois, beautifully portrays the development of science, medicine and pharmacy throughout the ages, and also life on Earth. It is technically and creatively an extraordinary work of art.

Described as Annois' *magnus opus*, the mural occupied the artist for three years, including 18 months of painting on enormous scaffolding. Annois created the mural using the *fresco secco* medium, a particularly difficult technique to work with. If applied correctly, the colours in a *fresco secco* painting are superbly subtle. More than half a century later, Annois' legacy to the art world remains an extraordinary achievement.

The mural is dedicated to commemorate the life's work of A T S Sissons, Dean of the College of Pharmacy from 1920 for 42 years.

Image: Sissons Mural (Monash University) For more information visit <https://www.monash.edu/pharm/about/who/the-sissons-mural-revealed>



AUPS INVITED LECTURE

5PM, SUNDAY 19TH NOVEMBER



AUPS INVITED LECTURE:
An Earful of Physiology

Prof Gary Housley

University of New South Wales, Australia

Prof Gary Housley, PhD, holds the Chair of Physiology and is director of the Translational Neuroscience Facility, School of Medical Sciences, UNSW Australia. His research program is broadly within molecular, cellular and systems physiology in the nervous system, particularly around neuroprotection in the CNS and auditory system. Prof Housley has contributed prominently to understanding how hearing adapts to noise and ageing. Study of neural development and synaptic plasticity in the auditory system informs on gene-targets for neural repair. This research has an applied arm with respect to bionics such as the cochlear implant which has led to development of an innovative gene therapy platform for auditory nerve regeneration.

Within the brain, Prof Housley's research group are investigating neural plasticity associated with driven input (e.g. via the cochlear implant) and mechanisms for protection and repair of the nervous system (focusing of the role of calcium signalling in glutamate excitotoxicity, associated with ischaemic brain injury, stroke, epilepsy and trauma, alongside noise-induced hearing loss.

Abstract 1P

Image: Cochlear Implant
<https://medalsciences.med.unsw.edu.au/people/professor-gary-housley>

SUNDAY 19th NOVEMBER
Sissons Lecture Theatre 1

17:00	AuPS Invited Lecture	
	G.D. Housley : An eagle of physiology	1P

18:00 Welcome Reception: Cossar Hall

MONDAY 20th NOVEMBER
Sissons Lecture Theatre 1

	Symposium: Strategies for large-scale & authentic assessment of undergraduates Chair: Julia Choate	
8:30	P.J. White : Development and assessment of problem-solving skills	9P
8:45	I.W.K. Kouw : One week of hospital admission following elective hip surgery induces substantial muscle atrophy in older patients	3P
9:00	R.M. Vickery : Student Peer Assessment: An efficient assessment method to enhance critical evaluation?	10P
9:15	I.W.K. Kouw : Ingestion of 40 g protein prior to sleep stimulates overnight myofibrillar protein synthesis in healthy older men	5P
9:30	Y. Hodgson : Academic and student perceptions of assessment	11P
9:45	W.D. Phillips : Muscle specific kinase protects mdx mouse muscles against eccentric contraction-induced loss of strength	7P
10:00	H. Gray : Professional identity in allied health students: How it affects authentic assessment	13P
10:15		
10:30	Morning Tea: Cossar hall	

Sissons Lecture Theatre 2

	Free communications: Muscle wasting Chair: Victoria Foletta	
	E.M. Lloyd : The contractile properties of slow and fast skeletal muscle from dysterin deficient mice	2P
	I.W.K. Kouw : One week of hospital admission following elective hip surgery induces substantial muscle atrophy in older patients	3P
	A. Hagg : Modulating bone morphogenic protein signalling in cancer cachexia	4P
	I.W.K. Kouw : Ingestion of 40 g protein prior to sleep stimulates overnight myofibrillar protein synthesis in healthy older men	5P
	J. Mikovic : Mitochondrial oxidative capacity and oxidative stress in chronically inactive elderly patients	6P
	W.D. Phillips : Muscle specific kinase protects mdx mouse muscles against eccentric contraction-induced loss of strength	7P
	K. Swiderski : Phosphorylation of dystrophin S3059 protects against skeletal muscle wasting	8P

Sissons Lecture Theatre 3

	Free communications: Cardiac Chair: Nicole Beard	
	K.M. Mellor : Dissecting the molecular pathways of glucose mishandling and glycogen disturbance in the diabetic heart	14P
	R.J. Mills : Metabolic mechanism for cardiomyocyte cell cycle arrest	15P
	A. Ashna : Inhibitory effect of phenytoin on cardiac RYR2	16P
	G. Mazzarino : Therapeutic methods for physiological cardiac hypertrophy: The role of MicroRNAs	17P
	S.P. Wells : Differential effect of electrical stimulation and β -adrenergic stimulation on neonatal rat ventricular myocyte monolayer conduction properties	18P
	A.D. Chakraborty : Arrhythmia: an 'off-target' effect of cancer cardiotoxicity	19P

Sissons Lecture Theatre 1

	Free communications: Physiology education Chair: Kathy Tangalakis	
11:00	E. Yurter : Open-note examinations as opportunities for meaningful learning and assessment	24P
11:15	G.D. Wadley : Implementation and evaluation of a video feedback model	25P
11:30	L.A. Lexis : Transformation of a traditionally delivered exercise physiology theory curriculum into a contemporary model of blended learning that better supports student learning	26P
11:45	J. Kibedi : Enhancing students' acquisition and application of the conventions of scientific writing	27P
12:00	S. Green : Numeracy performance in sports and exercise science students at an Australian university	28P
12:15	K. Goithorpe : How do students deal with difficult physiological concepts?	29P
12:30	M. Quiroga : Using an online simulation to prepare students for an enquiry-based laboratory class	30P
12:45	L. Ainscough : Encouraging students' self-regulated learning skills through the use of discussion boards	31P

Sissons Lecture Theatre 2

	AuPS/Physiological Society of Japan Joint Symposium: Skeletal muscle physiology and function Chair: Graham Lamb	
	P.D. Currie : The genetics of vertebrate skeletal muscle assembly	20P
	H.Y. Hara : The role of phospholipid flippase in myotube formation	21P
	T. Murayama : Molecular mechanism of type 1 ryanodine receptor-linked muscle diseases: toward diagnosis and therapy	22P
	B.S. Launikonis : Calcium handling by human skeletal muscle fibres with ryanodine receptor variants	23P

Sissons Lecture Theatre 3

	Free communications: Pharmacology and treatment Chair: Matthew Watt	
	N.L. Absalom : Diverse changes to GABA _A receptor function by mutations that cause severe childhood epilepsies	32P
	B.M. Wild : Volatile vs injectable anaesthetics: considerations for electrophysiological studies in the rat	33P
	R. Kochappan : Targeting the intestinal lymphatic system using an oral triglyceride mimetic prodrug enhances immunosuppressant activity <i>in vivo</i>	34P
	G. Gracia : High density lipoprotein promotes targeted delivery into lymph and lymph nodes: A viable carrier for immunotherapies and vaccines	35P
	A.P. Denny : Is high-density lipoprotein-based therapy an option for the treatment of muscle damage in Facioscapulothoracic muscular dystrophy?	36P
	P. Hofstee : Maternal selenium deficiency in mice alters placental function, reduces fetal glucose concentrations and impairs fetal growth	138P

13:00 **Lunch & Poster Presentations: Cossar hall**
 14:30 **Presenting authors of odd numbered Poster boards in attendance**

13:00 - 14:30
Lunch & Poster Presentations: Cossar hall
Presenting authors of odd numbered Poster boards in attendance

Poster #	Abstract
1	<u>37P</u> A.A. Abdulwahid: Maternal obesity results in impaired brain function in the offspring by mechanisms involving electrical hyperactivity
3	<u>39P</u> A. Hayes: Mitochondrial profiling of immortalised myoblasts from a Duchenne Muscular Dystrophy patient
5	<u>41P</u> J.S.M. Cuffe: Glucocorticoids dysregulate cellular viability, mitochondrial membrane potential and cellular respiration differently in normal compared to high glucose environments
7	<u>44P</u> A.D. Lam: High fat diet induced lymphatic changes may play a role in promoting fatty liver disease
9	<u>46P</u> C. Giezenaar: Effects of substituting carbohydrates and fat for whey protein or adding them to whey protein on energy intake and underlying gastrointestinal-mechanisms in healthy older men
11	<u>48P</u> T.A. Hoang: A novel cervical lymph cannulation method in rats to evaluate clearance from the brain into the lymphatics
13	<u>50P</u> D. Sheipouri: Control of glycine receptor activation by a glycine transporter co-expressed in <i>Xenopus</i> oocytes
15	<u>52P</u> A. Selathurai: An essential role for mitochondrial phosphatidylethanolamine synthesis in regulating skeletal muscle and mitochondrial structure
17	<u>54P</u> G.M. Morales-Scholz: Hepatic autophagy dysfunction in mice following high fat feeding
19	<u>56P</u> M.J. Macartney: Cardiac <i>in vivo</i> haemodynamic function is modified by myocardial membrane DHA incorporation attributable to fish oil doses achievable in the human diet
21	<u>58P</u> J.V. Janssens: Testing a methodology for comparative stiffness measurement in isolated loaded intact cardiomyocytes
23	<u>60P</u> D.A. Debruin: The effects of vitamin D supplementation and exercise enrichment on <i>in vivo</i> analysis of physical activity behaviour, exercise capacity and metabolism
25	<u>62P</u> L. Kiriaev: A common morphological variation in the knee insertion of the extensor digitorum longus muscle reduces maximal force production but does not affect other contractile properties
27	<u>64P</u> S. Voisin: Phenotypic variability in response to high-intensity interval training in the Gene SMART study
29	<u>67P</u> S.I. Head: Increasing nuclear NAD ⁺ biosynthesis induces muscle remodelling without alterations in myofibrillar Ca ²⁺ sensitivity
31	<u>69P</u> L. Pearce: Differential oxidation of ryanodine receptors in male and female calsequestrin knock-out mice
33	<u>71P</u> D.P. Singh: The effect of novel ryanodine receptor modulators on Ca ²⁺ leak in skeletal muscle fibres



EDUCATION PRIZE LECTURE

2:30PM, MONDAY 20TH NOVEMBER



Dr Kathy Tangalakis
Victoria University

AUPS MICHAEL ROBERTS EDUCATION PRIZE LECTURE, 2016 WINNER

Enhancing the commencing student learning experience with innovative learning and teaching approaches and peer support systems

Dr Kathy Tangalakis, BSc (Hons), PhD (UniMelb), is a Senior Lecturer at Victoria University. Her focus has been on enhancing the student learning experience for diverse commencing student cohorts undertaking physiology as a core subject in their course. Kathy's contribution was recognised in 2016 with an Australian Award for University Teaching: Citation for Outstanding Contribution to Student Learning; and the Michael Roberts Medal for Excellence in Physiology Education from the Australian Physiological Society. Kathy has held a number of leadership roles including Head of Discipline (Medical Physiology), Academic Coordinator (T&L), First Year Student Experience Champion and Course Leader (Bachelor of Biomedicine).

Abstract 72P

EDUCATION WORKSHOP

3:30PM, MONDAY 20TH NOVEMBER

AUPS EDUCATION WORKSHOP

How can you teach your students critical thinking?

Within the university sector and in the workplace, there is a strong consensus that critical thinking is an essential skill for students when they graduate. However it is a complex concept difficult to teach. This workshop will examine some tools that can help you to develop teaching activities that EXPLICITLY foster critical thinking for your students, enabling them to articulate this skill when they graduate. Please bring some examples of your learning activities (or learning outcomes) to start the transformative process during the session!

Facilitators:

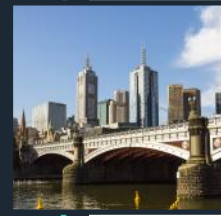
Laurence Orlando, Paul White and Julia Choate

Location:

Scott Building, Collaborative Learning Space

For further information contact Julia Choate:
julia.choate@monash.edu

Images: Federation Square by Robert Blackburn, (VisitVictoria)



ECR WORKSHOP

5:30-6:30PM, MONDAY 20TH NOVEMBER

We are fortunate to have two excellent speakers, Prof Susan Wray and A/Prof Andrew Moorhouse, to lead the ECR workshop, which focuses on two areas: the pros and cons of Open Access Publishing, and the importance of intellectual property.



Prof Susan Wray is a cellular and molecular physiologist and Deputy Head of Department at the University of Liverpool, UK. Prof Wray is the current Editor-in-Chief of *Physiological Reports*, and a past Editor of the *Journal of Physiology*.

Prof Wray will lead discussion on *“Open access publishing: friend or foe to physiologists?”*



Associate Professor Andrew Moorhouse leads the Neurobiology Research lab at the University of NSW. A/Prof Moorhouse's research interests are in the molecular and cellular basis of neuron excitability and he currently holds a patent entitled *Methods for inhibiting neuron apoptosis and necrosis*.

A/Prof Moorhouse will lead the session on intellectual property discussing *“The ups and downs of IP and its interplay with publishing.”*

Image: Princess Bridge, by Josie Withers (VisitVictoria)

Sissons Lecture Theatre 1		Sissons Lecture Theatre 2		Sissons Lecture Theatre 3		Scott Building Collaborative Learning Space	
16:30	Michael Roberts Prize Lecture K. Tangalakis: Enhancing the commencing student learning experience with innovative learning and teaching approaches and peer support systems <u>72P</u>						
15:00	Afternoon Tea: Cossar hall						
		Free communications: Skeletal muscle Chair: Cedric Lambolay		Symposium: New directions in ischemia cardioprotection Chair: Lea Delbridge		Education Workshop	
15:30		J.G. Ryall: Muscle stem cell self-renewal is regulated via innate cell metabolism and the extracellular environment <u>74P</u>		L.C. Hood: Role of nano-particles in ischemia-reperfusion therapies <u>80P</u>	15:30 - 17:30	Facilitators: Laurence Orlando, Paul White and Julia Chodde	
15:45		C.J. Taylor: Implantation of muscle precursor cells grown as 3D structures improves muscle regeneration after myotoxic injury <u>75P</u>		P.P. Jones: Impact of reactive oxygen species production on calcium release during ischemia-reperfusion injury <u>81P</u>			
16:00		J.R. Davey: E3 ligase substrate receptor ASB2 <u>76P</u> is a negative regulator of skeletal muscle size		D.J. Hausenloy: Remote ischaemic conditioning for cardioprotection: Bench to bedside in action! <u>82P</u>			
16:15		B.A. Mir: Identifying novel miRNAs targeting NDRG2 regulation in skeletal muscle <u>77P</u>		S.Y. Lim: Using cardiac stem cells to rescue the ischemic heart <u>83P</u>			
16:30		B.P. Frankish: Characterisation of SERCA, phospholamban and sarcoplipin proteins in human skeletal muscle <u>78P</u>					
16:45		D. Watanabe: Osmotic compression improves force production in skinned muscle fibres of the rat and human <u>79P</u>					
17:00							
17:15							
17:30							
18:00							
18:30							
19:00	STUDENT AND ECR MIXER Location: The Captain Melville, 34 Franklin Street					Student and ECR Workshop 17:30-18:30	

Sissons Lecture Theatre 2		Sissons Lecture Theatre 3	
Symposium: Molecular mechanisms regulating skeletal muscle attributes in health and disease Chair: Paul Gregorevic		Symposium: Emerging leaders in placental physiology Chair: James Cuffie	
8:30	A.R. Judge: Investigating cellular processes that drive skeletal muscle wasting <u>84P</u>	P.H. Andraweera: Intrauterine environment and cardiovascular disease risk in later life <u>88P</u>	
8:45			
9:00	K.T. Murphy: Novel mechanisms associated with cachexia during chemotherapy <u>85P</u>	M. Dekker Nitert: Maternal glucose metabolism and the gut and placental microbiota <u>89P</u>	
9:15			
9:30	N. Turner: Increasing nuclear NAD ⁺ biosynthesis alters skeletal muscle size and metabolism <u>86P</u>	J.F. Britta: The impact of lifestyle and pharmacological interventions on the placenta in complicated pregnancies <u>90P</u>	
9:45			
10:00	N.G. Laing: Functional genomics in disease gene discovery and diagnosis of Mendelian disorders <u>87P</u>	O.J. Holland: Mitochondrial adaptations and dynamics in the human placenta <u>91P</u>	
10:15			
10:30	Morning Tea: Cossar hall		

Sissons Lecture Theatre 2		Sissons Lecture Theatre 3	
Symposium: Assessing and counteracting frailty during ageing Chair: Rene Koopman		Symposium: Problems in labour: Mother Nature versus Father Time Chair: Helena Parkington	
11:00		A.B. Maier: Assessing frailty in older individuals <u>92P</u>	S. Wray: Is hypoxia good for labour? <u>98P</u>
11:15			
11:30		S. Soenen: Protein absorption and satiety in older individuals <u>93P</u>	S.A. Mesiano: Preventing premature birth by exploiting anti-inflammatory actions of progesterone <u>97P</u>
11:45			
12:00		L.J.C. van Loon: Anabolic resistance with aging <u>94P</u>	M. Lappas: Prevention of preterm birth: Novel targets of inflammation in the myometrium <u>98P</u>
12:15			
12:30		R. Koopman: Novel nutritional interventions to counteract frailty and wasting <u>95P</u>	H.C. Parkington: Mechanisms contributing to Failure-to-Progress in human labour <u>99P</u>
12:45			
13:00	Lunch & Poster Presentations: Cossar hall		
14:30	Presenting authors of even numbered Poster boards in attendance		

Lunch & Poster Presentations: Cossar hall		Posters are displayed in Cossar Hall. Presenting Authors from the following posters will be in attendance	
Poster #	Abstract	Poster #	Abstract
2	<u>38P</u> N. Shrestha: The role of lincic acid in placental inflammatory response and fatty acid metabolism	20	<u>57P</u> A.J.A. Raaijmakers: The link between <i>in vivo</i> diastolic function and mechanical stiffness in intact rat cardiomyocytes
4	<u>40P</u> A. Hayes: Adenylosuccinic acid therapy for the treatment of Duchenne muscular dystrophy: a pre-clinical evaluation of safety and efficacy	22	<u>59P</u> H.M.M. Waddell: Establishing reference conditions for electrophysiological recordings of spontaneously beating neonatal rat cardiomyocytes on a multi-electrode array
6	<u>42P</u> L. Parker: Glucocorticoid suppression of uncarboxylated osteocalcin impairs basal and post-exercise insulin sensitivity and osteocalcin signalling in humans	24	<u>61P</u> S.L. Hailey: The effect of IPC on central and peripheral fatiguing mechanisms following sustained maximal isometric exercise
8	<u>45P</u> K. Swiderski: Oral administration of L-arginine improves gastrointestinal function in dystrophic mdx mice	26	<u>63P</u> J.J. Fyfe: Concurrent training further enhances markers of skeletal muscle ribosome biogenesis, but not associated signalling responses, versus single-mode resistance training
10	<u>47P</u> I.E. Inocencio: Investigating the impact of liposome properties on lymphatic distribution following intraperitoneal delivery	28	<u>66P</u> C.R. Lambolley: Effect of high-intensity intermittent exercise on the contractile properties of human type I and type II skeletal muscle fibres
12	<u>49P</u> P. Yadav: Distribution of therapeutic proteins into thoracic lymph after intravenous administration is protein size-dependent and primarily occurs within the liver and mesentery	30	<u>68P</u> S. S. Thakur: Heat shock protein 70 (Hsp70) overexpression drives myoblast fusion during C2C12 cell differentiation
14	<u>51P</u> D.G. Campejil: Sodium nitrate treatment escalates doxorubicin-induced cachexia in mice	32	<u>70P</u> A. Pascoe: The role of Fn14 in mouse skeletal muscle recovery post Notexin injury: Effects on myogenic regulatory factors, catabolic markers, and structural proteins
16	<u>53P</u> M. Jacques: The epigenetic basis of variable responses to exercise training - a novel study design		
18	<u>55P</u> C.M. Loescher: The investigation of dantrolene sodium analogues on SR calcium loading and release, and calsequestrin Ca ²⁺ binding properties in cardiac muscle		

MEET THE EDITOR

2:30PM, TUESDAY 21ST NOVEMBER

Physiological Reports is an online only, open access journal publishing peer reviewed research across all areas of basic, translational, and clinical physiology and allied disciplines.

Physiological Reports is collaboration between The Physiological Society and the American Physiological Society, and is therefore in a unique position to serve the international physiology community through quick time to publication while upholding a quality standard of sound research that constitutes a useful contribution to the field.

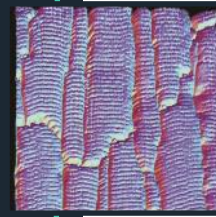
Papers are accepted solely on the basis of scientific rigor, adherence to technical and ethical standards, and evidence that the study is sufficiently well-conceived and the data support the conclusions.

The Editor-in-Chief is Professor Susan Wray, a smooth muscle physiologist from The University of Liverpool.



Come and meet her to learn more about the journal and how to submit. First 50 visitors will get a free goodie bag!

Image: Royal Exhibition Building by Josie Withers, (VisitVictoria)



AUPS PLENARY LECTURE

4PM, TUESDAY 21ST NOVEMBER



AUPS PLENARY LECTURE:

Downs and Ups of Calcium in the Heart

Prof David Eisner

University of Manchester, UK

Prof David Eisner (B.A. Cambridge, Natural Sciences, 1976; D.Phil Oxford, Physiology, 1979) moved to Manchester as Professor of Cardiac Physiology in October 1999 and he is currently President of The Physiological Society. Prof Eisner's early research focused on the regulation of intracellular sodium in cardiac muscle and the effects on contraction. He then investigated the control of intracellular calcium concentration and its role in the production of arrhythmias. His most recent work focuses on factors that regulate the calcium content of the sarcoplasmic reticulum and how this is altered in disease.

Prof Eisner has received numerous awards throughout his career. Most recently he has delivered The GL Brown Lecture of the Physiological Society (2014), The Bohuslav Ostadal Lecture of The International Academy of Cardiovascular Sciences (2016), The Peter Harris Distinguished Scientist Award of The International Society for Heart Research (2017), and the Annual Review Prize Lecture of The Physiological Society (2017). He has been elected a Fellow of the Academy of Medical Sciences and to Honorary Fellowship of the Royal College of Physicians. From 2007-2016 he was the Editor in Chief of The Journal of Molecular and Cellular Cardiology and he currently serves on the editorial board of Cell Calcium.

Abstract 100P

Image: ventricular cells
<https://biophysicalsociety.wordpress.com/2015/02/20/heart-beats-and-biophysics/>

Sissons Lecture Theatre 1

14:30	Meet the Editor - Prof Susan Wray Editor-in-Chief of Physiological Reports
15:00	AuPS AGM
15:30	Afternoon Tea: Cossar hall
16:00	<u>AuPS Plenary Lecture</u>
17:00	D.A. Eisner: Downs and ups of calcium in the heart 100P

18:30 Conference Dinner:
19:00 6:30pm for 7pm start
Melbourne Museum, 11 Nicholson St, Carlton VIC 3053

WEDNESDAY 22ND NOVEMBER

Sissons Lecture Theatre 1

8:30	D.J. Morrison: Measurement of postprandial glucose fluxes in response to 5 and 28 days of overfeeding in healthy humans 101P
8:45	E. Cao: High fat diet remodels the intestinal lymphatic vasculature to promote obesity and glucose intolerance 102P
9:00	V.R. Haynes: Medium chain fatty acids are metabolised by the hypothalamus and regulate energy balance in healthy mice 103P
9:15	S.A. Mason: A scorbic acid supplementation improves skeletal muscle oxidative stress and insulin sensitivity in people with type 2 diabetes: findings of a randomized controlled study 104P
9:30	A.J. Rose: Liver-muscle crosstalk in sarcopenic obesity? 105P
9:45	G.K. McConnell: Skeletal muscle interstitial glucose concentration becomes limiting to glucose uptake during insulin exposure after exercise in humans 106P
10:00	D.M. Camera: Dynamic proteome profiling of individual proteins in human skeletal muscle after a high-fat diet and resistance exercise 107P
10:15	C. Giezenaar: Load-dependent effects of whey-protein supplements on energy intake, gastric emptying and gut hormone concentrations in men and women 108P
10:30	Morning Tea: Cossar hall

Sissons Lecture Theatre 2

	Free communications: Metabolism and signalling Chair: Sean Yan
	D.J. Morrison: Measurement of postprandial glucose fluxes in response to 5 and 28 days of overfeeding in healthy humans 101P
	E. Cao: High fat diet remodels the intestinal lymphatic vasculature to promote obesity and glucose intolerance 102P
	V.R. Haynes: Medium chain fatty acids are metabolised by the hypothalamus and regulate energy balance in healthy mice 103P
	S.A. Mason: A scorbic acid supplementation improves skeletal muscle oxidative stress and insulin sensitivity in people with type 2 diabetes: findings of a randomized controlled study 104P
	A.J. Rose: Liver-muscle crosstalk in sarcopenic obesity? 105P
	G.K. McConnell: Skeletal muscle interstitial glucose concentration becomes limiting to glucose uptake during insulin exposure after exercise in humans 106P
	D.M. Camera: Dynamic proteome profiling of individual proteins in human skeletal muscle after a high-fat diet and resistance exercise 107P
	C. Giezenaar: Load-dependent effects of whey-protein supplements on energy intake, gastric emptying and gut hormone concentrations in men and women 108P

Sissons Lecture Theatre 3

	Symposium: Cellular mechanisms of failure and arrhythmia in the diseased heart Chair: James Bell
	D. Pavlovic: Sodium pump and intracellular sodium in healthy and failing hearts 109P
	M.A. Beard: Cellular mechanisms of failure and arrhythmia in the diseased heart 110P
	J.R. McMullen: Novel therapeutic targets in heart failure and atrial fibrillation 111P
	D.A. Saint: Changes in atrial structure and function in diabetes and obesity 112P

Sissons Lecture Theatre 1		Sissons Lecture Theatre 2		Sissons Lecture Theatre 3	
Free communications Fetal physiology		Free communications Exercise physiology		Symposium: How do calcium oscillations regulate biological rhythm?	
Chair: Sarah Marshall		Chairs: Donny Camera & Nir Eylon		Chair: Livia Hool	
11:00	B.A. McNeill: Characterising hydrogen sulfide production and degradation pathways in murine kidney: effects of pregnancy and high fat diet	119P	A.B. Adinolfi: Regulation of exercise performance and contractile function by the endoplasmic reticulum resident antioxidant Selenoprotein S (SEPS1)	113P	127P
11:15	M. Christie: Effects of IUGR on contractile protein expression and Ca ²⁺ -activated force in β-escin permeabilised mesenteric arteries of adult (6-month old) and aged (1-year old) WKY rats	120P	L. Hingley: Thoraco-pulmonary mechanical perturbations accompanying thoracic loading	114P	
11:30	D. Mahziri: Cardiorespiratory adaptations in females born small on a high fat diet and benefits of endurance exercise training	121P	N. Eynon: The ACE I/D gene variant predicts ACE enzyme activity in the blood but not the expression of ACE protein in skeletal muscle in the Gene SMART study	115P	129P
11:45	J.J. Fisher: Mitochondrial function in cell lineages of the placenta: does function alter between gestational disorders?	122P	A.K. May: Muscle adaptations and protein expression following blood flow restriction and heavy-load resistance training methods	116P	
12:00	Y.T.M. Mangwiro: Sex-specific placental IGF-system adaptations to maternal exercise in growth restricted mothers	123P	H.M. Bowes: The allometric scaling of aerobic power in adult humans, across the physiological range	117P	
12:15	M.C. Lock: Expression of immune markers in the fetus and six month old sheep heart in response to myocardial infarction	124P	C.H. Steward: Cellular localisation of NaK-ATPase isoforms in human skeletal muscle is muscle fibre-type specific	118P	
12:30	P.C. Papagianis: Human amnion epithelial cells alter lung development and inflammation in 7-day-old preterm lambs exposed to inflammation before birth	125P			
12:45	E.R. Siriwardhana: The sheep as a model of studying pregnant uterine smooth muscle activity	126P			130P
13:00-13:30	Lunch: Cossar hall				

Sissons Lecture Theatre 1		Sissons Lecture Theatre 2		Sissons Lecture Theatre 3	
Symposium: The preterm baby		Symposium: Mitochondrial dynamics and function			
Chair: Janna Morrison		Chair: David Bishop			
13:30	T.J. Moss: There is no such thing as a normal preterm baby	133P	M.T. Ryan: The machinery involved in mitochondrial dynamics	131P	
13:45					
14:00	B.E. Lingwood: Supporting preterm cardiovascular function	134P	R.M. Murphy: Effects of exercise training on mitochondrial content and dynamics	132P	
14:15					
14:30	R. Galinsky: Improving brain development in preterm infants with hypoxic-ischaemic encephalopathy	135P	Luca Scorrano - No abstract provided		
14:45					
15:00	M.J. Berry: Big data for small babies: the impact of gestational age on health and educational outcomes in New Zealand	137P			
15:15					
15:30	Student Prize Announcements				
	Conference Close				

