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AuPS McIntyre Prize winner 2012

Dr James Bell

What is your research background? How did you begin your career in Physiology?

My career path started with an undergraduate degree in Physiology at University College London. This initiated my fascination with how the heart worked, and led to a PhD at the Cardiovascular Division, King's College London in Prof Michael Shattock's lab. I was fortunate in that this was a multi-disciplinary cardiac-specific department, with a long history in ischemic heart disease research, and I have been hooked on this field ever since.



I relocated to Melbourne after my PhD, and joined the Cardiac Phenomics laboratory at the University of Melbourne in 2007.

Under the excellent mentorship of Prof Lea Delbridge, I have continued my interest in cardiac ischemia/reperfusion pathophysiology. My research has grown to include interests in how sex and sex hormones, and cardiac hypertrophy modulate ischemic damage. I currently hold a Fellowship supported by the National Heart Foundation of Australia.

What research are you currently involved with?

I am primarily driving two projects within the lab, both related to understanding the mechanisms of the cardiac ischemic stress response. One aspect of my research addresses lethal arrhythmias in the early stages of post-ischemic reperfusion, and how specific protein post-translational modifications (particularly CaMKII) may be implicated in their genesis. The second project focuses on understanding whether the heart can self-regulate sex steroid levels at the cardiomyocyte level, and how this may influence both heart function and disease vulnerability.

What's the best thing about your lab at the moment?

We have a good mixture of post-docs and students within our lab, each with their own areas of expertise. We put a real emphasis on working with each other on all the projects we conduct. This can really boost our research scope and productivity, but also provide an alternative insight/interpretation of the

data and take us in unexpected, novel directions. The training environment in the lab is very strong and supportive, and with Lea I have developed some exciting international collaborations.

Which part of research makes it most enjoyable for you?

I feel very lucky to have an occupation where I have the freedom to pursue an idea. My ideas may not always work out, and even sometimes I find the opposite to what I expect, but these unexpected findings can be intriguing and even lead to bigger and better things.

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

I really enjoy the research projects I am currently working on, and am very motivated to delve deeper in a mechanistic sense. The arrhythmia study in particular has taken an interesting direction, and I have recently set up a few national/international collaborations that will provide us with some critical models to take this to the next step. This field has considerable therapeutic interest/potential, and I would like to expand the studies to address the long-term implications of these protein modifications in the post-ischemic demise of the heart.

What do you do to relax?

I have 3 young children; so much of my time away from work involves hanging out with them. This can involve trips to our local beach, bike rides or going out for hot chocolate. I love to travel and experience new places, and anything involving food is generally high on my list.

Nominations for the 2013 McIntyre Prize will be opening soon, and will close in October. Please keep an eye on the AuPS website for more details.

37th Congress of the International Union of Physiological Sciences



I|U|P|S| 2013

21–26 July 2013 Birmingham, UK

<http://www.iups2013.org/>



**2013 Geelong - Australian Physiological Society - 8-11 December.
Deakin University, Waterfront Campus, Geelong, Victoria**

AuPS invited lecturer: Prof Gordon Lynch

Basic & Clinical Myology Lab, Dept. of Physiology, The University of Melbourne.

Invited plenary speaker: Prof Bjorn Knollmann

E-C Coupling & Cardiac Arrhythmia lab, Vanderbilt University, School of Medicine.

Research Symposia (with over 10 international speakers!)

- Aquaporin channels in the nervous system as therapeutic targets
- Cardiac injury and stress - environmental and endogenous influences
- Dietary protein in health and disease
- Epithelial membrane transport
- Gastrointestinal Function and Metabolism
- High intensity intermittent exercise and training
- Intricacies of type 2 diabetes
- Molecular control of skeletal muscle health in exercise and disease
- Molecular physiology of inherited heart diseases
- Neurocontrol: Exercise and disease
- Of mice and men - translating biological signals into functional regulation
- Physiological roles of noncoding RNA in muscle
- Releasing pattern of pituitary hormones
- Sarcoplasmic reticulum proteins in myopathy

Physiology Education Symposium

- Peer-to-Peer: the use of "peers" in Physiology Education
- Assoc Prof David Saint

2012 Michael Roberts Excellence in Physiology Education Award recipient

- **Conference Dinner at the spectacular Pier restaurant on Corio Bay.**
- **Student mixer for fun, networking and more...**
- **Free communications & Poster Sessions with awards**
- **Convenient local accommodation options**

For the latest meeting info go to: <http://aups.org.au/Meetings/201312/>

Local organizing committee contact: stuart.warmington@deakin.edu.au

Abstract/registration commences: 2nd September 2013
Deadline/end of early-bird registration: 27th September 2013



Mid-year update from AuPS

Report from the National Secretary

My term as National Secretary will finish at the next AGM and in a non-official capacity our Newsletter allows me to reflect on the past 12 months and indeed my past 2½ years.

To begin on my reflection, I would like to share what is at the foremost of my mind and that is my recent attendance at the Australian Society of Medical Researchers (ASMR) Annual dinner during ASMR Medical Research week. I have been fortunate to represent the Society on the past two such occasions. The dinner last week, held at the Hilton Hotel, Melbourne featured a presentation by the ASMR Medallist 2013, Dr Anna Wirz-Justice, Emeritus Professor and Research Fellow at the Centre for Chronobiology, Psychiatric Hospital of the University of Basel, Switzerland. Prof Wirz-Justice delivered a truly inspirational speech. In simplistic terms, she told four great science stories, all based on her sleep research. Indeed, physiology plays a great part in her work. She has been innovative in her bench to bedside approach and her research captures the attention of a wide arena of media.

It is perhaps easy to understand my enjoyment of being able to represent AuPS at such a dinner, but my many other duties are also fulfilling. Upon reflection, I feel that I have had a quieter year with respects to AuPS, but I'm sure much of that is down to the experience I now have behind me. I still rely on the assistance and most importantly the advice from Council and previous Executive members, but as new members step up to join Council it is rewarding for me to have the years of experience to contribute to their continued and widened AuPS journeys. There have been a number of roles taken on by Councillors, and each of these has eased my workload. We are very fortunate to have active members of Council committed to the running of the Society. In addition to Council, I wish to acknowledge the effort and time of our local organisers in putting together our meetings each year.

This year the IUPS (International Union of Physiological Societies) is being held in Birmingham. As our President David Allen detailed in the December Newsletter, we will not be putting forward a bid to hold an IUPS meeting in Australia in the coming calls for bids. This year's meeting presented an opportunity for me to attend as an AuPS representative; however I am unfortunately unable to attend.

A flyer for this year's Scientific Meeting is included in this Newsletter, so more details can be found there. The meeting will be held at the Geelong Waterfront campus of Deakin University, Sunday 8 Dec (from ~5pm) until Wed 11 Dec. This year's AuPS Invited Lecture will be delivered by Prof Gordon Lynch. In following the success of the 2012 Sydney meeting, and the positive feedback from members about incorporating the Conference Dinner into the registration, Geelong will host the dinner in a similar manner with a harbourside view from 'The Pier' restaurant. In keeping with that format, we will once again take the opportunity to present a number of our annual prizes during the dinner. These include presentation of the Michael Roberts Teaching Award, AK McIntyre Award, the Post-Doctoral and PhD publication prizes. The call for applicants for these prizes will be made in August and September, further details are on the website and also detailed in this Newsletter.

The 2014 meeting is being organized by a team from University of Queensland. The dates to lock into your diaries are November 30th to December 3rd, 2014. Ordinarily, this would be a joint meeting with Australian Society of Biophysicists, however they will be hosting the international conference in August 2014 and so will incorporate their annual meeting into that and will not join us. We will continue our discussions with them over the coming year to lock in a joint meeting for a future date. The call for symposia for Brisbane 2014 will be made in August, with submissions likely to be closed around the end of October.

This year we will be making a call for the Student representative on Council. Interested students could discuss with Divya, our current student representative, what the job entails (Divya's contact details are on the AuPS website and front of this Newsletter). More details will follow about nominations.

Working through my activities in chronologically reverse order, brings me to the fulfilling occasion of having the changes to the Constitution completed by the end of 2012. I once again thank members for the support of this change, and their commitment to ensuring we are as progressive as we can be. Many people work hard at this and every so often it is good to remind ourselves that we are a Society run entirely by volunteers and the dedication of members is paramount to our success.

I look forward to seeing as many of you as possible at Geelong 2013.

Robyn Murphy

National Secretary



The 37th Annual Conference of the Australian Society for Biophysics

Sunday 24 to Wednesday 27 November at the RMIT City campus, Melbourne.

Abstracts and Early Bird Registration: 23 August 2013.

- For more information contact Gary Bryant, chair, gary.bryant@rmit.edu.au
- Or visit <http://www.biophysics.org.au/Meetings/2013/index.html>

Prof Roger Dampney Honorary AuPS member



When I first came to the University of Sydney in 1964 I studied Science, with the aim at that time of specializing in chemistry, which was a subject I liked at school. In those days nearly all Science students studied maths, chemistry, and physics in first year, but had a choice for their fourth subject. I decided on biology, although I had never studied it before. One component of the biology course was physiology, which I had hardly heard of before, but found fascinating. This led me to choose physiology in second and third year. I wanted to do physiology honours, but was not able to do that because my undergraduate performance in physiology was not good enough. Instead I did honours in applied mathematics. I was very fortunate that one of the professors of physiology at that time was Michael Taylor, who

had a great interest in mathematics and did allow me to do what was then called a Masters Qualifying course in his laboratory, despite my poor background in physiology. The first research project that I worked on, together with Elspeth McLachlan, who was then a Research Assistant in Michael Taylor's lab, was on baroreceptor reflexes. That project went well and I presented the results at the meeting of the Australian Physiological and Pharmacological Society (APPS, as it was then called) held at Monash University in May 1969. The chair of the session was the late Archie McIntyre, a truly great Australian physiologist, and I remember very clearly the kind encouragement he gave to me as a very nervous student making my first presentation at a scientific meeting.

I did some tutoring in mathematics to support myself, but after a year I was able to enroll in a PhD and get a postgraduate scholarship. My PhD research was on the interaction between breathing, blood pressure and blood flow during exercise. The dramatic and immediate changes in cardiovascular function that occur at the onset of exercise got me very interested in the central neural mechanisms that control the circulation. At that time Paul Korner, a leading researcher in the field of central cardiovascular control, was Professor of Cardiology at Sydney University. He not only encouraged me to pursue this line of research after I finished my PhD, but wrote letters of introduction to Don Reis in New York and Alberto Zanchetti in Milan, who were experts in this field. With the support and encouragement of Michael Taylor and Paul Korner I was very fortunate in getting an overseas Research Fellowship from the Life Insurance Medical Research Fund of Australia and New Zealand, which enabled me to work with both Don Reis and Alberto Zanchetti, each for a year, from 1974 to 1976. This experience of working and living in both New York and Milan was one of the greatest experiences of my life, especially since I went there with my wife Dianne whom I had met a few years earlier.

After I returned to Australia I got a lectureship in Physiology at the University of Sydney, and I have been there ever since. My research has been on several different aspects of central control of the circulation, but recently I have become particularly interested in the brain mechanisms that produce integrated and coordinated cardiovascular and respiratory changes during different behaviours, such as exercise and defensive behaviour. This is essentially the same topic that got me interested in physiological research 40 years ago, but despite a lot of progress over the last 40 years, many fundamental questions regarding the brain mechanisms of cardiorespiratory regulation during natural behaviours remain unanswered.

The greatest single benefit of working in a teaching department such as the Department (now called Discipline) of Physiology at Sydney University is the interaction with students at undergraduate, honours and postgraduate level. Nearly all of the research in my laboratory has been performed by research students as well as visiting postdoctoral fellows from Japan, China and Brazil. I am very grateful to the students and other colleagues who have worked with me over the years and for the friendships that have resulted from our work together. I am now officially retired but am continuing to do research, and it is a particular pleasure for me that I am now involved in two different projects led by two of my former PhD students, Ann Goodchild at the Australian School of Advanced Medicine at Macquarie University and Pascal Carrive at the University of New South Wales. I am also assisting Liam Burke, an Honorary Member of AuPS, in one of his current research projects. Liam was one of the founding members of AuPS in 1960, and has been a professor of physiology (and now emeritus professor) at Sydney University over the entire period of my career. I am very grateful to Liam for his friendship and support over many years.

Liam actually nominated me for membership of AuPS over 40 years ago. Later I also became a member of the Australian Neuroscience Society (ANS) when it was established in 1980. I see the two societies as being complementary to each other, and so I was very pleased to be asked to be one of the organizers of the joint meeting of AuPS and ANS in Sydney in 2010. I hope that in the future there will be more such joint meetings. At the same time I think it is very important that physiology maintains its distinctive identity. When AuPS was established over 50 years ago, it was taken for granted that an understanding of fundamental mechanisms in physiology and other biomedical sciences was essential for progress in medicine. There is now much more emphasis on “translational research” which, as the Nobel Laureates Joseph Goldstein and Michael Brown pointed out in a recent article (Science 338:1033-1034, 2012) “relegates basic science to a back burner.” I hope that in the future the NHMRC and other grant-giving agencies and the scientific community in general will recognize again the great value of curiosity-driven research, much of which is conducted by individuals and small groups. Scientific societies like AuPS have played an important role in promoting such research. I am delighted to have been made an Honorary Member of the society, and I thank the society for that honour.

Roger Dampney
11 June 2013

Prof Dampney was awarded Honorary AuPS membership at the Scientific meeting in Sydney 2012.



9th Molecular Biology of Hearing and Deafness Conference

June 22-25, 2013

mbhd2013.stanford.edu

Stanford University Campus

- Early Registration: January 9, 2013
- Abstract Deadline: April 17, 2013
- Travel stipends for students and postdocs available. Visit website.
- Questions? Send email to:
mbhd-2013@stanford.edu

<http://mbhd2013.stanford.edu/>

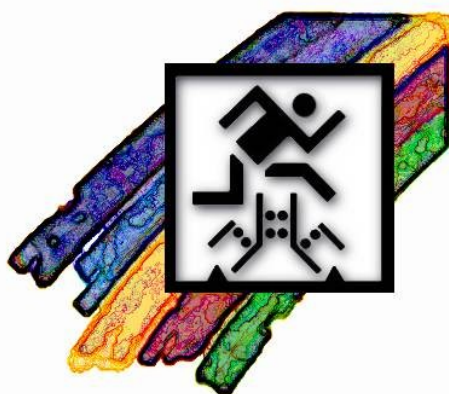
INTERNATIONAL SOCIETY OF EXERCISE & IMMUNOLOGY

11TH ISEI 2013 SYMPOSIUM

9 - 12 SEPTEMBER 2013

NEWCASTLE CITY HALL, NEWCASTLE, NSW, AUSTRALIA

EXERCISE IMMUNOLOGY: PRESCRIPTIONS FOR HEALTH



Important Dates to Remember

Registrations & Abstracts Open	10 February 2013
Abstract Submissions Close	10 May 2013
Abstract Acceptance Notified	10 June 2013
Early bird registration fees close	10 June 2013
Full registration fees close	10 August 2013
Late registration fees apply after	10 August 2013
ISEI Symposium Travel Scholarships	See ISEI website for application
ISEI Symposium Corporate Sponsorship	See ISEI website for prospectus



FURTHER INFORMATION ON THE 2013 ISEI SYMPOSIUM SEE OUR WEBSITE: www.isei.dk

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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 September 2013. All contributions for AuPS News should be sent to: newsletter@aps.org.au before the end of August.