



# AuPS News

March, 2007

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## President's Report

The beginning of the 2007 academic year brings renewed activity in Physiology education around the country. There is an increasing awareness of the parlous state of Australian science education and



Opposition Leader Kevin Rudd has announced that a federal Labor government would spend \$110 million to halve the HECS fees for university maths and science students. Given that one of the largest cohorts of science students are those pursuing the biomedical sciences, there is role for physiologists to take the lead in engaging both science teachers and high school students in the opportunities for careers in physiology. The American Physiological Society website has significant resources devoted to educational issues that I highly recommend to all AuPS members to view.

Planning for the joint AuPS/ASB meeting to be held in Newcastle, 2-5 December 2007 is well underway with many of excellent symposia organized in all areas of physiology and

plenary lectures to be given by Professor Mark Dunne, Faculty of Life Sciences, University of Manchester, as the AuPS-Physiological Society UK Exchange Lecturer and the AuPS Invited Lecture to be given by Prof. Don Roberston, School of Biomedical, Biomolecular and Chemical Sciences, University of Western Australia.

An AuPS Council meeting will be held in Newcastle in April to discuss future planning associated with increasing our membership and participation in society special interest groups (SIGs) and our involvement in joint meetings. A joint China-Anglo Physiology Conference is proposed to be held in Beijing, China in October 2008 involving the Chinese Association of Physiological Sciences, The Physiological Society UK, the American Physiological Society, the Canadian Physiological Society and AuPS. Another significant meeting in which AuPS is a member is the IUPS 36th World Congress to be held in Kyoto, Japan in July-August

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Kyoto, Japan, July 27 - August 1, 2009  
Function of Life : Elements and Integration

**XXXVI International  
Congress of Physiological Sciences**

The Australian Physiological Society is an Incorporated Association in the State of Victoria. Reg. No. A0021266A

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2009. Dr. Yoshihisa Kurachi, Chair of the International Scientific Program Committee has issued a call for symposia proposals. A detailed explanation for the process of call and selection can be found on the Congress web site. Finally, I wish to alert members that the 50th Anniversary of AuPS is in 2010 and we plan to make it an occasion of celebration of the achievements of Australian physiology and physiologists.

Thank you for your continued membership in AuPS!

**David Adams**  
President

#### Links

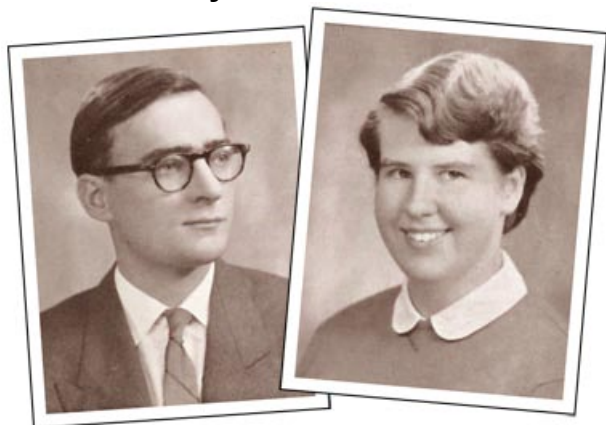
American Physiological Society, education resources

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

IUPS 36th World Congress, Kyoto

<http://www.iups2009.com/>

#### A bit of history



Who are these two fresh-faced graduates that are about to embark upon their careers? They are none other than Prof. Trefor Morgan and Prof. Ann Sefton (*nee* Jervie), our most recent Honourary Members of the AuPS (see AuPS Newsletter, Dec 2006).

It turns out that both Prof. Morgan and Prof. Sefton started as medical students at the same time at the University of Sydney. Both took a year out for BSc(Med) degrees - Ann Sefton in Physiology and Trefor Morgan in Biochemistry. Subsequently, both returned to their medical studies in the same year and spent their clinical years at Royal Prince Alfred Hospital, where they did internships. Their paths then diverged until both emerged as physiologists.

**Trevor Lewis**

(with the generous assistance of Prof. Ann Sefton).

#### The next generation

To help secondary school students better understand the exciting and extensive range of careers in science-related fields and help shape their expectations of university life, a new partnership has been developed between The University of Queensland (UQ) and the Queensland Academy of Science, Maths and Technology (QASMT). To increase the profile of physiology education and research at the secondary school level in particular, physiologists at UQ, including AuPS President Prof. David Adams, Prof. Phil Poronnik and I have been instrumental in guiding the implementation of this partnership program.



QASMT students participate in several stages of activities based on science-in-action, which are designed to reflect the experiences of first-year university science students. Throughout the practical sessions, students also participate in discussions about applications of the new skills they are learning in current research and tour the buildings to meet and view researchers in action.

At a time when we face declining proportions of students enrolling in science degrees and concerns that physiology as a discipline is under threat, programs that increase student understanding of the importance of careers in physiology need to be employed. The overwhelmingly positive feedback from students, teachers and parents indicates that the partnership program is an effective outreach model that has made a noticeable impact on how secondary school students view science education and careers.

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Overall, the UQ-QASMT partnership consists of progressive stages during which students and teachers interact in increasing depth with university faculty. The activities will also be integrated into assessment at QASMT to promote student engagement in the activities. David, Phil and I are committed to embedding each stage of the UQ-QASMT partnership with hands-on activities in physiology that help students to further appreciate the central role of physiology in the community.

**Kirsten Farrand**

School of Biomedical Sciences  
University of Queensland  
k.farrand@uq.edu.au



**Postcard from Malaysia**

Hi, this is Asia Rehman from Universiti Sains Malaysia, Kelantan. I am an active member of the cardiovascular (CV) and the craniofacial research groups, as well as a leading investigator in CV disease and oral health group. My primary research interest is hypertension, diabetes mellitus and their vascular complications. I am investigating the vascular, molecular and genetic basis of hypertension, arterial stiffness and endothelial dysfunction, in particular the role of the renin-angiotensin-aldosterone system.

Arterial stiffness and endothelial dysfunction is one of the earliest abnormalities observed in these patients. Pulse wave velocity (PWV) is one of the several indices used to assess arterial function and is a marker of CV risk. I have reported acute effects of angiotensin II (Ang II) on aortic PWV in healthy volunteers which are mediated via the Ang II type I receptor (AT1R). Since the extent as well as speed of arterial stiff-

ening probably depends upon several environmental and genetic factors, I reported a likely influence of AT1R gene C1166 polymorphism on aortic PWV among Malays. Among hypertensive subjects without this polymorphism, I have shown similar reduction in aortic PWV by losartan and perindopril. These findings suggest the need to examine the drug response in the hypertensive population with regards to their genotype.

I am currently investigating the influence of aldosterone synthase, nitric oxide synthase, angiotensinogen and epithelial sodium channel gene polymorphisms on blood pressure and aortic augmentation index in diabetic and hypertensive Malays. I plan to extend this work further to understand the mechanisms by which genes influence the response to antihypertensive drugs in lowering CV risk in these patients. I look forward to interact with colleagues from Australia and welcome possible collaboration in these areas.

**Dr. Asia Rehman**

Lecturer Pharmacology,  
School of Dental Sciences & School of Medical Sciences  
Universiti Sains Malaysia

**CARDIAC ARRHYTHMIAS: A CHALLENGE FOR THE 21<sup>ST</sup> CENTURY**

On the Friday preceeding the AuPS meeting (30 November) a symposium on cardiac arrhythmias will be held at the Victor Chang Cardiac Research Institute in Sydney. Confirmed international speakers for the symposium include:

- **Eduardo Marban** (Johns Hopkins University)
- **Andy Marks** (Columbia University)
- **Mike Sanguinetti** (University of Utah)
- **Ghazwan Butrous** (Pfizer, UK)

Local speakers will include:

- **David Allen** (University of Sydney)
- **Livia Hool** (University of WA)
- **Derek Laver** (Newcastle University)
- **David Ross** (University of Sydney)
- **Jonathan Kalman** (University of Melb.).

For further details, contact Gabby Thomson, Marketing and Communications Manager, Victor Chang Cardiac Research Institute (g.thomson@victorchang.unsw.edu.au)





**AuPS Announcements**

**2007 Scientific Meeting**

The 2007 scientific meeting will be held in conjunction with the Australian Society for Biophysics. The meeting will be hosted by Newcastle University at the Newcastle City Hall, from 2 to 5 December, 2007. The local secretary for the meeting is AProf. Derek Laver, who is being assisted by Dr Robin Callister, AProf. Dirk Van Helden and Prof David Pow.

Planning is well underway, with a comprehensive selection of symposia that have been proposed by the special interest groups and from the Australian Society for Biophysics. The AuPS symposia will be supported by funding from Council for plenary speakers to contribute to the symposia. The Physiological Society (UK) Exchange Lecturer, Prof. Mark Dunne will be attending and presenting at the meeting

**2007 AuPS Invited Lecture**

Prof Don Robertson (University of Western Australia) has been selected by the AuPS Council as the 2007 AuPS Invited Lecturer.

Prof. Robertson is a respected auditory physiologist, who has also served two terms as a Councillor for the AuPS. We look forward to his lecture in Newcastle.

**2006 Best Student Publication**

There were six applications for the AuPS prize for the best student publication in 2006. All applications were judged by four Council members and the winner was Julian Saboisky from the Prince of Wales Medical Research Institute. His winning publication is:



Julian P. Saboisky, Jane E. Butler, Robert B. Fogel, Janet L. Taylor, John A. Trinder, David P. White and Simon C. Gandevia (2006). Tonic and phasic respiratory drives to human genioglossus motoneurons during breathing. *Journal of Neurophysiology* 95:2213-2221.

Julian receives \$500 in travel support, which he has used to contribute towards the costs of attending the recent Upper Airway and Breathing Symposium held in Western Australia.

There were no valid entries for the post-doctoral publication prize and so no award was made in this category for 2006.

**Special interest groups**

AuPS has reinstated a structure of Special Interest Groups (SIGs), primarily to help ensure adequate forward planning of scientific sessions in areas that will interest and excite the membership. The range of areas covered by the

<b>AUPS - SPECIAL INTEREST GROUP COORDINATORS</b>		
<p><b>Muscle</b></p> <ul style="list-style-type: none"> <li>Graham Lamb</li> <li>Gordon Lynch</li> </ul>	<p><b>Cardiovascular</b></p> <ul style="list-style-type: none"> <li>Livia Hool</li> <li>David Allen</li> <li>Lea Delbridge</li> </ul>	<p><b>Cell signalling</b></p> <ul style="list-style-type: none"> <li>David Cook</li> <li>Grigori Rychkov</li> </ul>
<p><b>Smooth Muscle and Autonomic NS</b></p> <ul style="list-style-type: none"> <li>Caryl Hill</li> <li>Dirk Van Helden</li> <li>James Brock</li> </ul>	<p><b>Exercise</b></p> <ul style="list-style-type: none"> <li>Mark Hargreaves</li> <li>Mike McKenna</li> </ul>	<p><b>Channels and Transporters</b></p> <ul style="list-style-type: none"> <li>Stefan Broer</li> <li>Jamie Vandenberg</li> </ul>
<p><b>Endocrinology, Reproduction and Fetal Development</b></p> <ul style="list-style-type: none"> <li>Chen Chen</li> <li>Karen Gibson</li> </ul>	<p><b>Metabolism and Signalling</b></p> <ul style="list-style-type: none"> <li>Mark Febbraio</li> </ul> <p><b>Neurophysiology</b></p> <ul style="list-style-type: none"> <li>Pankaj Sah</li> </ul>	<p><b>Physiology Education</b></p> <ul style="list-style-type: none"> <li>Phil Poronnik</li> <li>Jeff Schwartz</li> <li>Anne Sefton</li> </ul>

present SIGs is not meant to be restrictive and can evolve as needed. The planned roles of the SIGs are to:

- Propose innovative sessions, workshops or symposia for the AuPS annual meeting.
- Create and lead the discussion of interesting posters sessions at AuPS meetings
- Establish and encourage communications between like-thinking scientists and educators
- Encourage members interested in the area to attend the AuPS meeting
- Keep Council informed of any public or government developments in their fields of interest.

Each SIG has one or more coordinators to help implement these goals. They may also be the appropriate first port of call for members putting forward suggestions for speakers or topics or just expressing their views on these matters. Members of course should also feel free to directly contact Council members as well, and this might be particularly appropriate if they wish to propose areas or speakers that do not fall readily into the present SIG framework. There is no actual regrouping of members into particular areas, it's purely just meant as a helpful arrangement for members and planning.

**Graham Lamb**  
Department of Zoology  
La Trobe University



## NEW APPOINTMENTS



**Prof. Gary Housley** has been appointed Professor of Physiology at The University of New South Wales. Prof. Housley has a distinguished research career in auditory neuroscience, with many seminal studies on the regulation of sound transduction and neurotransmission in the cochlea. His research themes have an emphasis on cochlear electrochemical homeostasis, neural development and noise-induced hearing loss. Prof. Housley completed his PhD in the Department of Physiology at the University of Auckland. A Fulbright Scholarship took him to Tulane University (New Orleans) for post-doctoral training with Profs. P.S. Guth and C.H. Norris, followed by a period with Prof. J.D. Ashmore at The University of Bristol (UK). He returned to Auckland on a Repatriation Fellowship in 1989. At The University of Auckland, he has fostered collaborative research projects with groups in Japan, the U.K., Canada and the U.S.A. He also contributed to developing a very successful undergraduate neuroscience program whilst in Auckland.

**Trevor Lewis**

## IMPORTANT DATES

**12 to 17 July 2007**

### **IBRO World Congress Of Neuroscience Melbourne**

Online registration and abstract submission is now available. For full details, including the scientific program and satellite meetings see <http://www.ibro2007.org>

**25 to 29 August 2007**

### **25th International Australasian Winter Conference on Brain Research**

Copthorne Resort Hotel, Queenstown, NZ.

Contact Prof. Cliff Abraham

([awcbr@psy.otago.ac.nz](mailto:awcbr@psy.otago.ac.nz))

Further information <http://www.awcbr.org>

**30 November 2007**

### **Cardiac Arrhythmias: A challenge for the 21<sup>st</sup> century**

Victor Chang Cardiac Research Institute. For further information contact Gabby Thomson, Marketing and Communications Manager, Victor Chang Cardiac Research Institute ([g.thomson@victorchang.unsw.edu.au](mailto:g.thomson@victorchang.unsw.edu.au))

**2 to 5 December 2007**

### **Joint AuPS and ASB scientific meeting Newcastle**

For further information, check the AuPS website and the next newsletter will have further details.

## 50 years in physiology: A tribute to Liam Burke

Liam Burke arrived at the University of Sydney in 1956 to join the Department of Physiology from University College, London. Over the past 50 years, he has made immense contributions to the staff and students in the Department (now discipline) of Physiology, to the University more generally and to what is now the AuPS. His achievements were celebrated with colleagues, former students, his family and friends in December 2006.

Liam grew up in Liverpool (UK) and served in the Air Force in World War II. He then studied pharmacy, before undertaking a PhD at University College London – supervised by Bernard Katz (later a Nobel Laureate). Peter Bishop, who was the then head of the Department of Physiology, recruited Liam to Sydney University.

Around the time of his arrival, the University and Department were very different from today in terms of size and expectations. Then, with a focus on teaching, research was by no means universal or even expected. Staff struggled to teach enormous classes, made worse by policies that did not restrict re-enrolment after failures (typically nearly 40% in Med 2). Physiology students included those in medicine, science, dentistry, pharmacy, physiotherapy and occasionally arts. Liam, together with his colleagues and the students of the time, recall lectures in an enormous shed (now demolished) which held 600 – aptly called “the Barn” – icy in winter and a hothouse in summer. Those who attended his classes remember Liam with great affection. He had a reputation for clarity and logical explanation as well for being accessible to students and staff alike. Practical classes were progressively modernised, with Liam himself contributing major improvements.

Although the Anderson Stuart is a marvellous historical building to which all its inhabitants are strongly attached, the Department 50 years ago was housed there in comparative squalor. The rooms were neither planned, nor in many cases even suitable, for research. Basic facilities, such as electric lighting, were added after the building had been completed. At the time of Liam’s



arrival, experimenters designed and built their own equipment – nothing came “off the shelf”. It was, indeed an excellent training in self-sufficiency for the research students who came in growing numbers – including honours students in Medicine and Science, and from the 1960s, MSc and PhD candidates. At that time, the Department boasted an excellent technical team in workshops (mechanical, electrical and photographic) as well as helpful, effective clerical, classroom and other support staff.

Liam served as Head of Department for 10 years from 1967. He was thorough, approachable and fair, protecting active researchers where possible, encouraging and supporting the keen teachers. He supported his staff, maintaining and enhancing the collegial model that has characterised the Department. However, it was becoming an increasingly demanding role, which limited but by no means extinguished his capacity for research and the supervision of students. After making a major academic contribution, he left his successor a collegial, well-run and efficient department.

Liam was active in what was then the Australian Physiological and Pharmacological Society, having served as a councillor, acting National Secretary and as Treasurer for six years. He was made an Honorary Member of the APPS (now AuPS) in recognition of his service. He always encouraged students to present and contribute to meetings. His own talks were always models of clarity, well-timed, logical, and with well-chosen illustrations and graphs.

At the recent celebration, colleagues from Sydney and interstate praised his academic contributions, geniality and generosity as a host. They recalled his enthusiastic participation in the Departmental cricket team and referred more than once to his inspiration, collegiality, integrity, coherence and commitment both to teaching and research. In his typically wide-ranging response, he recalled some of his history and commented on the collegiality of the Department. He remains active in vision research, particularly in collaboration with Bogdan Dreher.

**EProf. Ann Sefton**  
Department of Physiology  
The University of Sydney

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This issue of AuPS News has been compiled by Trevor Lewis. The next issue of AuPS News will be distributed to members in June 2007. Any contributions for AuPS News should be sent to: [newsletter@auaps.org.au](mailto:newsletter@auaps.org.au)