



AuPS News

50th Anniversary year

December 2010

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Report from the President

The combined AuPS/Biophysics meeting in Adelaide (28 Nov-1 Dec 2010) was a great success; the Wine centre, situated on the fringe of the Botanic Gardens and close to the city centre, provided a stunning but relaxed environment for our meeting. To me it seemed a particularly friendly and interactive meeting but maybe people were just being polite to the new President. The Science was both diverse and of a high standard with many excellent presentations from foreign visitors, members and our students. Personal highlights, as a novice in the store-operated Ca channel area, were the overview combined with molecular analysis by Richard Lewis and the identification of the molecular basis of SOCs in skeletal muscle and attempts to understand its function by Bob Dirksen. Our joint meetings with the Biophysical Society seem to be working exceptionally well providing increased numbers, greater diversity and strengthening the comfortable relationship between our two Societies. So it is pleasing that the 2012 meeting at the UNSW will again be a joint meeting. Our thanks to Andrea Yool, the local organiser, who worked tirelessly on our behalf to make this all happen.

An innovation at this meeting was the invitation to school teachers of biology to attend and the organisation of a mentoring system. Mentors and teachers met at breakfast on Monday and attended the teaching symposium on Monday morning. They met again at the Poster session on Monday lunchtime and chatted and interacted with students and their posters. The teachers I spoke to enjoyed the opportunity to see how science operates and have a more concrete insight into medical science research as a career option for their students. These interactions will often work best on a local scale so it would be good to see this and other outreach activities developing at subsequent meetings and during the year.

We have organised teaching symposia at meetings on a fairly regular basis for many years and this tradition continued in Adelaide. This year, for the first time, we have a prize and medal for teaching in honour of Michael Roberts, an outstanding teacher and researcher whose untimely death saddened the many members who knew him. The inaugural winner was Phil Poronnik, who gave an outstanding lecture and call to arms to develop and extend our interests in teaching. Most of us are interested in our teaching but struggle to apply the methodology of science to its assessment. But I think some presentations of individual good practice, especially in practical teaching, would often make valuable presentations at our teaching symposia. We already have a Special Interest group in teaching but Phil Poronnik and Richard Guy, both at RMIT, would like to see this interest group enlarged and active throughout the year. Please contact one of them, or even start your own local group, if you would like to participate.

Finally IUPS will meet 21-26 July 2013 in Birmingham, UK. It is starting to flex its organisational muscles and as President I have been invited to the

Physiological Society meeting in Oxford 2011 when some of the preliminary meetings will occur. Australia is fortunate to have Caroline McMillen on the IUPS Committee so either Caroline or I could be conduits for your thoughts about this meeting. IUPS struggles to get the right balance between a huge but disconnected community of physiologists and the planning committees which have to make decisions and decide directions years in advance. We as a Society contribute to IUPS so we can have our say as to how we would like to see these meetings develop.

David Allen December 2010
president@aps.org.au

New AuPS Teaching Award.

The current knowledge revolution has increased the social impact and relevance of tertiary education, prompting governments to press for increases in the percentage of the population with tertiary qualifications. At the same time there is increased pressure on universities to fund education from outside the public purse while maintaining a high quality of education.

Collectively these factors have increased the drive for measures of tertiary education quality and also efficiencies in content and delivery costs. The answers to these pressures from most scientists are to gain more or better quality data and systematically analyse it to determine the best methods to teach at a high quality within the economic constraints of the times (market).

The past decade has consequently seen an increase in the research into higher education and as a result an increase in the publication of evidence-based studies of the delivery and content in higher education courses and programs.

As Barbara Ischinger (Director, OECD Education Directorate) wrote in 2006, in an article entitled 'Higher education for a changing world'

"Achieving and sustaining quality in higher education is a tough challenge. A new stakeholder contract may be needed, and better performance measures would help light the way forward."

[Topics » Society » Education](#)



The AuPS in conjunction with the University of Adelaide is keen to do its part and awarded the first "Michael Robert's Excellence in Physiology Teaching" award to Phil Poronnik. (left, beside Mr John Bicknal from SDR). Phil Poronnik is to be congratulated not only for his excellent keynote presentation but also for his persistent efforts in identifying problem areas in tertiary education, here and overseas, improving tertiary teaching nationally and providing consistent encouragement to all teachers. The education symposium also featured as part of the meeting program, was well attended and presented quantitative studies in physiology education. These presentations can be in addition to your scientific presentations to the society, they acknowledge teaching research and continue to be a feature of the annual meeting.

Other Highlights in Physiology Education, at the Adelaide meeting, included an outreach program organised by Dr Damian Keating (right), to include secondary teachers in the conference. As mentioned by David Allen, this included a breakfast before the education symposium for teachers and presenters who paired up for the remainder of the day. Discussion was stimulating, with comments ranging from the shared experience that it is more difficult to engage students and mutual agreement that engagement has to be improved to foster deeper education, to the problems in achieving a seamless transition of curriculum from secondary to tertiary studies. The falling interest in 'enabling sciences', chemistry, physics and mathematics may even see students studying physiology to provide a tangible context for the sciences.



The AuPS Invited lecture presented by Dirk Van Helden.

Calcium signalling, pacing and rhythmic cell activity in the lymphatic system – a physiologist’s paradise.

The Scandinavian Physiological Society Exchange Lecture presented by Prof Erik Rickter

Metabolic regulation in exercise: mechanisms and experimental models.

The Dinner and Dance was well attended and proved to be a most enjoyable evening for many. Mared only by the editor and his out of focus camera.



The Australian Physiological Society Council, 2011.

Many special thanks to outgoing AuPS Secretary Professor Joe Lynch.

New AuPS Secretary

Congratulations to AuPS Secretary Dr Robyn Murphy, also winner of the A.K. McIntyre Award.

The way to the McIntyre – a scenic route Robyn M Murphy



I had a different beginning to a scientific career compared than most. Whilst Science was never far from my mind in terms of career paths, I've travelled a fairly diverse pathway to get

there. During school, Maths and Science were the fun subjects and most of the others were seen as a necessity. I enjoyed school, yet even still, once in my final year of high school and completing my HSC in 1984, all I could think of was getting to Melbourne (I grew up in a country town 2 hours NE of Melbourne) and getting a job. The offer of a BSc at Monash would have to wait! Following a year as a bank Customer Service Officer I had a year's 'working holiday' which meant my best friend and I drove to Queensland, parted ways and I spent the year working in bars and nightclubs to pay my way. Another stint at Westpac upon returning to Melbourne was followed by a diverse administrative job working for the US/Japan joint venture on the North-West Shelf project out of their Melbourne office. This was followed by a diverse range of jobs at a computer company followed by a short but successful stint as a Sales Rep for a computer supplies company. So, what has this got to do with Science – nothing! Fortunately, amidst my



travels in 1989 I came across a guy who was studying Chemistry at Victoria University and my passion for Science was reinforced. In 1990 I enrolled and thrived during the undergraduate course that destined me to become an Industrial Chemist.....until I discovered research. I never imagined that you could combine exercise, how muscles work and get to figure things out along the way – is that enlightenment of some sort? For personal reasons I had a difficult Honours year, the first of which the newly formed Victoria University of Technology (Footscray Institute of Technology when I began my degree) had undertaken. Subsequently I decided I needed more time out. Travel to Europe was on the cards, which coincided with the International Biochemistry of Exercise conference in Aberdeen, Scotland (1994), two months into my travels. This was an inspiring moment, but didn't stop me living in Amsterdam for the next 18 months where I looked after a beautiful baby, fixed clocks and was involved with a number of different busking groups to earn my keep. Lots of travelling in Europe and SE Asia saw me return home ready for a new start, but with very little money to do anything. So, more work and a 2 ½ year stint working at a café on Brunswick St, Fitzroy, the 'bohemian world' of Melbourne. After working up the ranks, I spent 6 months managing the busiest café on the street and FINALLY, in the latter part of 1998, I was ready to take the next leap of faith into the scientific world. I moved my major focus to a PhD, under the

supervision of Prof Rodney Snow, at Deakin University in the newly formed School of Human Movement, Deakin University, which Prof Mark Hargreaves (now Physiology, University of Melbourne) was instrumental in establishing. I completed my PhD in 2003 whilst working as a Research Assistant for Mark and having had numerous opportunities for overseas travel, by way of conference attendance and visiting various laboratories in the US and Europe. During an invited attendance at the Baltic Summer School, Denmark (2002), and having the privilege of spending time in the laboratory of Prof Thorkil Ploug, Panum Institute, University of Copenhagen, my focus was fairly clear – research examining metabolic and mechanisms of skeletal muscle function in single muscle fibres. Finally a vision was apparent and there was strength in Melbourne, my ultimate destination. Profs George Stephenson and Graham Lamb were able to offer me a post-doctoral position despite my ensuing need to have another ‘wee’ break in science following the birth of my daughter in 2003. Things had been difficult, but with a major focus (my new child) interrupting any clear thought, work had to take a back seat whilst I juggled motherhood, part-time work and a burning desire to be successful at both! I was

awarded an NH&MRC Peter Doherty training fellowship in 2006, the year that my son entered this world and became the second major focus, pushing career to being the 3rd. Still, part-time work and parenting had strong support with the La Trobe University Children’s Centre to whom I entrusted the care of my precious children and knowing my children were only 10 minutes away helped push me on in the ensuing years. Also, the fabulous support and mentoring of Prof Graham Lamb has helped me put, as well as keep, most things in perspective. Life still remains a struggle when having to juggle the demanding pressures of parenting, research and now an academic career. Flexibility has been a major key in helping me move forward, and with my chosen profession perhaps being the most adaptable in terms of flexibility, believe I can keep doing this. Being recognized by the Australian Physiological Society with the awarding of the A.K. McIntyre Prize this year is very humbling. Hard work can pay off. I’ve had a different beginning and somehow I wouldn’t be surprised if things keep taking alternate leaps of faith.

Robyn Murphy, December 2010

**APPLICATION for THE A K McINTYRE PRIZE
SPONSORED BY SDR CLINICAL TECHNOLOGY**

This prize, named in honour of the Society's first President, is awarded annually to members of the Society who are judged to have made significant contributions to Australian physiological science over their pre-doctoral and early post-doctoral years.

Applicants must be financial Ordinary Members of the Society, and must normally have completed their doctoral degree not more than 5 years prior to the time of their application (although they may apply during their 6th postdoctoral year). Think about applying for the 2011 meeting now.

The Prize consists of a medal and the sum of \$1000.

More information can be found on the following webpage: <http://www.aups.org.au/Prizes/McIntyre.html>

Sponsored by SDR and the Australia Physiological Society



AuPS 2010 prize winners are

A.K. McIntyre Award 2010 Dual (tied) winners

Dr. Sean McGee, Deakin University and
Dr. Robyn Murphy, La Trobe University
(supported by AuPS and SDR)



PhD Student Publication Prize

Ms Natasha Behrendorff, University of Queensland, won the award for best student publication.

Postdoc Publication Prize

Dr Song Zhang, University of South Australia, won the award for best postdoctoral publication
Both awards comprise \$500 prizes sponsored by SDR Clinical Technology

Student Oral Prizes

Ms Simona Carbone, Human Physiology, Flinders University. Here with Prof David Allen.



Ms Noni Larkins, Department of Zoology, Latrobe University receiving the student oral presentation award from Mr. John Bicknal of SDR Clinical Technology, the award sponsor.



Ms Divya Mehra, School of Biomedical Science & Pharmacy University of Newcastle (right), receiving the student poster award from Mr. John Bicknal. Congratulations to all the prize winners. Many of the contests were extremely close. Also, thank you very much to all the judges and sponsors.

Student Poster Prizes

Ms Julianne Heide, Victor Chang Cardiac research Institute.



Next AuPS Meeting

Perth - 4th December 2011.

This will be a combined meeting with ASCEPT and HBPRCA and so should be a week of scientific presentations of considerable interest to a wide range of AuPS members. The meeting is planned for the week beginning Sunday 4th December and there will be a number of shared sessions and symposia as well as dedicated sessions for the individual societies involved. AuPS and ASCEPT will run as is traditional, from Sunday to Wednesday. The local organizing committee consists of staff from The University of Western Australia (Associate Professors Livia Hool and Lynette Fernandes and Professor Don Robertson).

We urge all AuPS members to support this meeting. AuPS meetings in Perth have traditionally been an opportunity for participants to not only attend the meeting but to go on to enjoy the climate, beaches and many other tourist attractions that "The West" has to offer.

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Special Interest Groups

Emerging Leaders in Developmental Physiology



From left to right, James Armitage, Janna Morrison, Karen Moritz, Tim Moss, Marianne Tare.

Presentations from these speakers in the developmental physiology symposium were integrative and spanned, inflammation, in utero patterning, effects of alcohol and maternal fat diet, lung, kidney and vascular physiology.

Write to Peter Thorn to join the new Membranes special interest group.

Early memories of Mollie Holman

By Geoff Burnstock



Mollie and I met in the Pharmacology Department in Oxford in 1957. Mollie was finishing off an outstanding D.Phil. and I was a young postdoc. We both worked under the guidance of Edith Bülbring who ran the leading smooth muscle laboratory in the UK. We got on well and tried to start a collaboration. Two years later I moved to a job in Zoology at Melbourne University, largely influenced by my admiration for Mollie and also for Mike Rand who was also in Oxford during my time there. Mollie was well established in the Dept. of Physiology and we started working together on the electrophysiology of neuromuscular transmission in the guinea-pig vas deferens, Mollie brilliantly employing microelectrodes, while I set up the sucrose gap technique, an extracellular recording method that I had developed for

recording correlated changes in electrical and mechanical activity of smooth muscle with Ralf Straub when I was in my first postdoc position at the National Institute of Medical Research. Mollie and I published a series of pioneering papers together in the early 1960's describing this work. The only puzzle was that the excitatory junction potentials (ejp's) in response to sympathetic nerve stimulation were not blocked by adrenoceptor antagonists, which was surprising since at that time noradrenaline was well established as the neurotransmitter released by sympathetic nerves. It was not until over 20 years later in London that we showed that the ejp's were in response to ATP released as a cotransmitter with noradrenaline from sympathetic nerves. Mollie and I had great fun working together and she was perhaps the most gifted experimenter with whom I have had the pleasure of working.

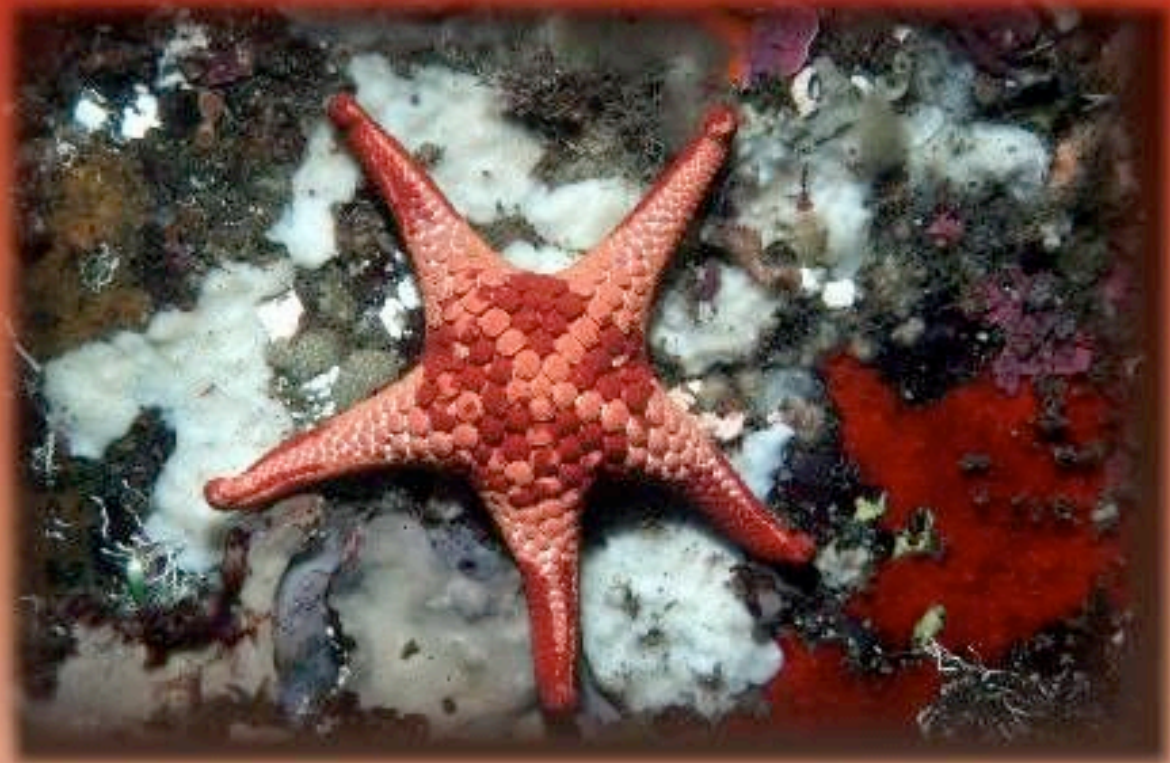
Mollie moved to Physiology in Monash University in 1963, but we continued to work together for a while, we published several reviews together, including a *Physiological Review* on the electrophysiology of smooth muscle and an *Annual Review of Pharmacology* on the effects of drugs on smooth muscle. Mollie also collaborated with Graham Campbell and Max Bennett, post graduate students of mine, when we discovered non-adrenergic, non-cholinergic (NANC) transmission in the guinea-pig taenia coli in 1963-1966. Mollie was not convinced, like many others, about our later hypothesis that the NANC transmission in the intestine and bladder was due to ATP, but I was very pleased when she changed her mind about purinergic signalling in recent years.

Mollie was a wonderful collaborator and friend and I am very sad that she has gone away.



This issue of AuPS News was compiled by Simon Potocnik with many thanks to the generous contributors.

The next issue of AuPS News will be distributed to members in March 2011. All contributions for AuPS News should be sent to: newsletter@aup.org.au by Feb 26th, 2011.



Nectria ocellata - Ocellate Sea Star

Image courtesy of www.scienceaustralia.gov.au

Season's Greetings

and best wishes for the New Year

Thank you from the
Scientists in Schools team
for all your hard work this year.

We're looking forward to 2011
and have many upcoming events planned as
Scientists and Mathematicians in Schools
continue to grow.

We always love to hear what our partnerships have
been doing so please let us know, or contact us
if we can be of assistance.

Scientists
in Schools

Mathematicians
in Schools



NHMRC Objectives



Defined from the NHMRC Act (1992)

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| Objective 1 | Raise the standard of individual and public health throughout Australia |
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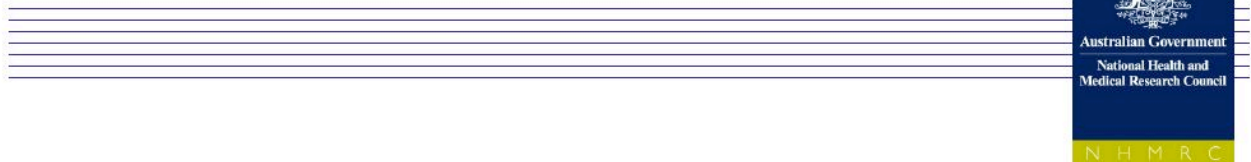
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| Objective 2 | Foster the development of consistent standards between the various states and territories |
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| Objective 3 | Foster medical research and training and public health research and training |
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| Objective 4 | Foster consideration of ethical issues relating to health |
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NHMRC Strategic Plan 2010 - 2012

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| Objective 5 | Build a better NHMRC |
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NHMRC Report September 2010

Working to build a healthy Australia

Meetings in 2011

2011 American Thoracic Society International Conference

May 13-18, Denver, Colorado

The Advance Program with registration form will be available at
<https://www.thoracic.org/>

A reminder that applications for ACAN 2011 close on MONDAY 13 Dec 2010.

ACAN is the premier neurophysiology training course in Australia/New Zealand. Twelve students will be selected to receive advanced training in patch clamping, calcium imaging, brain-slice preparation and data analysis.

ACAN 2011 will be held at Queensland University's Moreton Bay Research Station, North Stradbroke Island, near Brisbane, from 27 March to 16 April 2011.



**Barcelona
BRAIN 2011**

ISCBFM
International Society for
Cerebral Blood Flow & Metabolism

**XXVth International Symposium on Cerebral
Blood Flow, Metabolism, and Function
&
Xth International Conference on Quantification
of Brain Function with PET**

Barcelona, Spain - May 24-28 2011

