

Challis Chair's Bequest Windfall for School



**Professor Patrick Desmond Fitzgerald Murray (1900 – 1967)
Challis Chair of Zoology 1949-1960**

The School of Biological Sciences is about to receive a substantial amount of money from the estate of Professor Patrick Murray.

Murray commenced his scientific education at the University of Sydney where he graduated with first class honours in botany and zoology in 1922. For this he gained the John Coutts Scholarship for distinction in science and a University Medal.

In 1924 he completed a postgraduate degree at the University of Oxford. About this time Murray started his work on experimental embryology and published several papers in collaboration with J.S. Huxley. This was at the beginning of a period of rapid development in experimental embryology to which Murray made several significant contributions.

In 1924 Murray returned to Sydney as Macleay Fellow of the Linnean Society of New South Wales, and in 1926 he was appointed Lecturer and Demonstrator in the Department of Zoology of the University of Sydney.

His D.Sc. degree of this University, which was awarded in the same year, dealt largely with the development of limbs examined experimentally in chick embryos. In 1929 Murray was awarded a Rockefeller Fellowship and continued his research at the Universities of Freiburg and Cambridge. Between 1930 and 1936 he was a Smithsonian Research Fellow at the Strangeways Laboratories Cambridge. During this period Murray continued his studies on the morphogenesis of bone, and he also examined some of the functional aspects of embryonic heart cells in tissue culture. This led to a series of papers on the effect of ions on the fibrillation of embryonic heart *in vitro*.

In 1936 Murray's first book *Bones, a study of development and structure of the vertebrate skeleton* was published by the Cambridge University Press. This was an important book because it dealt with the determination of form, a topic which, for many biologists, still evoked an almost mystical aura so that it was difficult to refrain from endowing embryonic cells with

potentialities that made further scientific investigation impossible. Murray's book was a straightforward account of the problems, experiments and results about the factors which determined the position and formation of bone.

After spending a short time as Demonstrator in Zoology at Bedford College for Women, London, Murray was appointed Reader in Biology and Comparative Anatomy at St. Bartholomew's Hospital Medical School, University of London. He held this post from 1939 until 1949. During this time part of Murray's research was concerned with the effects of nutritional factors, such as vitamin C, on the development and repair of injury in bones. By this time Murray was well known not only for his work on the developmental aspects of bone and cartilage, but also for his work on their physiology. He reviewed this subject in *'The Physiology of Supporting Tissues'* in the Annual Review of Physiology.

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While at St. Bartholomew's Medical School Murray wrote his textbook *Biology, an introduction to medical and other studies*, published in 1950 by Macmillan.

In 1949 Murray was appointed Challis Professor of Zoology at the University of Sydney. This was a difficult time in all Australian universities, and as student numbers were increasing, universities were short of staff, equipment and laboratory space. Thus much of Murray's time was taken up with administration, and his research work evidently suffered for a while.

He resigned his Chair in 1960, and shortly afterwards took up the post of Reader in Zoology at the University of New England. He held this post until 1966 when he was appointed Research Fellow of the University.

During this time Murray took up his research work with renewed vigour and published a number of papers chiefly on experimental embryology. A notable contribution to his work at this time was an elegant demonstration that the change in morphogenetic direction of the germinal cells from osteogenesis to chondrogenesis is mechanically induced.

He was elected a Fellow of the Australian Academy of Science in 1954 and president of Section D of ANZAAS in 1957.

Professor Patrick Murray has left a bequest, of \$375,332.81 to the School of Biological Sciences. The School is exploring the possibility of using this bequest to establish a named visiting fellowship.

From the Head of School



Welcome to the renewed SoBS Newsletter.

I wanted to open this issue with my comments about 2005. Obviously, for me 2005 has been momentous and I am still on a steep learning curve for trying to be an effective Head of School. I am very thankful for the wide support that members of the School have given me this year, even in the face of some quite significant changes.

Among the changes in 2005 have been the appointment of Katie Jakes to a new position in First Year Biology, the appointment of Graham Cam into the new position of Science Communicator, making him responsible for the Newsletter, and the recruitment of a new Sesqui Lecturer, Greg Sword who will arrive in January. Steve Simpson took up his Federation Fellowship in January and Ross Coleman took up his Sesqui position in April. All of these people have made significant contributions to the School in 2005. Staff changes continue into next year, with Rick Shine and Andrew Parker being awarded Federation Fellowships; Rick

starts his Fellowship in January and Andrew in March. We will also see two retirements from the School at the end of 2005. Mary Peat will be retiring, although she will continue in the School as an honorary, as well as in a part-time capacity in a position with Beryl Hesketh.

Tony Underwood received an ARC Professorial Fellowship and will retire from the School, although he will continue his directorship of the EICC. Both Mary and Tony have made major contributions to the School in many ways going back way before I joined the School.

My major frustration during the year is the slow speed with which university processes work. However, we have completed a number of important initiatives. We reviewed the General Staff profile of the School, which has led to the reassignment of duties (and swap of offices) for Mike Joseph and Mark Ahern, the formation of teams for teaching support staff and IT staff, and the rationalization of some policies.

The School also led the Faculty in development of Key Performance Indicators and Objectives for the new PM&D scheme, and we still have an active space development plan. I set up the School's Planning Group, which meets fortnightly to discuss issues of planning in all areas of the School. The Planning Group has been of particular help to me during the year. There have also been the Head's morning tea meetings, for which I have had very positive feedback and which will continue into 2006.

On a personal note, although I am enjoying (mostly) being Head of School, it has had an impact on my research productivity. However, I did manage to publish five journal articles, including one invited review, and have a healthy number submitted or in press for next year. I organized and ran a symposium at an international conference in South Africa and am currently working on the proceedings. I also managed to present papers at two Australasian meetings (Herpetology and Physiology) in 2005. I hope to be able to maintain that level of research activity while I am Head, and then hopefully ramp it back up again after my term as Head is completed.

Quite a number of people received funding from various agencies in 2005, and I extend my congratulations to them. Going into the future, it is important that we have as good a research profile as we can. I encourage academics to spend as much time in their labs or the field as they can and to write as many quality papers as possible. Those things will then feed into our success with grants, which will not only continue to elevate the profile of the School in the University, but will lead to even greater successes.

Finally, thanks to everyone. I hope that you all have a well-earned break over Christmas and look forward to new challenges in the New Year.

M.B. Thompson

From the Editor's Desk

This Newsletter heralds the first of a revitalised and regular exchange of information for the School of Biological Sciences in 2006. A Newsletter is of considerable importance for our School as staff and research students are spread across several buildings and inevitably much of the interesting and exciting news will only reach the attention of a proportion of the School. A Newsletter is successful if it conveys not just the information essential to the operation of the School but also the exciting achievements, no matter how small, that add a further dimension to the feeling of community.

On that note it is critical to ask you, the members of the School, the type of format and regularity that would entice you not only to read the Newsletter but also contribute to it. Contributing does not imply an onerous task. All I require as Editor is a forwarded email, a link to a website or a few lines of explanation so that I can follow-up and write an appropriate article. I say 'I' but in fact I should say 'We' as Pedro Teixeira has already volunteered as an Assistant Editor and has written much of this issue, allowing me to complete the new look Course Information Book for the School, which will be available to new students on the 4th January 2006. Thank you very much Pedro and welcome to the editorial team, your flair for writing is most appreciated.

Our intention for the Newsletter is to produce an electronic version to be accessed via the Schools web page.

Colour and photos will form part of the visually stimulating format. We do not intend to make each issue an epic but rather an easy reading update of School life. This issue is really more of a snap shot of some of the events that have occurred in 2005 as a suggestion for what might be included in 2006.

The feedback I require is the type of information you find interesting or useful; what has been overlooked in the past and should be included in 2006; how regular should each issue be published; what is the ideal size to encourage you to read most of the articles in each issue; is a copy on the School's web page sufficient or do you want a hard copy made available for the tearooms in A08 and A12?

As Editor, I would like to see regular articles from our postgraduate students similar to those of the Marine Ecology Newsletter. We could welcome our honours students to the School with a photograph and a paragraph on their proposed research project. Similarly we should not overlook this opportunity to welcome new staff to the School.

Pedro and I have given some thought to a possible format for each issue. Your comments would be of great assistance to us in producing a Newsletter, which is essentially you're your benefit. Here are some of our ideas.

- A Feature Article (current and of significant interest to the School)
- 'What's on' (news clips from other sources or web links)

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- Upcoming Seminars and Lectures
- Research profiles (particularly from our research students)
- Prizes, Awards, Citations, Promotions
- Publications (Research and Teaching and Learning, journals and magazine)
- New Grants
- Staff Comings and Goings
- High School Liaison Activities

We look forward to hearing from each and every one of you.

From the Science Communicator

High School Liaison Activities for 2005.

Since my appointment in May, the School has been represented at most of the Science Alliance events organised by the Faculty of Science Marketing Team. My role has been one of co-ordinating and producing hands-on activities to promote Biology and the School of Biological Sciences at Sydney Live; developing and co-ordinating student workshops for the Bi-Annual International Science School; the Gifted and Talented Science Program, Science in the City and Degree in a Day; as well as organising displays for the School at the Faculty Postgraduate evening.

I owe a great deal to those staff members who have willingly contributed their ideas and time to help make all of these events such a success. In particular, I would like to thank the technical staff in Carslaw

and A08; your enthusiasm is greatly appreciated and I look forward to your continued support in 2006.

I have just completed the new look Course Information Book (the old Fishbook) and this will be available later this week for use at Information Day on the 4th January. I would like to emphasise that this new look is a work in progress and I welcome staff input for the 2007 edition. In the next edition, I would like to incorporate a wider range of student profiles, with First Year, TSP and Honours students featuring along with the Postgraduate profiles. We also require a great selection of photos for some of the sections in the book. 'Careers in Biology' is one such section. Whilst there was quite a range of suitable material available from various sources, I would like to have used images of past students in their current occupations. If you have contact details for past students in interesting occupations please email me their details.

At present, I am preparing material for the Siemens Science Program, which runs in mid January. Then it is back to developing a wider range of workshops for the Biology Kickstart Program, which is scheduled to commence in 2006. This will be my greatest challenge in 2006 as two years without an active program has seen a significant loss of clientele.

Graham Cam

SNIPPETS FROM 2005

Yale post-doctoral fellowship student Dr Tracy Langkilde was one of the winners of the University of Sydney's 2005 Young Tall Poppy award. A community ecologist, Tracy Langkilde, is interested in how animals co-exist in larger communities. Her research has attracted wide media coverage, featuring internationally in newspaper and magazine articles and on television. Her previous work as a PhD candidate looked at factors shaping habitat use of montane skink lizards. Dr Langkilde is regularly involved in educational programs for schools.

School of Biological Sciences' PhD student Nikolai Tarnic research into traumatic insemination among plant bugs has earned him an article in the University News in October. Nikolai's research focuses on the reproductive behaviour of *Coridromius* bugs, and the evolutionary changes in both sexes in order to gain the upper hand in controlling reproduction. Another interesting result from his research is the observation that both plant and bed bugs seem to share a similar behaviour and reproductive techniques, which, in his words, could lead us to rethink evolutionary history.

Dr Jan Marc Has received a letter of congratulations from Thomson Scientific & Healthcare, a branch of The Thomson Corporation, which provides integrated information solutions to researchers and librarians,

physicians and pharmacists, and other professionals worldwide. This was to congratulate Jan Marc for having, since 2000, been cited 40 times for his article "A 90-KD Phospholipase D from Tobacco Binds to Microtubules and the Plasma Membrane". This means that Jan Marc's article is on the top 1% within its field. Dr Marc's work is also commended for being

highly influential and making an impact among his colleagues in his field of work.

Professor Rick Shine received an ARC Fellowship to study what happens when the first wave of cane toads, *Bufo Marinus*, sweeps through virgin territory. This research has earned Professor Shine and 'Team Bufo' a feature article in the

University News in September, in which the teams preliminary findings are rewriting much of what was thought about Cane Toad behaviour and dispersal in the northern parts of Australia. 'Team Bufo' comprises, apart from Rick that is, Jon Webb, Greg Brown, Ben Phillips, Mattias Hagman and Matt Greenlees. With such a wealth of talent I hope that each of you will provide a short research update for the 2006 School Newsletter.

New Research Grants for 2006

ARC

Category A (grants administered through the School)

Name of CIs	Grant Type	Project Title	Amount received	Start Date	End Date
Aubret, F	Discovery/APD	Does adaptive plasticity play a significant role in the initial colonisation of novel habitats?	375,000	Feb 2006	Feb 2009
Chen, M/Larkum A/Bibby, I	Discovery/APD	New chlorophylls and new directions in photosynthesis.	420,000	Jan 2006	Dec 2008
Letnic, M	Discovery/APD	Do dingoes regulate the structure of arid ecosystems?	320,000	Jan 2006	Dec 2008
Oldroyd, B	Discovery	Solving Darwin's dilemma: molecular analysis of worker sterility in social insects.	476,000	Jan 2006	Dec 2008
Raphael, K et al	Linkage	Molecular technology for biological control of the most destructive horticultural pest in Australia.	280,400	Jan 2006	Dec 2008
Simpson, S/Beekman, M	Discovery	On the move: the study of self-organised movement of animal groups with and without leadership.	500,000	Jan 2006	Dec 2008
Underwood, A (EICC)	APF	Connecting ecological processes controlling variation across spatial scales	1,185,237	Jan 2006	Dec 2010
TOTAL			3,556,637		

Category C (grants administered through other universities)

Name of CIs	Grant Type	Project Title	Amount received	Start Date	End Date
Dickman et al	Linkage (administered through Murdoch University)	Conservation of the threatened western ringtail possum, <i>Pseudocheirus occidentalis</i> : is translocation an option?"	\$330,000	2006	2008
Coleman, Underwood et al (EICC)	LIEF (administered through UNSW)	Sydney Harbour Institute of Marine Science (SHIMS) aquarium facility	\$160,000	2006	2006

University of Sydney R&D Grant: New Staff – Dr C McArthur: Foraging efficiency: quantifying the cost of plant toxins to herbivores in spatially heterogeneous environments \$23,000.